

Nutrition Resilience During Covid-19 Pandemic



Department of Nutrition
Faculty of Public Health
Hasanuddin University

29 November
30 2021





TABLE OF CONTENT

Welcome speech of the 2nd ICNPH chief	xviii
Welcome speech of the Dean	xix
Our speaker	Xxi
Our moderator	Xxv
Conference program	Xxvii
ORAL presentation section	I-68
1. Why Is Preconception Treatment Important? A Review of The Literature (Darmin Dina)	
2. Implementation Of Preconception Health Services in Some Of Southeast Asia Countries: Literature Review (Fitrianty Sutadi Lanyumba)	
3. Workplace Vaccination Policy Become the Main Factors in Receive Covid-19 Vaccines: A Cross-Sectional Online Survey in Makassar City, Indonesia (Eri Wijaya)	
4. Development Of Family Empowerment Models for Adolescent Anemia: Systematic Review (Mulianingsih Misroh)	
5. The Effectiveness Of The Generation Planning Program In Preparing Family Life : A Review Of The Literature (Hetty Astri)	
6. The Effect Of Family Support, Social Support, And Social Information On The Incidence Of Stress In Covid-19 Survivors In East Luwu Regency 2021 (M. Fais Satrianegara)	
7. Growth Velocity Of Infants Aged 0 - 12 Months With Breastfeeding Patterns And Family Socioeconomic Status In Pinrang, Indonesia (Nur Ulmy Mahmuda, Ria Qadariah Arief, Esti Novi Andyarini, Nova)	
8. Development Of Anemia Education Through Whats App On Adolescent Girls Of Students Faculty Of Agriculture, Hasanuddin University (Putri R Nento)	





9. Predictors for Vitamin D concentration in Early Pregnancy
(Erni Yusnita Lalusua)
10. An Analysis Of Factors Affecting Early Complementary Foods On Infants Aged Below 6 Months In The Work Area Of Jeuram Community Health Center, Nagan Raya Regency In 2020
(Fitriani)
11. Determinants Of Stunting In Infants Aged 0-12 Months In Highly Risk Areas Of Stunting In South Sulawesi
(Nurmina H)
12. Literature Review The Effect Of Stimulus And Improving Nutrition On Growth In Children Aged 6 – 24 Months In Majene District
(Evawaty)
13. Games-Based Child Sexual Abuse Prevention In Schools : Literatur Review
(Aswadi)
14. The Effect of Fat Intake and Fiber Intake on The Adults Central Obesity in the Grimaya Health Center, Pangkalpinang
(Ade Devriany)
15. Sedentary Activity And Excessive Daytime Sleepiness Correlation To Food Behavior Among University Students During Covid-19 Pandemic
(Salwa Parewasi)
16. Stunting Social Capital Disruption In South Sulawesi, Indonesia (Case Study On A 1000 Fdl Family In Bone And Enrekang District)
(Moh. Husni Thamrin)
17. Effectiveness Of Polymetric Skipping On The Nutritional Status Of Elementary School Age Children In Pangkajene Islands Regency
(Yulianita)
18. Spatial Analysis Of The Presence Of Rats In Three Student Housing Areas Of Makassar City State Universities
(Ardalif Lulhaq Musbir)





19. Efficacy Of Micronutrient and Macronutrient Interventions In Adolescent Nutritional Status: An Updated Systematic Review
(Lina Fitriani)
20. Correlation Of Hemoglobin and Mets Component In Teachers In Makassar City
(Nurhaedar Jafar)
21. The Effect Of Covid-19 Pandemic On Chronotype And Nutritional Status In Adolescents: Systematic Literature Review
(Puji Lestari, Eti Poncorini Pamungkasari, Tri Rejeki Andayani)
22. The Correlation of Knowledge And Attitude With Consumption Behavior Of Fruit And Vegetable As Prevention Effort From Covid-19 To Collage Students Of Technology In Bontang 2021
(Reskia Alwi)
23. A Description of Knowledge and Behavior of Women with Toddlers Regarding Balanced Nutrition In Hulawa, Gorontalo Regency
(Misnati)
24. Consumption Of Sugary Foods and Beverages Among Adolescents and Adults in Rural Areas
(Marini Amalia)
25. Practices Of Complementary Feeding, Nutrient Intake and Nutritional Status of Children Under 2 Years Old
(Sabaria Manti)
26. Dietary Pattern and Diet Quality as Determinants of Anemia Among Adolescents
(Olivia)
27. Nutritional Status and Physical Activity of Adolescents During Covid-19 Pandemic In Palangka Raya City
(Nirmalasari)
28. The Association Between Iodine Deficiency Disorders (Idd) Factor and Stunting Incidents In Children Under Two Year Old In Enrekang Regency
(Nur Ainin Alfi)





29. Correlation Among Iodine Deficiency Disorder, Stunting, And Cognitive, Language Development In Elementary School Children In Enrekang Regency
(Nur Zakiah)
30. Nutritional Status Among Adolescent Girls From Urban Small Island Of Indonesia
(Healthy Hidayanty)
31. Nutritional Status And Chronic Energy Deficiency Of Female Students During The Covid-19 Pandemic
(Wirawanti)
32. Self-Management Of Obese Women With Prediabetes: A Literature Review
(Acce Basri)
33. The Effect Of Nicotine Exposure On Appetite Loss And Nutritional Status Among Tobacco Farmer's Children
(Aryatika Karera)
34. Morbidity And Nutritional Status (Wasting) In Children Under Five Aged 12-59 Months In South Batui District
(Abdul Fandir)
35. Evaluating Website-Based Nutrition Dissemination Media For The Indonesian Population
(Andi Imam)
36. Knowledge, Breakfast Habits And Learning Achievement Are Significantly Associated With Short Nutritional Status In Children
(Nuryani)
37. Determinants Of Stunting Incidence In Elementary School Children Living In Endemic Areas Of Iodine Deficiency Disorders (IDD) In Enrekang Regency
(Nur Abri)
38. Body Image, Protein Intake, And Anemia Among Adolescent Girls
(Decvianti Ramdhana)
39. Effects Of Gammara'na On Nutritional Status Of Children And Pregnant Mothers: An Accelerating Stunting Reduction Program In South Sulawesi





(Veni Hadju)

40. The Determinant Of Chronic Energy Deficiency Incidence In Adolescent Girls In Locus Stunting In South Sulawesi
(Rahman Sugirah Nour)
41. Relationship Between Economic Status, Infectious Diseases And Excretion Iodine Urine With Stunting Incidence Of Elementary School Children In Idd Endemic Areas, Enrekang Regency
(Saifuddin Sirajuddin)
42. Associated Factor On Stunting Incidence Among Children In Bone And Enrekang Regency (Baseline Data Analysis From Gammara'NA Programs On 2020)
(Aisyah Noer Auliyah Madani Pertiwi)
43. Relationship Of Environmental Sanitation With The Nutrition Status Of Pregnant Women At Toaya Public Health Centre In 2021
(Miranti)
44. Impact Of Parenting Education On Knowledge And Practice Of First 1000 Days Of Life Among Mother In Makassar: Pre-Post Study
(Trisnawati)
45. The Relationship Between Calcium Levels In Breast Milk And The Event Of Stunting In Toddlers : A Systematic Review
(Nurhilda Resky Awalia Syam)
46. Chronic Energy Malnutrition In Mothers Is Associated With Stunting Incidence In Karawang Regency
(Alfi Fairuz)
47. Breastfeeding Practices During Infancy 0-23 Months Of Age In South Badui Subdistrict, Banggai District, Indonesia
(Reny)
48. Fetal And Neonatal Prognostic In Mothers With Coronavirus Disease-2019 Status, In Regional General Hospital Of Kebayoran Lama Jakarta, Indonesia
(Tongko)





49. Practice Of Complementary Feeding For Infants 6 – 23 Months In Lengkesa Village, Takalar Regency, South Sulawesi Province
(Icha Dian Nurcahyani)
50. Indonesian Version Of Breastfeeding Self-Efficacy Scale-Short Form: Antenatal And Postnatal Setting For Indonesian Working Women
(Isriani Ilyas)
51. Omega-3 Fatty Acid Intake And It Is Correlation With Severity Level Of Premenstrual Syndrome (Pms): A Case Study On Mentally Disabled Girl
(Muhammad Nur Hasan)
52. Anxiety Level And Food Insecurity Level Among Pregnant Women During COVID-19 Pandemic In Samarinda
(Risva)
53. Food Consumption And Chronic Energy Malnutrition In Pregnant Women In Southern Batui, Banggai District, Indonesia
(Muhammad Lulu Rigalu)
54. Risk Factors For Chronic Energy Deficiency In Pregnant Women During The Covid-19 Pandemic In Tanete Bulukumba Regency 2021
(Sukfitrianty Syahrir, Hikmah Nur Indah Sari, Syarfaini)
55. Determinants Of The Event Of Chronic Energy Lack (Kek) In Pregnant Women In Highly Risk Areas Of Stunting In South Sulawesi
(Irma)
56. The Effect Of Dioscorea On Reducing Blood Glucose Levels Of Diabetes Mellitus Disease: A Literature Review
(Marselina Sattu)
57. Ramania (Bouea Macrophylla Griffith) Extract As A Wound Healing Agent: A Literature Review
(Taufiqurrahman)
58. The Effect Of Adding Moringa Leaves On The Acceptability And Nutritional Value Of Red Dragon Fruit Syrup
(Hadi Novian Swasono)





59. How Does The Pharmaceutical And Nutraceutical Potential Of Cocoa Waste ? A Literature Study
(Rita Irma)
60. Macronutrient Profile And Calorie Content Of Dadiah Pudding, As A Dietary Supplement For Pregnant Women
(Taufiq)
61. Quality Evaluation Of Pumpkin Seeds (*Curcubita Moschata* Durh) Flour And Capsules As Food Supplements Protein And Zinc In Cookies
(Aminuddin Syam)
62. The Miracle Of Moringa Oleifera Leaves In Efforts Prevention Of Anemia: A Literature Review
(Dwi Wahyu)
63. Intervention Of Giving Ice Cream And Tea Takokak (*Solanum Torvum*) To Healthy People
(Nur Rahman)
64. Effect Of Moringa Oleifera Leaf As A Galactagogue On Breastfeeding Mothers : An Update Systematic Review
(Ita Sajek Prayekti)
65. Extract Of Torbangun (*Coleus Amboinicus* Lour) Leaves Inhibits The Expression Of PEPCK And G6Pase In Streptozotocin-Induced Diabetic Rats
(Meilla Dwi Andrestian)
66. Association Of Sago Consumption With Blood Glucose Level And Body Mass Index In Community Of Kepulauan Meranti Regency Riau Province; Sago As Functional Food
(Syartiwidya)
67. Nutritional And Functional Properties Of Protein From Rice Bran: A Review
(Ulfah Najamuddin Ambo Rappe)
68. The Effects Of Moringa Oleifera Leaves On Nutritional Status Of Children Under





Five Years
(Jamaludin M Sakung)

69. Food Security Analysis Towards The Under Five Stunting Children In The Coastal Area Of Soropia Konawe Southeast Sulawesi , Indonesia
(Rasmaniar)
70. Farmer's Behavior In Chemical Pesticide Use In Penyasawan Village, Kampar District, Kampar Regency
(Amalia)
71. Accessibility To Staple Food In Kepulauan Meranti Riau Province, Indonesia
(Gevisioner)
72. The Impact Of Food Packaging Rebranding Towards Vegetable Products Of Okefarm Neglasari Women Farmer Group
(Dimas Bayu Pinandoyo)
73. Polytechnic Of Health Ministry Of Health Banjarmasin, Indonesia
(Andrestian)
74. Effectiveness Of Health Education For Teenagers In Digital Era: A Review Of The Literature
(Muhlisa)
75. Socio-Culture In Maternal Care : A Review Of Literature
(Ramli)
76. Model Of Healthy Puskesmas In Islands To Support Healthy Cities In South Sulawesi Province, Indonesia
(Sukri Pallutturi)
77. Hiv Prevention Behavior In Serodiscordant And Seroconcordant Couples
(Yusnitasari)
78. Predisposing, Enabling And Reinforcing Factors Affect The Behavior Of Health Protocol Implementation : Path Analysis Model
(Yusriani)





79. Using Games To Promote Healthy
(Abdul Madjid)
80. A Review Of The Literature : How Women's Empowerment Relates To Coverage Of Antenatal Care Visits?
(Bintang Petralina)
81. Development And Evaluation Of Module And Educational Tools Using Self Determination Theory Among High School Teachers In Makassar City
(Nurzakiah)
82. Roles Of Tuha Peut Gampong In Healthcare Services For Pregnant Women
(Teungku)
83. Potential Of Sharia Hospital Services In South Sulawesi Readiness Of Community Based
(Rini Anggraeni)
84. The Potential Of Progressive Muscle Relaxation On Reducing Anxiety Level In Patients Diabetic Foot Ulcers
(Alfian Mas'ud)
85. Climate Change, Does It Affect Dengue Fever Cases? A Literature Review
(Ernyasih)
86. Does Land-Use Associate With Escherichia Coli Pollution In Karst Springs? A Review Of The Literature
(Salamat)
87. Does Mercury Related To The Severity Of Autism Spectrum Disorder (Asd)? A Review Of The Literature
(Nasruddin)
88. Is The Circular Economy A Way To Solve The Waste? A Systematic Review
(Patmawati)
89. Best Practice Of Prevention Of Covid-19 Transmission Through Small Island Region Quarantine: Study On Kadatua Island, South Buton District, Indonesia
(Zuardin)





90. Risk Factor Of Health Behavior To Non-Communicable Diseases In Makassar City, Indonesia
(Ahmad Isa)
91. Review Of Government Regulation Of The Republic Of Indonesia Number 47 Of 2021 Concerning The Implementation Of Hospital Sector
(Diah Mutiarasari)
92. Feasibility Study Of Android-Based Health Application “Dietducate” Using The Umars Method (End-User Version Of The Mobile Apps Rating Scale)
(Elita Dwi Nurrahmawati)
93. Development And Use Of Mobile Applications In Growth Monitoring Of Children Under-Five: Narrative Article Review
(Goi, Misrawatie)
94. Implementation Of School Health Program (SHP) At Amahatan Catholic Primary School, Raimanuk Sub-District, Belu District
(Elisabeth Sandria Lisu)
95. Assessment Of Maturity Models And Safety Culture In Various Hospitals: A Literature Review
(Sri Andayani)
96. The Impact Of Branding And Marketing On Patient Satisfaction: A Literatur Review
(M Arif Sutrisno Amin)
97. Sharia Hospital, Does It Affect Patient Satisfaction And Loyalty? : A Literature Review
(Kornadi)
98. Natural Plants As Alternative Anti-Bacteria In Drinking Water Disinfection: An Article Review
(Rahwan)
99. Dietary Diversity And Eating Patterns In Children With Under Nutritional Status
(Misroh Mulianingsih)
100. Epidemiology Model Quality Of Life Of Covid-19 Survivors In Makassar City
(Ida Leida Maria)





101. Root Cause Analysis Of Health Literacy For The Visual Impairment In Indonesia
(Mesra Rahayu)
102. The Effectiveness Of The Acceleration Of Stunting Reduction Program Through Convergence Action In Gowa District, South Sulawesi Province, Indonesia
(Asmita Yulianingsih Halim)
103. Does Telehealth Effect On Hospital Marketing? A Review Of The Literature
(Nurfardiansyah Burhanuddin)
104. Assessing The Benefits Of Moringa Biscuits As A Dietary Supplement To Improve The Breast Milk Of Breastfeeding Mothers
(Indah Puspasari Kiay Demak)
105. Education And Surveillance Of Following Events Post Covid-19 Immunization At General Hospital Tadulako, Palu
(Alfiah)
106. Knowledge, Attitude, And Practices Towards Balance Nutrition After Nutrition Education In Preconception Women In Takalar District, South Sulawesi, Indonesia
(Dea Zara Avila)
107. Changes In Breakfast, Snacks, Eating Habits, And Activities Of Indonesian S During Covid-19 Pandemic
(Rahayu Indriasari)
108. Identification Of Ectoparasites On Rats In Three Student Housing Makassar Public Universities
(Mochammad Al Anugerah Agus)
109. Identification Of Endoparasites On Rats In Three Student Housing Makassar Public Universities
(Syamsuar Manyullei)
110. Prevalence And Determinants Of Stunting In Children Aged 0-59 Months In Batui Selatan District, Banggai Regency
(Abdul Salam)





- 111. Spatial Dynamic Model Of Detergent Distribution In Well Water And Their Impact On Community Health In Small Island
(Agus Bintara Birawida)
- 112. Determinants Of Traffic Accident On Online Riders In Ambon City
(Yahya Thamrin)
- 113. A Literature Review Of The Relationship Between Iron Deficiency Anemia With Activity And Cognitive Function In Adolescents Girl
(Risma)

POSTER Presentation Section

69-115

- 1. Serum Zinc And Linear Growth In Underfive Children In Gianyar, Bali
(Ni Ketut Sutiari)
- 2. Implementation Of Balanced Nutrition In The Middle Of The Covid19 Pandemic Through Balanced Nutrition Education Video
(Nur Ayu)
- 3. Relationship Between Knowledge And Availability Of Vegetables And Fruit Consumption Among Students In Urban And Rural Areas Of South Sulawesi During The Covid-19 Pandemic
(Melinda)
- 4. Nutrient Adequacy And Quality Of Complementary Feeding Practices In 6-23 Months Of Age In South Batui Subdistrict, Banggai Regency, Indonesia
(Nur Sakinah)
- 5. Factors Related To Increasing Prevalence Of Obesity In Primary School Children During Covid-19 Pandemic
(Mita Arini)
- 6. Association Between Nutritional Status And Covid-19 Occurrence In RSKD Dadi, South Sulawesi Province
(Andi Nurlinda)
- 7. Relationship Between Emotional Eating With Nutritional Status Of Adolescents During Covid-19 Pandemic In Palangka Raya City
(Nirmalasari)
- 8. Determinants Of Stunting In Infants Aged 12-24 Months In Highly Risk Areas Of Stunting





In South Sulawesi
(Hasra Ryska)

9. Nutritional Education Based On Social Cognitive Theory Of Dietary Pattern Adolescents Malnutrition In The Small Island Of Makassar City, South Sulawesi.
(Siti Arum Wulandari)
10. Correlation Sosioeconomic, Inadequate Nutrients Intake And Wasting Status On Preconception Women In Takalar District
(Rahayu Nurul Reski)
11. Attitude And Behaviour Of The Elderly In Prevention Of Hypertension
(Muhamad Fauzi)
12. Determinant Of The Fine Motor Development To The Stunting Toddlers In Maros Regency, South Sulawesi, Indonesia
(Hasriwiani Habo Abbas)
13. Literature Review: Physical Activity As Obesity Management In School-Age Children
(Ghea Fricillia)
14. Factors Associated With Gestational Hypertension In The Work Area Of The Kading Health Center, Bone Regency In 2021
(Malka)
15. Momasi Education On Lactation Management In Primiparas (0-3 Months) In Sudiang Raya Public Health Center, Makassar City, South Sulawesi
(Wahdaniyah)
16. Analysis The Role Of External Factors On Mother's Decision To Conduct Early Initiation Of Breastfeeding In The Work Area Of Toddopuli Health Center, Makassar City, Indonesia
(Ridwan Mochtar Thaha)
17. Improvement Of Complementary Feeding Practices: A Community Program To Accelerate Stunting Reduction In Takalar District, Indonesia
(Veni Hadju)
18. Determinant Of Pre Menstrual Syndrome Complaints On Women Workers





(A. Muflihah Darwis)

19. Determinants Of Iodine Deficiency Disorders (Idd) Among Women Of Reproductive Age In Endemic Areas, Enrekang Regency
(Alfiansyah)

20. Fermented Milk With Additional Beet Root And Yellow Sweet Potato As Prebiotics
(Zaddana, Cantika)

21. Tempeh-Fish Sausage As A High Protein Snack For Breastfeeding Women
(Ade Devriany)

22. The Effect Of Functional Flour On Sensory Quality, Level Of Protein And Zinc In Cookies
(Nadimin)

23. Consumption Patterns Of Milkfish (Chanos C.) And Lead (Pb) Exposure On The Coastal Population Of Tarakan
(Blego)

24. Transmission Risk Of Covid-19 In Bontoramba District Jeneponto
(Andi Tilka)

25. Event Of Bullying On Anxiety Level Elementary School Age Children
(Eni)

26. Utilization Of Rainwater As Consumable Water With Rainwater Harvesting Method: A Literature
(Sandy)

27. The Effect Of Work Family Conflict (Wfc) On Sleep Quality And Nurse Performance In Makassar City Hospital
(Syamsiar Russeng)

28. A Review: Leadership Competency In Supporting National Resilience Covid-19 Pandemic
(Silviani Kesuma)

29. Why Is It Important To Study Health Law In Health Colleges? A Riview Ot The





Literature

(Astrid Dewi Prabaningtyas)

30. Evaluating The Quality Criteria Of Hospital Websites: A Systematic Review
(Antonius)
31. Aedes Mosquito Resistance And Effectiveness Of Biolarvicides On Aedes Vector Mortality”: A Literature Review
(Bambang)
32. The Effect Of Health Promotion On Mothers Knowledge Of Stunting Prevention In Toddlers : Literature Review
(Ghodiq)
33. The Effect Of Covid-19 Pandemic On Physical Activity And Mental Health In Adolescents: Systematic Literature Review
(Puji Lestari)
34. Modifiable Risk Factors Associated With Type 2 Diabetes Mellitus And Hypertension: A Cross Sectional Study
(Andi Yusnitasari Wahiduddin)
35. Implementation Of Health Protocol In Effort To Prevent The Spread Of Covid-19 And The Use Of Corona Likelihood Metric On Students
(Vera Diana)
36. Teledentistry And Patient’s Satisfaction In Pandemic Covid-19: A Literature Review
(Ilmianti)
37. Ovitrap Density And Mosquito Bite Preventions In The Pampang Community Health Center Work Area, Makassar City
(Hasanuddin Ishak)
38. Influence Of Caloric Restriction On Body Composition At Young Age
(Nur Asmar Salikunna)
39. The Relationship Of Sanitation To The Nutritional Status Of Preconception Women At The Kaleke Health Center
(Miranti)





40. Analysis Of Factors Associated Anemia In Pregnant Women In Puskesmas Bulili Palu, Indonesia
(Gabriella Bamba Ratih Lintin)
41. The Effect Of Gembili Starch (*Dioscorea Esculenta*) On Triglyceride Levels In Diabetic Wistar Rats Induced With Streptozotocin
(Tri Setiawaty)
42. Contents Of Pathogenic Bacteria In The Peanut Sauce On Siomay Snacks At University Of Tadulako
(Christin RN)
43. Relationships Between Parental Education And Overweight With Children Overweight 10-15 Years Old
(Sumarni)
44. The Relationship Between Banana Dan Coffee Consumption And Migraine Attacks Among Male Prison Inmates In Palu's City
(Fitri)
45. Relationship Nutritional Status And STH Infection
(Ayu Sekarani)
46. Obesity And Inflammation
(Haerani Harun)
47. A Study On Effect Of Oral Administration Moringa Oleifera On Cholesterol In Streptozotocin-Induced Diabetic Rats (*Rattus Norvegicus*)
(Rabiatul)
48. Relationship Between Body Mass Index And Risk Of Heart Disease And Stroke
(Sari Puspita, Miranti, Mutiarasari Diah, Pakaya David)





WELCOME SPEECH OF THE 2ND ICNPH CHIEF

Greetings from Makassar

We are looking forward to the gathering of scientists and researchers from nationwide and global world interested in nutrition and public health to share new ideas with colleagues and make new friends in a 2-days online conference between 29th and 30th November 2021 at the 2nd International Conference on Nutrition and Public Health (ICNPH-2021) .

The theme of ICNPH-2021 is “Nutrition Resilience During Covid-19 Pandemic”.

The goal of this conference is to share knowledge and experiences about the importance of nutrition interventions and programs during the covid-19 including its relevancy to improve immunity, dietary behavior, prevention non-communicable diseases, and food security. Updates on recent research will ensure the invaluable inputs for development or refinement of nutrition and public health policy.

We are delighted and thankful for your participation and look forward to seeing you all in this virtual event that hosted by Departement of Nutrition Science, Public Health Faculty, Hasanuddin University, Indonesia

Enjoy the conference!

Rahayu Indriasari, PhD
Chair, Organizing Committee



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Faculty of Public Health
Hasanuddin University





WELCOME SPEECH OF THE DEAN

Welcome Speech by
Dr. Aminuddin Syam, SKM, M.Kes, M.Med.Ed
DEAN, FACULTY OF PUBLIC HEALTH
HASANUDDIN UNIVERSITY

OPENING OF the 2nd INTERNATIONAL CONFERENCE ON
NUTRITION AND PUBLIC HEALTH
Nutrition Resilience During Covid-19 Pandemic

Monday, 29 November 2021, 8.45 am

Guest of Honor,
Representative of the Minister for Health of Republic of Indonesia
Guest of Honor,
Vice Rector for Research, Innovation, and Partnership of Hasanuddin University
Distinguished Speakers,
Conference Participants,
Colleagues,
Ladies and gentlemen,

Assalamualaikum warahmatullahi wabarakatuh,
Good Morning

It is a great honour to welcome you all to the second International Conference on Nutrition and Public Health. Firstly, I would like to express my gratitude towards you all who sincerely contributed to this event to make it a success. Especially to all speakers, distinguished guests, participants, committee, and volunteers. Thank you for your time, hard work, and determination.

To our eminent speakers and delegates who have join to this event, I bid you a very warm welcome. We are indeed honoured to have you here with us.

Ladies and Gentlemen,
As the rest of the world, we are still facing the pandemic of Covid-19. This pandemic causes



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Hasanuddin University

xviii





changes in daily life and impacts various sectors, not only health but the economy as well. This situation requires each and every single one of us, no matter in what stage of life we are in, to maintain and improve our immune system. By means, being physically active, resting sufficiently and consuming adequate nutrition.

Various therapeutic efforts for Covid-19 have been done to accelerate the healing process and prevent further damage, one of which focuses on the patient's nutritional adequacy. Studies have suggested that specific nutrients have a positive effect in battling the disease and preventing the infection itself. However, fulfilment of dietary requirements is a complex issue. It is necessary to involve various related sectors to archive optimal results.

Therefore, this conference aims to provide a platform for researchers, academicians, and other sectors to share the latest and updated information on studies and findings of various aspects of nutrition and public health.

We hope this conference will benefit many parties and expand our understanding of current issues associated with nutrition in Covid-19 for scientists and other related professions.

I wish you a very productive conference with exciting and encouraging discussions and exchange of knowledge.

Thank you.





OUR SPEAKERS

No
1

Speakers



Dr. Julia B. Finkelstein, MD

Associate Professor of Epidemiology and Nutrition

Associate Director, World Health Organization Collaborating Centre

Deputy Director, Affiliate Cochrane Centre for Nutrition

Division of Nutritional Sciences, Cornell University

Associate Professor, St. John's Research Institute, Bangalore, India

Presentation Title

Periconceptional Biomarker Surveillance in Southern India: Informing Interventions to Improve Maternal and Child Health in the COVID-19 Era

2



Dr. Ir. Suprayoga Hadi, MSP

Associate Expert Planner at the Deputy for Regional Development, Ministry of National Development Planning/BAPPENAS

Impact of COVID-19 on Stunting Reduction Acceleration in Indonesia





3



Dr. Ir. Doddy Izwardi, MA

Puslitbang Upaya Kesehatan Masyarakat, Kementerian Kesehatan RI

**Impact of COVID-19 on Nutrition
Problems in Indonesia during
2020-2021**

4



Beben Benyamin, PhD

Australian Centre for Precision Health, University of South Australia

Immunity and COVID-19

5



Prof. Dr. Ir. Ahmad Sulaiman, MS., PhD

**Food Innovation to Improve
Immunity**

6



Dr. dr. Fiastuti Witjaksono, MKM, MS., Sp.GK(K)

**Update on Nutrigenomics in
Indonesia**



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7



Dr. dr. Yulia Sofiatin, Sp.PD

Department of Public Health, Medical Faculty, Universitas Padjadjaran, Bandung

Covid 19 and Non-Communicable Diseases

8



Assoc. Prof. Foo Leng Huat, PhD, FNSM

9



dr. Rina Agustina, M.Sc., PhD

10



Prof. Soekirman SKM, MPS-ID., PhD

Covid 19, Poverty, Hidden Hunger (Stunting), and Food Fortification





11



Prof. Keith P. West, DrPH

*Center for Human Nutrition, Department of International Health, Johns Hopkins
Bloomberg School of Public Health*

**Protecting Mother and Fetus via
Micronutrient Adequacy Early in
Pregnancy**

12



Prof. dr. Veni Hadju, M.Sc. PhD

Department of Nutrition, School of Public Health, Hasanuddin University, Indonesia

**A Potential of Moringa Oleifera
Supplement during Pregnancy in
Reducing Stunting in Indonesia**

13



Assoc. Prof. Saurabh Mehta, MBBS., ScD

**Infant Feeding in COVID-19
Context**





OUR MODERATORS

No
1

Moderator



Dr Healthy Hidayanti, SKM., MKM

Nutrition Department of Faculty of Public Health, Hasanuddin University

Indonesian Centre for Nutrition Studies (ICONS) of Faculty of Public Health, Hasanuddin University

2



dr. Devintha Virani, Sp.GK

Nutrition Department of Faculty of Public Health, Hasanuddin University

Indonesian Centre for Nutrition Studies (ICONS) of Faculty of Public Health, Hasanuddin University

Coventry University, UK

3



Ulfa Najamuddin, S.Si., M.Kes

Nutrition Department of Faculty of Public Health, Hasanuddin University

Indonesian Centre for Nutrition Studies (ICONS) of Faculty of Public Health, Hasanuddin University

School of Agriculture and Food Sciences, The University of Queensland





4



Sabaria Manti Battung, SKM., M.Sc

Nutrition Department of Faculty of Public Health, Hasanuddin University

Indonesian Centre for Nutrition Studies (ICONS) of Faculty of Public Health, Hasanuddin University

Faculty of Medical Sciences, University of Groningen



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Hasanuddin University

XXV





CONFERENCE PROGRAM

DAY I MONDAY, 29 NOVEMBER 2021

TIME (Central Indonesian Time)	SCHEDULE
08-00-08.30	Registration
08.30-09.20	Opening Ceremony
08.30-08.40	Welcome Dance and Welcome from MC
08.40-08.45	Indonesia Raya
08.45-08.50	Pray
08.50-09.00	Welcoming speech from Dean of Public Health Faculty, Hasanuddin University
09.00-09.20	Welcoming speech from Rector of Hasanuddin University
09.20-09.40	Keynote Speech
09.20-09.40	Opening from Directorate General of Public Health, Ministry of Health Republic of Indonesia drg. Kartini Rustandi, M.Kes.
09.40-11.00	Plenary Session I: Maternal and Child Health during COVID-19 Pandemic Moderator: Dr. Healthy Hidayanty, SKM., M.Kes.
09.40-10.00	Dr. Ir. Suprayoga Hadi, MSP <i>Impact of COVID-19 on Stunting Reduction Acceleration in Indonesia</i>
10.00-10.20	Dr. Ir. Doddy Izwardi, MA <i>Impact of COVID-19 on Nutrition Problems in Indonesia during 2020-2021</i>
10.20-10.40	Assoc. Prof. Dr. Julia L. Finkelstein, ScD, MPH <i>Periconceptional Biomarker Surveillance in Southern India: Informing Interventions to Improve Maternal and Child Health in the COVID-19 Era</i>
10.40-11.00	Discussion
11.00-12.00	Oral Presentation
12.00-13.00	Break





13.00-14.20	Plenary Session 2: Recent Studies on Immunity and COVID-19 Moderator: dr. Devintha Virani, M.Kes., Sp.GK
13.00-13.20	Beben Benyamin, Ph.D <i>Genomic Application in Public Health Research: The Effects of Iron Biomarker on Diseases</i>
13.20-13.40	Prof. Dr. Ir. Ahmad Sulaeman, MS., Ph.D <i>Food Innovation to Improve Immunity</i>
13.40-14.00	Dr. dr. Fiastuti Witjaksono, MKM, MS, Sp.GK(K) <i>Update on Nutrigenomics in Indonesia</i>
14.00-14.20	Discussion
14.20-15.00	Oral Presentation





DAY 2 TUESDAY, 30 NOVEMBER 2021

TIME (Central Indonesian Time)	SCHEDULE
08-00-08.30	Registration
08.30-10.10	Plenary Session 3: COVID-19 and Degenerative Diseases Moderator: Ulfah Najamuddin, S.Si., M.Kes.
08.30-08.50	Dr. dr. Yulia Sofiatin, Sp.PD <i>COVID-19 and Hypertension</i>
08.50-09.10	Assoc. Prof. Foo Leng Huat, Ph.D., FNSM <i>Obesity and Food Environment in the Covid-19 Pandemic</i>
09.10-09.30	dr. Rina Agustina, M.Sc., Ph.D <i>Dietary Quality and Non Communicable Disease</i>
09.50-10.10	Discussion
10.10-12.00	Plenary Session 4: Policy and Program of Nutrition Resilience during COVID-19 Pandemic Moderator: Sabaria Manti Battung, SKM., M.Kes., M.Sc.
10.10-10.30	Prof. Soekirman, SKM, MPS-ID, Ph.D <i>Fortification</i>
10.30-10.50	Prof. Keith P. West, DrPH <i>Protecting Mother and Fetus via Micronutrient Adequacy Early in Pregnancy</i>
11.10-11.30	Prof. dr. Veni Hadju, M.Sc., Ph.D <i>A Potential of Moringa Oleifera Supplement during Pregnancy in Reducing Stunting in Indonesia</i>
11.30-11.50	Elizabeth Centeno-Tablante, Dr. Melisa Medina-Rivera (from Assoc. Prof. Dr. Saurabh Mehta's Team) <i>Infant Feeding in COVID-19 Context</i>
11.50-12.10	Discussion
12.10-13.00	Break
13.00-14.00	Oral Presentation/Poster Presentation
14.00-15.00	Oral Presentation
15.00-15.30	Closing Ceremony





ORAL PRESENTATION SECTION

WHY IS PRECONCEPTION TREATMENT IMPORTANT? A REVIEW OF THE LITERATURE

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ABSTRACT

Objectives:

The purpose of this literature review is to describe the relevant evidence of preconception care on pregnancy and the outcome of conception.

Methods:

This narrative review uses several sources from the Elsevier database. Key terms such as preconception, iron status, pregnancy and fetus were used in this review. Of the 50 studies identified, 20 were eligible for inclusion in this review.

Result:

Preconception care is increasingly getting attention as an effective way to prevent complications, pregnancy, childbirth, and postpartum and fetal abnormalities by estimating nutritional status in the preconception period. Preconception care focuses on improving a woman's health before pregnancy as a means to improve her health and future pregnancy outcomes. Low preconception iron status will have an impact on preconception gynecological morbidity which will cause complications in pregnancy and cause low birth weight.

Conclusion:

Preconception care given regularly will affect the quality of pregnancy and the baby born. Preconception care provides an opportunity for women and their partners to overcome health risks from an early age so that the baby born is in normal condition. Considering that a healthy baby is very late if it is prepared during pregnancy but must be prepared from the preconception period, that is why preconception is important.

Keywords: Preconception, Iron Status, Pregnancy, Fetus.





IMPLEMENTATION OF PRECONCEPTION HEALTH SERVICES IN SOME OF SOUTHEAST ASIA COUNTRIES: LITERATURE REVIEW

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ABSTRACT

Background :

Preconception is an important period in determining the quality of children who will be born later. Each country has a Preconception health care model. This literature discusses various forms of implementation of preconception health services in Indonesia, Malaysia, Singapore, Thailand, Vietnam, and the Philippines.

Methods :

This literature uses a narrative review with a time limit of 10 years (2011 – 2021) and sources from online database journals that provide free journal articles in PDF format, such as: journals Q1-Q4 open access Google Scholar, Pubmed, Elsevier, Plos One, and BMC and other sources such as data from WHO, Ministry of Health of the Republic of Indonesia and Ministry of National Development Planning/Bappenas. Of the 52 studies identified in the search phase, 26 were eligible for inclusion in this review. The keywords used in the literature search are implementation, preconception, health services, Southeast Asia.

Results :

Some literature shows that the implementation of preconception health services in some countries in Southeast Asia, namely by increasing preconception knowledge (in couples of childbearing age and adolescents), providing preconception care in the form of micronutrients, iron administration, use of contraceptives, counseling and screening for infectious diseases. In addition, the development of preconception electronic modules and platforms, as well as increasing the participation of health workers in the village.

Conclusions :

Provision of micronutrients to women of childbearing age is a preconception service that is carried out in almost every country in Southeast Asia, besides that there are countries that have developed preconception health service information systems and have not in other countries. It is necessary to evaluate the performance of existing preconception health services.

Keywords: Preconception, Health Services, Southeast Asia





WORKPLACE VACCINATION POLICY BECOME THE MAIN FACTORS IN RECEIVE COVID-19 VACCINES: A CROSS-SECTIONAL ONLINE SURVEY IN MAKASSAR CITY, INDONESIA

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ABSTRACT

Background : Vaccination is an effective intervention that can reduce the high burden of the Coronavirus Disease 2019 (COVID-19) pandemic. However, public vaccine hesitancy is a pressing problem for public-health authorities. This study aimed to investigate the acceptability of COVID-19 vaccines and the willingness of employees to be vaccinated against COVID-19 and further explore the factors that may affect their desire.

Methods : This study was an analytical descriptive with a cross-sectional design. We used a self-administered questionnaire online survey via Microsoft Form from August to September 2021. A total of 252 valid questionnaires were analyzed from respondents over 18 years of age.

Results : Based on univariate analysis, the proportion of respondents who have a workplace vaccination policy is greater (61.90%) than those who do not have a workplace vaccination policy (38.10%). As for vaccination status, as many as 80.56% of respondents have taken the vaccine, and 19.44% have not taken the vaccine. Based on the bivariate analysis, it was found that there was a significant relationship between the workplace vaccination policy and the vaccination status of the employee in Makassar city (p -value = 0.001; PR = 3.059, 95% CI = 1.800-5.199). This finding proves that respondents who have not received the Covid-19 vaccine are more in the group of employees who do not have a Workplace Vaccination Policy.

Conclusions : This study found that the Workplace Vaccination Policy plays a vital role in determining the employee's attitude in taking the Covid-19 vaccine. However, efforts to increase people's intention to receive Covid-19 vaccinations are still needed to increase vaccination coverage in Indonesia. Further study with a broader scope to validate that people receive vaccines not because of external factors but are aware of vaccines' benefits is necessary.

Keywords: Acceptability; Covid-19 Vaccine; Vaccination Policy; Workplace.





DEVELOPMENT OF FAMILY EMPOWERMENT MODELS FOR ADOLESCENT ANEMIA: SYSTEMATIC REVIEW

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ABSTRACT

Background : Anemia in adolescents is a world public health problem that needs special attention. Family factors need to be taken into account in development family empowerment for prevention anemia adolescent. The development of CEM (Caregiver Empowerment Model) intervention to improve the ability of families with anemia adolescents is still very rare.

Methods : This systematic review starts with searching data using 5 databases. Researchers used five databases, namely PubMed, Science Direct, Google Scholar, Springer link, and BMC with a range of years from 2015-2021. Articles were searched using keywords that had been determined by the researcher and then the articles were extracted based on inclusion and exclusion criteria using the PRISMA protocol. Thus, 25 articles were found that matched the criteria of the JBI critical appraisal tools for analysis.

Results : Review from 25 articles found a comprehensive model on anemia needs and prevention, the development of anemia program, and long-term and sustainable model of nutritional education intervention in adolescent anemia. The models that are widely given are nutrition education and micronutrient supplementation. The advantage is to increase knowledge and intake of micronutrient supplementation. However, it is not measured and intervened on family empowerment in identifying, planning, and implementing the prevention and intervention of adolescent anemia.

Conclusions : More nutritional education models are provided through leaflets, lectures and booklets in increasing knowledge and iron intake in adolescents. More research is needed on the development of family empowerment as a model of comprehensive, sustainable and long-term preventive interventions as needed to improve family capabilities. Models that can measure and empower families in the prevention and intervention of anemia in adolescents.

Keywords: *Adolescents, Anemia, Model development, CEM, Family empowerment.*





THE EFFECTIVENESS OF THE GENERATION PLANNING PROGRAM IN PREPARING FAMILY LIFE : A REVIEW OF THE LITERATURE

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ABSTRACT

Background : This study aims to evaluate the effectiveness of the generation planning program in preparing family life.

Methods : This research is a narrative review using sources from scientific journal databases, namely Elsevier, BMC, BMJ, SagePub, Taylor & Francis, and Scopus, with the topics of Generation Planning, adolescent reproductive health, reproductive health, preparation for family life, youth, youth, adults youth, or young teens. Of the 60 studies identified in the search phase, 20 were eligible for inclusion in this review.

Results : The generation planning program that has been implemented is categorized as quite successful, based on the program evaluation indicators with a result of 55%. Still, the success of this program does not have a direct impact on the behavior of adolescents towards the preparation of family life. It is still necessary to improve the quality of the implementation of the planned generation program through improving the quality of human resources in carrying out the program, one of which is PIK-R. It is necessary to strengthen funding and integrate genre programs into youth activity programs both at school and in the community. A local wisdom-based approach can be a program solution. Generation planning can be well received by community groups, and these various approaches do not work well, causing the generation planning program to be less effective in preparing family life.

Conclusions : The range of interventions is quite diverse and comprehensive because most studies show that implementing the planned generation program is quite successful. The effectiveness of the program must be carried out sustainably, and in its implementation, it is necessary to innovate an approach that is in accordance with the youth community so that the youth themselves readily accepts it.

Keywords: *Generation Planning, Youth, Adolescent Reproductive Health, Evaluation*





THE EFFECT OF FAMILY SUPPORT, SOCIAL SUPPORT, AND SOCIAL INFORMATION ON THE INCIDENCE OF STRESS IN COVID-19 SURVIVORS IN EAST LUWU REGENCY 2021

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ABSTRACT

Background: Covid-19 causes enormous panic and anxiety in society. immune system disorders can lead to psychopathology, and psychiatric sequelae observed after the coronavirus outbreak. COVID-19 survivors appear to have an increased risk of psychiatric sequelae, and psychiatric diagnoses that occur due to excessive worry and anxiety. Worry and anxiety can cause stress. The purpose of this study was to examine the effect of family support, social support, and social information on the incidence of stress in Covid-19 survivors in Nuha District, East Luwu Regency in 2021.

Methods: This research is a quantitative study with an analytical observational research approach with a cross-sectional design using a random sampling technique with 327 samples from 1781 populations.

Results: The results showed that for the family support variable ($p = 0.004$; $R^2 = 0.025$; $Y = a + bX$ or $1.952 + 0.743 X$) which means that there is an influence of social information on the incidence of stress in Covid-19 survivors with an effect of 25%. Social support variable ($p = 0.000$; $R^2 = 0.039$; $Y = a + bX$ or $1.973 + 0.556 X$) which means that there is an influence of social support on the incidence of stress in Covid-19 survivors with an effect of 39%. And the social information variable ($p = 0.000$; $R^2 = 0.052$; $Y = a + bX$ or $1.667 + 0.667 X$) which means that there is an influence of social information on the incidence of stress in Covid-19 survivors with an effect of 52%.

Conclusion: There is an effect of family support, social support, and social information on the incidence of stress in Covid-19 survivors in Nuha District, East Luwu Regency in 2021.

Keywords: Stress, Family Support, Social Support, and Social Information





GROWTH VELOCITY OF INFANTS AGED 0 - 12 MONTHS WITH BREASTFEEDING PATTERNS STATUS AND FAMILY SOCIO-ECONOMIC IN PINRANG, INDONESIA

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ABSTRACT

Background :

Growth velocity depends on family parenting and predictor faltering growth. This study was to analyse the relationship between weight and length velocity infants with breastfeeding pattern and the family socio-economic status.

Methods :

This study was an analytical observational study with a cross-sectional study design. The sample size was 61 respondents collected by purposive sampling with the criteria of mothers having babies under one year of age, not twins, not suffering from congenital disabilities, and domiciled in Siwolong Polong, Pinrang. The breastfeeding patterns measuring with an interview questionnaire, The growth velocity measuring with the Marshal and Swann direction. Children's growth in this study uses weight and length growth in phases of second, fourth, sixth, eighth, tenth, 12th month. The family socioeconomic status was measured by education level, and family income quintiles. The data were analysed using the ANOVA test to assess the relationship of growth velocity in infants with the status of breastfeeding patterns and the family income.

Results :

The results show that the growth velocity weight and length haven't relation with the breastfeeding pattern status. In contrast, body length growth velocity significantly reduced in the sixth-month phase, lower in the predominant pattern. Meanwhile, the socioeconomic status was lower in the quintile 1 group than in the 5th quintile concerning the growth rate of weight and height in the sixth month phase.

Conclusions :

The growth velocity in infants aged 0-12 months does not depend on the breastfeeding pattern status and more visible impact of family income status.

Keywords: Growth velocity, infant, Breastfeeding Pattern, Socioeconomic.





DEVELOPMENT OF ANEMIA EDUCATION THROUGH WHATSAPP ON ADOLESCENT GIRL STUDENTS FACULTY OF AGRICULTURE HASANUDDIN UNIVERSITY

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ABSTRACT

Background :

Adolescent girls are one of the high-risk groups for experiencing malnutrition, especially anemia. Currently, nutrition education has utilized information technology such as social media (WhatsApp). Education through social media become one of the newest educational approaches for adolescents, including college students. This study aims to develop education about anemia through WhatsApp for adolescent girls.

Methods :

A pre-experimental research design with one group pretest-posttest was applied. The Subject was selected by simple random sampling. and conducted on 79 adolescent girl students of the Faculty of Agriculture, Hasanuddin University. The education process is four weeks long by distributing texts, posters, and videos through the WhatsApp group. The knowledge and attitude of the subjects were measured before (pre-intervention) and after (post-intervention) the education using online questionnaires that had been tested for validity and reliability.

Results :

Pearson correlation test shows two invalid items on the knowledge questionnaire, so both items are dropped out. Meanwhile, all items on the attitude questionnaire are valid. The reliability test shows α -Cronbach for knowledge questionnaire is 0,500 while attitude questionnaire is 0,866. The McNemar test showed that both knowledge ($p=0,000$) and attitude ($p=0,006$) of the subjects improved significantly ($p<0,05$) after the intervention.

Conclusions :

This study showed that WhatsApp might be used as a nutritional education media for adolescent girls by improving their knowledge and generating positive attitude.

Keywords: Anemia, education, whatsapp, knowledge, attitude





PREDICTORS FOR VITAMIN D CONCENTRATION IN EARLY PREGNANCY

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ABSTRACT

Objective:

Scientific evidence regarding risk factors for vitamin D deficiency is currently limited. whether food intake plays a major role or is there the influence of other factors. Various studies have not clearly proven this. This study aimed to assess vitamin D status and risk factors in early pregnancy.

Method:

This is an observational study with a cross-sectional design involving 67 early-trimester pregnant women as the respondents. Some assessments (concentration of vitamin D, hemoglobin levels, blood glucose, demographic characteristics (age, education level, occupation). parity, parental history of diabetes mellitus (DM), physical activity, exposure to cigarette smoke, dietary intake, and anthropometric measurement) were conducted. Linear regression analysis was used.

Result:

The average concentration of vitamin D found in the respondents' blood only reached 16,457 (6.6-34.1) ng/ml. In addition, most of them (77.6%) had vitamin D deficiency status, and only 1.5% of pregnant women had normal status. Bivariate analysis showed that vitamin D intake ($p < 0.01$) and history of DM in parents ($p < 0.05$) were significant for vitamin D concentration. The multivariate analysis showed that the concentration of vitamin D could be predicted using vitamin D dietary intake, blood glucose, parental history of DM, and exposure to smoke by 54.5%. The parental history of DM and exposure to smoke are confounding variables.

Conclusion:

This is a high vitamin D deficiency prevalence with the complex regulation of risk. Greater efforts are needed to ensure pregnant women get balanced and healthy nutrition.

Keywords: Vitamin D Concentration, vitamin D intake, cigarette exposure, parental history of DM, and pregnant women





AN ANALYSIS OF FACTORS AFFECTING EARLY COMPLEMENTARY FOODS ON INFANTS AGED BELOW 6 MONTHS IN THE WORK AREA OF JEURAM COMMUNITY HEALTH CENTER, NAGAN RAYA REGENCY IN 2020

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ABSTRACT

Background:

The exclusive breastfeeding for infants 0-6 months in the working area of the Jeuram community health center is below the target of 80%, which is 27.1%. The failure of exclusive breastfeeding is directly caused by the early feeding of complementary foods (MP-ASI) before the babies turn 6 months. Giving solid food before the babies' digestive system is ready leading to improper digestion causing indigestion and constipation. The provision of early MP-ASI is influenced by maternal parenting in fulfilling family nutrition, including children. The success of exclusive breastfeeding is related to the mother's ability and belief in breastfeeding her baby.

Objective:

This study aims to analyze the factors that influence the provision of complementary foods for infants below 6 months.

Method:

This research is a quantitative study with a cross-sectional design. The samples were 54 mothers who have babies aged below 6 months. The data analysis was carried out by utilizing bivariate analysis with multivariable using multiple logistic regression analysis.

Results:

The results showed that the level of knowledge ($p_{value} < 0.001$), attitudes ($p_{value} < 0.001$), family support ($p_{value} < 0.001$), support from health workers ($p_{value} < 0.001$), and socio-cultural values ($p_{value} < 0.001$) influenced the provision of early MP-ASI for infants aged below 6 months. Later, the results of multivariate analysis showed that the family support variable with prevalence ratio (RP) = 29.9 (95% CI: 2.9-306.1) had the greatest influence on early MP-ASI for infants aged below 6 months.

Conclusion:

It can be concluded that there is an influence of knowledge, attitude, family support, health workers support, and socio-cultural influences on early MP-ASI for infants aged below 6 months.

Keywords: Complementary food, knowledge, attitude, family support, socio-cultural influences, and health workers.





DETERMINANTS OF STUNTING IN INFANTS AGED 0-12 MONTHS IN HIGHLY RISK AREAS OF STUNTING IN SOUTH SULAWESI

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ABSTRACT

Background

The prevalence of stunting in infants is still high and irreversible. Indonesian Infants 0-11 months with stunting by 44.6%. The objective of this study was to assess determinant factors of stunting in infants 0-12 month of age in District of Bone and Enrekang in South Sulawesi Province.

Methods

This was a cross sectional study in 70 villages highly categorized risk villages of stunting prevalence. Subjects were 458 infants and mothers consisting of 251 and 207 from Bone and Enrekang respectively. Mothers were interviewed using structured questionnaire via software application on Android while weight and length of infants were measured using a standardized anthropometric procedure.

Results

The results showed that a comparable characteristic of infants and mothers in Bone and Enrekang. Prevalence of stunting in total was 16.4%. Bivariate analyses showed that birth weight and length were significantly different with stunting ($p=0.02$ and $p=0.001$, respectively for birth weight and length). In addition, a multiple logistic regression showed that birth length ($OR=2.44$, $95\%CI=1.03-5.78$), birth weight ($OR=2.09$, $95\%CI=1.05-4.15$), and provision of clean water ($OR=0.73$, $95\%CI=0.56-0.95$) were significantly factors for stunting.

Conclusions

We conclude that infants' weight and length at birth together with sanitation were determinants of stunting in infants in the highly risk areas of stunting.

Keywords: Stunting, Birth length, Infant, Sanitation





LITERATURE REVIEW THE EFFECT OF STIMULUS AND IMPROVING NUTRITION ON GROWTH IN CHILDREN AGED 6 – 24 MONTHS IN MAJENE DISTRICT

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ABSTRACT

Background :

Stunting is a failure to grow and develop in children caused by inadequate food intake from time to time and inadequate psychosocial stimulation.

The purpose of this *literature review* is to determine the effect of stimulus and nutritional improvement on the growth of children aged 6 to 24 months in Majene.

Methods :

We conducted a literature study to find publications published in English, using electronic databases such as ProQuest, PubMed, Scinapse, Science Direct, and DOAJ. Between 2016 and 2021, research studies on the impact of stimulus and nutrition improvements were published.

Results :

A total of 244 full-text articles were evaluated for eligibility from the 2458 articles selected for screening. Then 27 articles were selected to examine the impact of stimulation on nutrition and growth in stunted children. It was found that intensive optimal stimulation could maximize growth and that lipid-based nutritional supplements (SQ-LNSs) could promote child growth.

Conclusions:

Based on the journal that has been reviewed, the stimulus given as early as possible will optimally improve growth if it is given by parents who get knowledge and attitudes about the first 1000 days of life given thoroughly in physical, mental and social aspects intensively and improved nutrition. given with an emphasis on proper child feeding practices, the use of iodized salt and the provision of nutritional supplements can improve child growth, anemia and mortality.

Keywords: stunting, growth, improved nutrition, child 6 -24 age, and child development





GAMES-BASED CHILD SEXUAL ABUSE PREVENTION IN SCHOOLS : LITERATUR REVIEW

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ABSTRACT

Background

Child sexual abuse is a serious problem that can have long-term consequences on physical and mental health and well-being. Schools are a logical choice to teach children or provide education about child sexual abuse and its prevention, which can be done while playing. The study aims to look at journals related to the prevention of child sexual abuse based on games.

Methods

This study uses an online journal database that provides free articles and journals in PDF formats such as Proquest, Google Scholar, Pubmed, Elsevier, and Schnaps. The literature was collected from the last 10 years, namely, 2010–2020 using the following keyword sets: “educational games, Child Sexual Abuse, Prevention of Child Sexual abuse in Schools”.

Results

This article examines the role of games in learning, discusses how games can be used to teach children about sexual abuse, and provides examples of how gameplay can address many of the challenges identified as effective in preventing child sexual abuse. Games help convey important things/messages to children.

Conclusions

Educational games effective for the prevention of child sexual abuse at school

Keywords: Games, Child Sexual Abuse, School





THE EFFECT OF FAT INTAKE AND FIBER INTAKE ON THE ADULTS CENTRAL OBESITY IN THE GIRIMAYA HEALTH CENTER, PANGKALPINANG

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ABSTRACT

The results of the National Health Research stated that the prevalence of central obesity nationally increased every five years 2007, 2013 and 2018 with 18.8%, 26.6%, and 31% respectively. About 18 provinces had prevalences of central obesity above the national average, including Bangka Belitung. Central obesity may occur due to poor diet, smoking, alcoholic beverage consumption, and sedentary lifestyle. The majority of Indonesia's population consumes 15 grams of fiber/person/day. Nationally, the average fat intake in Indonesia amounted to 41.9 grams per day. In Bangka Belitung Islands alone the average fat intake in adults was 58.2 grams. This research was an analytical survey with a cross-sectional study. The subjects in this study were adults aged 18-55 years Girimaya PHC report. About 158 people were selected as samples in an accidental sampling. This study used secondary and primary data (anthropometry size, fat, and fiber intake). Univariate, bivariate (Kendall tau correlation test) and multivariate (logistic regression analysis) analyses were conducted. This study suggested that fat intake had a positive effect on the incidence of central obesity on adults in Girimaya PHC Pangkalpinang district with a correlation coefficient of 0.744. On the other hand, fiber intake had a negative effect on the incidence of central obesity on adults in Girimaya PHC Pangkalpinang district with a correlation coefficient of -0.370.

Keywords: Central Obesity, Fat Intake, Fiber Intake





SEDENTARY ACTIVITY AND EXCESSIVE DAYTIME SLEEPINESS CORRELATION TO FOOD BEHAVIOR AMONG UNIVERSITY STUDENTS DURING COVID-19 PANDEMIC

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ABSTRACT

Background

The COVID-19 pandemic has caused changes in sedentary activity and sleep patterns in university students related to their food behavior. This study aims to determine the relationship between sedentary activity and Excessive Daytime Sleepiness (EDS) with student's food behavior during the COVID-19 pandemic.

Methods

This study uses a quantitative method with a cross-sectional design and Chi-Square statistical test conducted on Faculty of Public Health, Hasanuddin University, with 272 respondents. The sample was selected by using simple random sampling. The measuring instruments used to the individual were the Adolescent Sedentary Activity Questionnaire (ASAQ) to assess sedentary activity, the Epworth Sleepiness Scale (ESS) to measure EDS, and the Food Frequency Questionnaire (FFQ) to assess food behavior.

Results

From total of 272 respondents, 254 (93.4%) respondents had high sedentary activity, and 165 (60.7%) respondents experienced EDS. The bivariate results show the relationship between sedentary activity and vegetable eating pattern ($p=0.002$), Fruit eating pattern ($p=0.000$), snack and fast food eating patterns ($p=0.000$), sweet drink consumption pattern ($p=0.003$). Incidence of EDS and vegetable eating Pattern ($p=0.000$), fruit eating pattern ($p=0.001$), snack and fast food eating pattern ($p=0.008$), sweet drink consumption pattern ($p=0.022$).

Conclusions

This study shows an association between sedentary activity and EDS on food behavior with university students during the COVID-19 pandemic. Increased physical activity to lessen the frequency of sedentary activity and set a time to rest and get adequate sleep also needs to be controlled so health and immunity can be maintained. Therefore, increasing consumption of vegetables and fruit, reducing snacks, fast food, and sugary drinks are needed to improve immunity and health during this pandemic.

Keywords: sedentary activity, excessive daytime sleepiness, food behaviour, university student, COVID-19





STUNTING SOCIAL CAPITAL DISRUPTION IN SOUTH SULAWESI, INDONESIA (CASE STUDY ON A 1000 FDL FAMILY IN BONE AND ENREKANG DISTRICT)

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ABSTRACT

Background:

The social capital of the village community should ideally be a force to accelerate the village development process, experiencing disruption resulting in stunting in children. This study aims to explore the root causes of the fragility of stunting social capital and find the right social strategy in dealing with stunting through the use of village community social capital.

Method:

This study uses qualitative research methods with case study techniques that seek to explore in-depth the specifications of the stunting phenomenon experienced by families of the First 1000 Days of Life (FDL).

Results:

The determinants of the disruption of social capital for families of 1000 FDL are family disorientation in fostering family members, the widespread use of technology which results in increasing social distance between family members, belief in the myths of maintaining pregnancy and children, and the development of pragmatic family behaviour in meeting the needs of life. Disruption of the social capital of 1000 FDL families has social-health implications for children born with stunting. Disruption of the social capital of rural communities has resulted in the 1000 FDL families being less empowered in maintaining pregnancy and caring for children who have the potential to give birth to children with stunting status.

Conclusion:

A stunting management program is recommended through community empowerment that is focused on extracting social capital from rural communities. Another recommendation is that verification research is needed to examine the significance of the deterministic factors of social capital disruption that cause stunting.

Keywords: *Social Capital; Child, Stunting; 1000FDL*





EFFECTIVENESS OF POLYMETRIC SKIPPING ON THE NUTRITIONAL STATUS OF ELEMENTARY SCHOOL AGE CHILDREN IN PANGKAJENE ISLANDS REGENCY

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ABSTRACT

Background :

Social restrictions during the covid 19 pandemic contribute to limiting the activities of elementary school-age children and have an impact on the child's metabolism. The aim of this study was to determine the effectiveness of polymetric skipping on the nutritional status of elementary school age children in Pangkajene Island Regency

Methods :

Nutritional status of elementary school age childrens grade 3, 4, and 5 was investigated in August 2020 with polymetric skipping intervention twice a week for 1 month. The polymetric skipping intervention was carried out for 10 minutes by each child. Pearson test was performed to examine the effectiveness of polymetric skipping on the nutritional status of elementary school age children in Pangkajene Island Regency.

Results :

The results of SPSS statistical testsshowed that polymetric skipping had an influence on the nutritional status of elementary school age children ($p=0.000$). The result of this study also indicated that Z-score in the category more than median experienced an improvement in the value of 0,035-0,717 points towards the median of each child. Z-score in the category less than median experienced an improvement in the value of 0,344-0,826 points towards the median of each child.

Conclusions :

Polymetric skipping exercises are proven to be effective in improving children's nutritional status especially the growth of children's bones. Researchers strongly recommend that every child be motivated to carry out routine activities at home, especially in the current COVID-19 pandemic conditions. In addition, when the school learning process has opened, it is hoped that this polymetric skipping exercise can be used as a compulsory sports education material for elementary school age children.

Keywords: polymetric skipping, COVID-19, nutritional status, z-score, elementary school age children





SPATIAL ANALYSIS OF THE PRESENCE OF RATS IN THREE STUDENT HOUSING AREAS OF MAKASSAR CITY STATE UNIVERSITIES

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ABSTRACT

Background:

Rats can affect health because of rats are one of the vectors disease that carriers in humans such as Yersiniosis, Leptospirosis, and salmonella disease. Problems that often occur in student housing are the provision of clean water, sewage, waste water disposal, garbage and population density, so it is very possible for the presence of rats. This study aims to analyze spatially the description of the movement buffer of the captured rats and environmental factors

Methods:

This research was conducted by descriptive observation with sampling technique using accidental sampling. Data collection was carried out in April 2021 with a population of all rats caught in three public university student accommodation areas in Makassar City.

Results:

The results of the installation of 135 traps that were installed for four days the number of rats caught was 29 with various types, namely Rattus Norvegicus 69%, R. Tanezumi 17.2%, R. Argentiventer 10.3%, and R. Exulans 3.4%. Leptospirosis examination results in rat kidney samples showed negative results. The results of the observation of the presence of garbage showed that there were 60% points at UIN, 62.2% points at UNM, and 80% points at Unhas where garbage was scattered around the cottage. The results of temperature measurements showed that there were 73% points at Unhas, 82.2% points at UNM and 88.9% points at UIN which had optimum temperatures. The results of air humidity measurements show that there are 46.7% points at UIN, 4.4% points at UNM, and 26.7% points at Unhas which have optimum air humidity around the lodge.

Conclusions:

The conclusion in this study, that spatially the presence of rats found to have a relation with environmental risk factors such as the presence of garbage, temperature and humidity, in addition to that the rats found were R. norvegicus rats (69%), and most of them were found in UIN lodgings with the presence of trash 60% from all observation points. , 88.9% points have optimum temperature and 46.7% points have optimum humidity and it is recommended to the manager of the cottage, and students who live in the cottage to maintain environmental conditions to prevent the presence of rats.

Keywords: *Spatial, Rats, Students Housing, Public Universities, Leptospirosis*





EFFICACY OF MACRO AND MICRONUTRIENT INTERVENTIONS IN ADOLESCENT NUTRITIONAL STATUS: AN UPDATED SYSTEMATIC REVIEW

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ABSTRACT

Background:

The nutritional status of adolescents during the pre-conception period affects pregnancy readiness for prospective mothers, because it is closely related to the outcome of their pregnancy later. We conducted a systematic review of adolescents receiving the macronutrients (Iron and Zinc) interventions compared with the multi micronutrient intervention to investigate their efficacy on nutritional status.

Methods:

Systematic searches were conducted from four database sources which were Science Direct, ProQuest, EBSCO, and Google Scholar. nutritional status of adolescents during the pre-conception period affects pregnancy readiness for prospective mothers, because it is closely related to the outcome of their pregnancy later. We conducted a systematic review of adolescents receiving the macronutrients (Iron and Zinc) interventions compared with the multi micronutrient intervention to investigate their efficacy on nutritional status. The PICO Worksheet was used to define keywords, including 1) Patient/Problem: Preconception for adolescent OR girl student, 2) Intervention: Iron and Zinc OR Fe and Zn OR macronutrients, 3) Comparison: Multi micronutrient, and 4) Outcome: Nutritional status. Criteria inclusion covered female, adolescents 19-24 years old, English and Indonesian articles published from 2013 to 2020. The risk of bias was assessed by minimizing four potential sources of bias: sample selection, research design, control of confounding variables, and data collection techniques.

Results:

10 relevant studies discussing Iron, Zinc, and multi micronutrient supplements for adolescents were identified. Iron and Zinc interventions are efficacious in preventing anemia, enhancing hemoglobin concentration, improving body mass index, reducing the risk of low birth weight and preeclampsia for women in the preconception phase. Multi micronutrient intervention also has similar efficacy, but it can better affect the maternal immune response and the production of the hormone human placental lactogen (hPL), which ultimately increases placental weight





and birth weight while lowering the risk of abortion and prematurity.

Conclusions:

Iron, Zinc, and multi micronutrient interventions play an important role in improving the nutritional status of adolescents in preparing the preconception phase because they provide positive benefits so that they can prevent nutritional deficiencies before pregnancy, during pregnancy and after delivery.

Keywords: *Iron, Zinc, Multi Micronutrient, Adolescent, Nutritional Status*





CORRELATION OF HEMOGLOBIN AND METS COMPONENT IN TEACHERS IN MAKASSAR CITY

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ABSTRACT

Background

Previous cross-sectional studies revealed an association between hemoglobin concentration and a prevalence of metabolic syndrome (MetS). However, the correlation between hemoglobin and MetS component remains to be elucidated. This study wants to explain the correlation between anemia and MetS components in-state schoolteachers in Makassar City

Methods

This research was conducted in Makassar City, South Sulawesi, Indonesia, with a cross-sectional study design on teachers in 12 secondary schools in Makassar City, the sample in this study was 121 teachers, taken purposively. Anemia was determined using WHO standards, namely Hb levels <13 g / dl in men and Hb levels <12 g / dl in women. The MetS component was determined using criteria from the IDF. Pearson test was used to determine the correlation between hemoglobin levels and MetS components and to determine the relationship between anemia and MetS components using the Chi-square test.

Results

This study found that hemoglobin levels had a significant correlation ($p < 0,05$) with waist size ($r = 0,22$) triglycerides ($r = 0,342$), cholesterol ($-0,333$) and systole ($r = 0,228$), but the relationship was weak. Hemoglobin levels do not correlate with blood glucose levels, diastole and body mass index ($p > 0,05$)

Conclusions

Hemoglobin levels have a weak correlation with several MetS components

Keywords: Teacher, blood glucose, component, weight, triglycerides





THE EFFECT OF COVID-19 PANDEMIC ON PHYSICAL ACTIVITY AND MENTAL HEALTH IN ADOLESCENTS: SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Backgrounds:

The COVID-19 pandemic has led to lockdown policies in various countries to reduce the transmission of the virus. This has an impact on social restrictions, decreased physical activity, and increased sedentary habits in adolescents. The physical activity carried out during the pandemic can reduce anxiety and fear of contracting the virus and have a positive impact on mental health.

Objectives:

Our review was to examine the effect of a covid-19 pandemic on physical activity and Mental health in adolescents

Methods:

Systematic literature review was searched within various databases from Google Scholar, PubMed, and DOAJ using the following keywords: "Covid-19", "Physical Activity", "Mental Health", "Adolescents" in Indonesian and English. studies were selected based on the following inclusion criteria: publication date from 2019 to 2021, discussing the effect of a covid-19 pandemic on physical activity and mental health in adolescents, English and Indonesian articles, full texts, open access, and academic journals. Articles were analyzed using a matrix table.

Results:

Based on the studies have identified an increase in the prevalence of insomnia, anxiety, depression, and decreased physical activity as well as an increase in sedentary habits in adolescents during the COVID-19 pandemic. This can be due to social restrictions, lockdowns, fear, and anxiety about the coronavirus as well as increased screen time during the pandemic.

Conclusions:

This study concludes that physical activity during the pandemic can reduce the negative effect of anxiety and fear from coronavirus. Therefore, doing physical activity during the pandemic is highly recommended to support physical and mental health.

Keywords: Covid-19, Physical Activity, Mental Health, Adolescents





THE CORRELATION OF KNOWLEDGE AND ATTITUDE WITH CONSUMPTION BEHAVIORS OF FRUIT AND VEGETABLE AS PREVENTION EFFORT FROM COVID-19 TO COLLEGE STUDENTS OF TECHNOLOGY IN BONTANG CITY 2021

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ABSTRACT

The COVID-19 pandemic, it is important to maintain a healthy body and prevent the transmission of COVID-19. One way to maintain health and prevent COVID-19 is to consume vegetables and fruit. People, including students, tend to consume less vegetables and fruit. At the age of 20-25 years is a very productive phase, which on average is busy with their activities and only eats foods that make them full. Whereas the antioxidant content found in vegetables and fruit can increase the body's immunity and prevent the transmission of COVID-19. This study aims to determine the relationship between the level of knowledge and attitudes towards the behavior of consuming vegetables and fruits as an effort to prevent COVID-19 among STITEK students in Bontang City. This research is an analytical research study with a cross sectional design with a total sample of 120 respondents. Collecting data using an online questionnaire on google form which includes knowledge, attitudes and behavior in consuming vegetables and fruits. Samples were taken using random sampling method. Data analysis using chi-square test. The results showed that there was a significant relationship between knowledge and vegetable consumption behavior in students ($p = 0.000$), knowledge and fruit consumption behavior in students ($p = 0.000$). There was no significant relationship between attitudes and vegetable consumption behavior in students ($p = 0.467$), attitudes with fruit consumption behavior in students ($p = 0.281$). The conclusion that can be given is that there is a significant relationship between the level of knowledge on the behavior of consuming vegetables and fruits as an effort to prevent COVID-19 in STITEK students in Bontang City.

Keywords: COVID-19, Prevention, Knowledge, Attitude, Consumption of Vegetables and Fruits





A DESCRIPTION OF KNOWLEDGE AND BEHAVIOR OF WOMEN WITH TODDLERS REGARDING BALANCED NUTRITION IN HULAWA, GORONTALO REGENCY

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ABSTRACT

Objective:

Balanced nutrition or balanced diet refers to the structure of a daily diet containing various and sufficient nutrition based on the needs of the body. The fulfillment of nutrition takes into account the principles of diet variation, physical activities, a clean and healthy lifestyle, as well as body weight (monitoring body weight to maintain ideal weight). This research was devoted to exploring the knowledge and behavior of women with toddlers regarding balanced nutrition.

Method:

This study was conducted in Hulawa Village, Telaga District, Gorontalo Regency. The sample of this descriptive research involved 100 women with toddlers in the research area. All data were retrieved using a questionnaire. Further, the data were examined using a univariate analysis to describe the characteristic of each research variable.

Result:

The results show the category of the variable of knowledge and behavior of the sample. Those categories were: good category of knowledge (4 respondents, 4%), moderate category of knowledge (62 respondents, 62%), low category of knowledge (34 respondents, 34%), good category of behavior (3 respondents, 3%), low category of behavior (31 respondents, 31%), and very low category of behavior (66 respondents, 66%).

Conclusion:

The knowledge of women fell under the moderate category, while the behavior aspect was in the very low category.

Keywords: Women with Toddler, Balanced Nutrition, Knowledge, Behavior





CONSUMPTION OF SUGARY FOODS AND BEVERAGES AMONG ADOLESCENTS AND ADULTS IN RURAL AREAS

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ABSTRACT

Background:

The current increase of obesity in rural areas of Indonesia have been alarming. High consumption of sugary foods and beverages are known as one of the causes of obesity. Our study aims to identify the patterns of sugary foods and beverages among Indonesian adolescents and adults in rural areas.

Methods:

A survey was conducted in Northern Polongbangkeng Districts, a rural area in Takalar Regency, South Sulawesi, Indonesia as a part of *Field Learning Experience* activities of Public Health students in Hasanuddin University. Consecutive sampling was applied and a total of 421 adolescents and 1425 adults were participated in the data collection. Data were collected using structured questionnaire and were analyzed descriptively using Jamovi 2.0.

Results:

The pattern of sugary foods and beverages consumption among adolescents and adults are similar. Sugary foods and beverages are consumed frequently by adolescents and adults. 42.51% of adolescents and 34.39% of adults consumed sugary foods once or more a day. Moreover, 41.57% adolescents and 41.26% adults consumed sugary beverages once or more a day. The consumption of soft drinks and carbonated drinks are more frequent among adolescents where 37.05% of them consumed it weekly (1-6 times) and 4.28% daily (once or more). Both of adolescents and adults are rarely consumed energy drinks, only 9.98% of adolescents and 15.65% of adults were consuming energy drinks weekly and daily. Energy drinks are more often consumed by adult males than other population in this study. A total of 25.37% of adult males consumed energy drinks daily and weekly.

Conclusions:

Our study suggests frequent consumption of sugary foods and beverages among adolescents and adults in rural areas. Intervention is needed to reduce sugary food and beverages consumption in rural areas to prevent obesity pandemic in rural areas.

Keywords: sugary foods, beverages, adolescents, adults, indonesia





PRACTICES OF COMPLEMENTARY FEEDING, NUTRIENT INTAKE AND NUTRITIONAL STATUS OF CHILDREN UNDER 2 YEARS OLD

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ABSTRACT

Background. Introducing sufficient and adequate complementary foods for infants at 6-23 months is necessary as the energy and nutrient from breastfeeding alone no longer enough to support an elevated nutrient demand for their growth and development. However, these complementary feeding practices are still suboptimal, especially in developing countries.

Aims. The study aim was to investigate complementary feeding practices and the nutritional status of children under 2 years old.

Methods. An observational study design included a feeding practice questionnaire, anthropometric measurement, and a 24-hour dietary recall were performed. A total of 125 children under 2 years in Patimpeng sub-districts, Indonesia, was assessed.

Results. A 39% of infants at 4-5 months were already fed complementary food. Inappropriate food was observed on portion size, consistency, and the frequency (% of children) was 92%, 90%, and 89%, respectively. Similarly, inadequate intake of the following nutrients (% of children) : energy (83%), carbohydrate (85%), fat (91%), protein (68%), zinc (62%), iron (88%), and vitamin D (98%). Consumption of commercial complementary foods as snacks was 16% whereas as main food 33% for children 6 to 9 months. The prevalence of stunting, wasting, underweight and obesity were 26%, 8.8%, 11.2% and 5.0% respectively.

Conclusion. Large proportions of children had inappropriate and inadequate complementary foods. Prevalence of stunted children was the highest among malnutrition problem. The Efforts are required to improve infant's and children's diet for their optimal health.

Keywords: complementary food, complementary feeding, nutrient intake, nutritional status





REVIEW: DIETARY PATTERN AND DIET QUALITY AS DETERMINANT OF ANEMIA AMONG ADOLESCENT GIRLS

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ABSTRACT

Background:

Many adolescent girls are experiencing nutrition problems such as poor dietary pattern and diet quality that could lead them to malnutrition, such as anemia. In addition, adolescent girls who understand body image will trigger themselves to go on a diet and change their eating behavior so that there is an imbalance in nutrition, especially iron. This review aimed to determine dietary pattern and diet quality of adolescent girls that make them prone to anemia.

Methods:

Our narrative review synthesized current evidence from database and websites, such as PubMed and Google Scholar. Literature searching was conducted Indonesian and English languages using several keywords, such as dietary pattern, dietary habits, nutritional status, iron, malnutrition, diet quality, anemia, and adolescent girls. All relevant and available data for adolescent girls were included in this review.

Results:

A total of 32 papers were reviewed. It was found that globally, the prevalence of anemia is more common in adolescent girls (around 40-88%). This is because they get through a menstruation phase. Adolescent girls also often consume foods that are low in nutrients such as fast food and often practicing unhealthy diet. The unhealthy diet of adolescent girls are not following nutritional guidelines such as eating foods that are low in energy but high in sugar, sodium, and fat. The results of research by Fitria and Puspita (2020) show that adolescents who have unhealthy dietary behavior with symptoms of anemia are 18,8% compared to adolescents who have healthy behavior with symptoms of anemia of 9,4%. Other than that, adolescent girls often consume foods that can inhibit iron absorption or inhibitors such as tannin found in tea. Consuming a cup of tea together with food can reduce iron absorption by 60% where tea consumed after eating for up to 1 hour will reduce the absorption of red blood cells to iron by 64%. Several instruments are used to measure the dietary pattern and diet quality of adolescent girls, such as Semi Quantitative Food Frequency Questionnaire (SQ-FFQ) and Diet Quality Index International (DQI-I) questionnaire.

Conclusions:

Anemia in adolescents is linked to poor dietary pattern and diet quality, such as consumption of low nutrient foods. There is a need for adolescent girls to build healthy dietary pattern to have good diet quality.

Keywords: Dietary pattern, diet quality, anemia, adolescent, review





NUTRITIONAL STATUS AND PHYSICAL ACTIVITY OF ADOLESCENTS DURING COVID-19 PANDEMIC IN PALANGKA RAYA CITY

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ABSTRACT

Background : The presence of Covid-19 pandemic has brought changes in various life sectors, such as unhealthy life style behaviors in adolescents due to the negative impact of online learning. Several studies have shown that stress and lack of physical activity are factors that influence nutritional status. The study aimed to describe the nutritional status and physical activity in adolescents during Covid-19 pandemic in Palangka Raya City.

Methods : This study is survey research method. The sample was 114 adolescents with incidental sampling technique. This study was conducted in Palangka Raya City, Central Kalimantan, in September 2021. The structured tool included baseline information of respondents, nutritional status by anthropometric data (BMI) and physical activity using the International Physical Activity Questionnaire (IPAQ). Data analysis used quantitative with univariate analysis.

Results : The results showed that the majority of samples had normal nutritional status (43,9%), while the samples with abnormal nutritional status were 56,2% (underweight 25,5% and overweight/obesity 30,7%). Based on profile of physical activity, the majority of samples had moderate activity (42,1%), while others samples had less activity (36,0%) and over activity (21,9%). The results of crosstabulation also showed that the majority of samples with poor activity have a bigger risk to be overweight/obesity (58,5%), while majority of samples with moderate activity have normal nutritional status (62,5%).

Conclusions : The basic result of this study was the decline of physical activity has major impact on nutritional status of adolescents. We recommended to the government to implementing and promoting policies of nutrition improvement and health awareness on weight maintenance to deal with the health crises as impacts of Covid-19 pandemic.

Keywords: Adolescent, physical activity, nutritional status





THE ASSOCIATION BETWEEN IODINE DEFICIENCY DISORDERS (IDD) FACTOR AND STUNTING INCIDENTS IN CHILDREN UNDER TWO YEAR OLD IN ENREKANG REGENCY.

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Objective:

This study aimed to observe the association between iodine deficiency disorders (IDD) factor and stunting incidents in children under two years old in endemic area, Enrekang Regency.

Method:

This study was cross-sectional research with 100 respondents aged 0-23 months. The data were collected by using the questionnaire, weight and height measurement to categorize stunting status based on Z-score. Palpation and Urinary Iodine Excretion (UIE) were used to indicate IDD. The data were analyzed using Chi-Square analysis.

Result:

The result revealed that there were male (50.5%) and female (49.5%) respondents. The households use iodized salt (61.4%) and household respondents do not use iodized salt (38.6%). The number of stunting children was (48.5%) and not stunting (51.5%). Mother's UIE status with deficiency (60.2%) and sufficient (39.8%). The Chi-Square analysis showed a significant association between maternal UIE and the incidence of stunting ($P = 0.010$). There was no association between consumption of iodized salt ($p=0.140$), maternal palpation ($p=0.569$) on stunting. Based on logistic regression analysis, maternal UIE was the risk factor for stunting ($R = 3.064$) ($p = 0.030$). In addition, the maternal diet, salt consumption, maternal palpation, and children's diet were not the risk factors.

Conclusion:

Mother's UIE is a risk factor for stunting in children under two years old in Enrekang Regency.

Keywords: IDD, Stunting, Children Under Two Years Old





CORRELATION AMONG IODINE DEFICIENCY DISORDER, STUNTING, AND COGNITIVE, LANGUAGE DEVELOPMENT IN ELEMENTARY SCHOOL CHILDREN IN ENREKANG REGENCY

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Objective

The aimed of study is the relationship between iodine deficiency disorder (IDD) and stunting with cognitive and language development in elementary school children in Enrekang Regency.

Method

The study used cross-sectional approach, with 100 respondents aged 6-12 years old. Data collected from questionnaire and measuring weight and height to get the result of stunting based on the child's Z-score. Palpation and Excretion Iodine Urine (EIU) to get the result of IDD and Montreal Cognitive Assessment (Moca-Ia) measure cognitive language. Data analysis used by Pearson correlation analysis

Results

Of the total respondents with IDD, there are respondents with mild deficiency (18%), respondents with moderate deficiency (2%) and respondent with severe deficiency (1%). The remaining (51%) respondents with sufficient iodine and (28%) respondents with hyperthyroidism. respondents with very stunting nutritional status (19%), stunting (53%) and normal nutritional status (28%). The are respondents with low language cognitive scores (89%) and respondents with normal language cognitive scores (11%). The results of the bivariate analysis did not have a relationship IDD with cognitive and language development (P value = 0.835). There is a relationship between stunting and cognitive, language development (p value = 0.011).

Conclusion

Malnutrition or stunting for the long term can hinder cognitive and language development.

Keywords: IDD, Stunting, Childen, Cognitive, Development





NUTRITIONAL STATUS AMONG ADOLESCENT GIRLS FROM URBAN SMALL ISLAND OF INDONESIA

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ABSTRACT

Background

Undernutrition among adolescent girls remains a public health problem, especially those who living in small island. The study aimed to identify the nutritional status based on anthropometry and survey consumption of school aged adolescent girls in small islands of Indonesia.

Methods

This cross-sectional study involved 212 adolescents' girls from five junior and senior high schools from four of different island of Makassar City, Indonesia. Body mass index for age Z-score, upper arm circumference, waist circumference was measured for anthropometrical nutritional status. Nutrient intake was assessed using 2x24 recall and food frequency questionnaire for dietary nutritional status. Sociodemographic characteristics were assessed through interview. Data were analyzed using univariate and bivariate analysis.

Results

Mean age of respondent was 14.34 ± 1.6 years. There were 53.8% of adolescents with cronic energy deficiency (CED), 9.9% with obesity central. More than eighty percent of adolescent girls consume energy and carbohydrate less than dietary allowance for adolescence. More than seventy percent of adolescent girls consume protein and lipid less than dietary allowance.

Conclusions

Adolescent girls hwo living in small area faced double burden of mulnutrition. It recommended that adolescent girls in tis area need more attention in increasing their healthy eating pattern.

Keywords: Adolescent, undernutrition, small island





NUTRITIONAL STATUS AND CHRONIC ENERGY DEFICIENCY OF FEMALE STUDENTS DURING THE COVID-19 PANDEMIC

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ABSTRACT

Background : The Indonesian government's policies during the Covid-19 pandemic like quarantine, isolation, and work from home have influenced changes in lifestyle which can affect a person's health and nutritional status. Female students are included in the women of reproductive age group, which is one of the nutritionally vulnerable groups with a major nutritional problem is Chronic Energy Deficiency (CED). This study aimed to describe the nutritional status and chronic energy deficiency of female students during the Covid-19 pandemic.

Methods : This study was an observational descriptive study with 34 students from Megarezky University as the samples who were taken by using purposive sampling technique. The study was conducted in June 2021. Nutritional status was assessed by using Body Mass Index (BMI) indicator through weight and height measurements, while CED status was assessed through Mid-Upper Arm Circumference (MUAC) measurement. Data was analyzed univariately to describe nutritional status and chronic energy deficiency of female students.

Results : The results showed that the age range of the sample was 18-20 years. The measurement of nutritional status showed that 17,65% (6 samples) were underweight (BMI 17,0-18,5), 64,71% (22 samples) were normal (BMI 18,5-25,0), 11,76% (4 samples) were overweight (BMI 25,0-27,0), and 5,88% (2 samples) were obesity (BMI >27,0). According to MUAC measurement, 20,59% (7 samples) had CED and 79,41% (27 samples) had not CED.

Conclusions : During the Covid-19 pandemic, the most nutritional status of female students according to the BMI indicator was normal and the least was obesity. The number of female students who had CED was less than the number who had not CED. Nutritional status can describe a person's physical condition as a reflection of the balance of energy intake and output by the body that is why it is recommended for female students to always check their nutritional status so that their nutritional status will always be under controlled.

Keywords: Body mass index, Chronic energy deficiency, Covid-19 pandemic, Female students, Nutritional status





SELF-MANAGEMENT OF OBESE WOMEN WITH PREDIABETES: A LITERATURE REVIEW

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ABSTRACT

Background: Obesity in women is associated with the incidence of prediabetes. This literature review aims to provide an overview of new findings on managing obesity in women to avoid prediabetes.

Methods: A narrative analysis in this study uses database sources from Pubmed, Elsevier and Google Scholar. The keywords used are 'obesity management in women', 'management of prediabetes', 'women and obesity', 'women with obesity and prediabetes', 'lifestyle', 'prediabetes control' (physical activity, diet, acupressure, family support). Among 93 studies identified in the literature search, 17 articles were eligible for inclusion in this paper. Related articles were collected from 2011 to 2021.

Results: This review identified obese women with prediabetes who made lifestyle changes such as light physical activity, changing diet patterns and types of food, and getting support from their families to reduce fasting glucose levels. Ear acupressure and exercises also play an essential role in the effectiveness, program accuracy, economic value in losing weight in women with primary obesity. Such activities also can be done independently by patients if needed.

Conclusion: Raising awareness and appropriate management are necessarily carried out to improve diabetes prevention and to effectively normalize prediabetes into normoglycemia in obese women. Further studies may be needed to see the effectiveness of more complex interventions that may be carried out over a period of time.

Keywords: *Obesity, prediabetes, physical activity, acupressure*





THE EFFECT OF NICOTINE EXPOSURE ON APPETITE LOSS AND NUTRITIONAL STATUS AMONG TOBACCO FARMER'S CHILDREN

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ABSTRACT

Background: Nicotine contained in tobacco leaves can suppress appetite, triggering behavioral changes that encourage a person to reduce food portions. Decreased appetite which occurs continuously can affect the nutritional status of children. Tobacco farmer's children who often help their parents work in tobacco fields for 3-4 hours after school have a vulnerable risk to lose appetite and it might be affect their nutritional status.

Methods: This was a cross sectional study among 21 tobacco farmer's children who lived in Tobacco's field area, Puger Jember on September 2021. Children's appetite was measured using Children Eating Behavioral Questionnaire. Nutritional status was defined by CDC WHO Chart. Height was measured by microtoise and weight using weight scale. Socio economic of the children was interviewed through structure questionnaire. SPSS 20.0 was used to analyze the data and it categorized by chi-square.

Results: The results showed that children who decreased their appetite in last one month around 40.7%. The mean of their weight and height was 26.7 kg and 130 cm respectively. There were 37% children who categorized as wasting, 55.6% as normal and the rest 7.4% as overweight. There was significant relationship between decreased appetite and nutritional status (p value < 0.05) among children. 33,3% children who categorized as wasting have low appetite.

Conclusions: The effect of nicotine exposure among farmers tobacco's children can caused decreased of their appetite. Meanwhile, signs of decreased appetite include not wanting to eat, unintentional weight loss and not feeling hungry. Losing appetite in long term condition will lead to have malnutrition among children and it will obstruct their growth.

Keywords: Appetite, Children, Nutritional Status, Tobacco





MORBIDITY AND NUTRITIONAL STATUS (WASTING) IN CHILDREN UNDER FIVE AGED 12-59 MONTHS IN SOUTH BATUI DISTRICT

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Background: Wasting or low body weight that occurs continuously can be a risk factor for stunting. This study wanted to see the incidence of wasting in toddlers aged 12-59 months in South Batui District, Banggai Regency, Central Sulawesi Province.

Methods: This research is an analytical survey research with cross sectional approach with the subject of children under five years old (12-59 months). The main variables of this research are nutritional status, weight/age and morbidity. data collection using a questionnaire with interview techniques and anthropometric measurements in children under five. Data analysis used bivariate analysis using chi-square test.

Results: The subjects of this study were mothers who had children aged 12-59 months who generally came from families with an education level of junior high school mothers and below 59%, housewives 76,1%, family income levels <2 million/month 81,4% , the incidence of morbidity in children under five (37%). All variables are not related because the results of the analysis are $p > 0.05$, but there is a tendency for child morbidity with wasting P value = 0.143, the sex of the child P value = 0.148. In general, the average intake of low energy consumption is 43% RDA, Carbohydrates 38.5% RDA, Protein 106% RDA, Fat 38.4% RDA. and micronutrients are still low.

Conclusion: in this study the morbidity rate in children was 36.7%, Category -2 SD WAZ 22%, WHZ 4.1%.

Keywords: Morbidity, Nutritional Status, Toddler, Wasting.





EVALUATING WEBSITE-BASED NUTRITION DISSEMINATION MEDIA FOR THE INDONESIAN POPULATION

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ABSTRACT

Background

People accessibility to health topics, including nutrition, has been widely increased due to near-universal access to the internet. However, misleading information issues have probably emerged, and therefore, content quality is critical. This study aimed to evaluate the quality of nutrition websites in disseminating nutrition-focused information in Indonesia.

Methods

The study was conducted by assessing 30 websites in Bahasa Indonesia. The websites were selected purposively by two independent authors, based on the availability of nutrition topics on the websites. We evaluated the quality of the website using the validated DISCERN method focusing on the quality of written information. Each question from the questionnaire is rated using 5-point Likert scale, consistently ranging from definite No (1) to definite Yes (5).

Results

Of 30 websites, more than 50% are less reliable in providing nutrition information to the community. Meanwhile, 20% of websites extended the dissemination methods using mobile-app. The study was also found that about 30% was a commercial website focusing on marketing nutrition products or services with a bit of nutrition information displayed. The majority of them were newly established in the past five years.

Conclusions

In general, web-based nutrition dissemination media accessible for the Indonesian population is less reliable and focus on providing commercial services or products. It is important to the government to provide reliable website in order to support the increase of health and nutrition literacy across Indonesian population.

Keywords: the internet, health literacy, nutrition education, world wide web





KNOWLEDGE, BREAKFAST HABITS AND LEARNING ACHIEVEMENT ARE SIGNIFICANTLY ASSOCIATED WITH SHORT NUTRITIONAL STATUS IN CHILDREN

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ABSTRACT

Background : The problem of nutrition in elementary school children is a crucial problem that will have an impact on the quality of development in the future. Short nutritional status in elementary school children also tends to increase. A number of factors also influence the incidence of short nutritional status in elementary school children.

Methods : This research is an analytical survey method with a cross sectional survey design. The sampling technique used was simple random sampling until 114 students were obtained from three elementary schools in West Bolangitang. Data was collected using a questionnaire, measuring nutritional status anthropometrically. Data analysis using chi square test with $p = 0.005$.

Results : The age of respondent as students of elementary school children were in the 10 year category, namely 43.9%, gender 57.9% female, father and mother education mostly at the junior high school level 48.2% and 46.5% respectively, nutritional status in short category on elementary school students 34.2%, knowledge related to balanced nutrition 77.2% in low category, knowledge of mothers 76.3% in low category, breakfast habits only 18.4% of students who were practice breakfast for one weeks later. The results of the chi square analysis showed that there was no association between knowledge of elementary school students with short nutritional status ($p = 0.603$), there was association between mother's knowledge ($p = 0.027$), breakfast habits ($p = 0.008$) and learning achievement ($p = 0.015$) with short nutritional status.

Conclusions : There was association between mother's knowledge, breakfast habits and learning achievement with short nutritional status in elementary school students.

Keywords: knowledge, breakfast, learning achievement, children, short nutritional status





DETERMINANTS OF STUNTING INCIDENCE IN ELEMENTARY SCHOOL CHILDREN LIVING IN ENDEMIC AREAS OF IODINE DEFICIENCY DISORDERS (IDD) IN ENREKANG REGENCY

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ABSTRACT

Objective: The prevalence of stunting children in 2019 in Enrekang Regency was 44.8%. This study aims to identify the determinants of stunting in elementary school children in the IDD endemic area, Enrekang Regency.

Method: This research is an observational analytic study with a cross sectional approach. The subjects of this study were mothers and their children aged 6-12 years. A total of 100 total samples were involved based on the purposive sampling method. Data was collected using a questionnaire, FFQ, iodine test kit, microtoa, and palpation. Data analysis used chi-square and multiple logistic regression.

Results: The results showed that there was a relationship between maternal height ($p = 0.020$), mother's knowledge ($p = 0.027$), diet ($p = 0.049$), PHBS practice ($p = 0.012$) on the incidence of stunting. Meanwhile, maternal education level ($p=0.992$), number of household members ($p=0.919$), use of iodized salt ($p=0.510$), and thyroid gland palpation ($p=1,000$) were not associated with stunting. The main risk factors for stunting are PHBS practices, mother's height, and mother's knowledge.

Conclusion: Various factors play a role in causing stunting in Enrekang Regency. The analysis of factors related to the incidence of stunting in elementary school children in Enrekang Regency is considered necessary to support the government in determining the policy to overcome the highest stunting problem in South Sulawesi.

Keywords : School Age Children, Stunting, IDD





BODY IMAGE, PROTEIN INTAKE, AND ANEMIA AMONG ADOLESCENT GIRLS

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ABSTRACT

Background

Adolescents had rapid growth both physically and psychologically, including changes in body image perception, especially girls. Adolescent girls with a negative body image feel dissatisfied with their body shape and usually limit food consumption that could causing nutritional imbalance especially protein so can risk become anemia. This review aimed to determine the relationship of body image, protein intake, and anemia among adolescent girls.

Methods

The method used is a narrative review approach from PubMed and Google Scholar databases, with various keywords such as anemia, body image, negative body image, protein consumption, protein intake, and adolescent girls.

Results

A total 39 papers used in this review. Adolescent girls with a negative body image view their body not ideal or too fat, so they limit their food consumption. It is cause low level of nutritional intake that could make iron transport disorders, which is could lead to iron deficiency anemia. Negative body image in adolescence girls could lead to stress, low self-confidence and impaired social interaction. Body image in adolescent girls has a significant relationship with anemia, there is more than 20% adolescent girls with negative body image experience anemia. The average daily intake of protein was higher in the non-anemic group than the anemic group. Adolescent girls who have a low level of protein intake have a 30.33 times greater risk of developing anemia than those who have an adequate level of protein intake.

Conclusions

Negative body image and inadequate of protein intake have a significant relationship with the incidence of anemia in adolescent girls. Adolescent girls are expected to regulate their diet with balanced nutrition, as well as consult with an nutritionist to have ideal body weight, and also doing positive things like exercising regularly to overcome their negative body image.

Keywords: protein intake, body image, anemia, adolescent, review





EFFECTS OF GAMMARA'NA ON NUTRITIONAL STATUS OF CHILDREN AND PREGNANT MOTHERS: AN ACCELERATING STUNTING REDUCTION PROGRAM IN SOUTH SULAWESI

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Background: An innovation program to accelerate stunting reduction in South Sulawesi called Gammara'na, has been implemented in 2020. This study was conducted to assess effect of the program in reducing malnutrition in children and pregnant mothers.

Methods: The program was implemented in two districts in South Sulawesi; Enrekang and Bone. There were 30 and 40 villages respectively for Enrekang and Bone that had been selected as high risk areas for stunting. Fresh graduate from nutrition program in School of Public Health, Hasanuddin University, and Poltekes Makassar, was haired to be a Nutrition Counselors. They received adequate training for five days and then stayed in the villages for 6 months. Anthropometric measurement was done monthly for both under-two children and pregnant mothers. Data analyses were performed based on report made by the counselor each month.

Results: Activities of counseling was undertaken according to baseline data. At baseline, there were 22.67% and 19.0% of stunting and 0.93% and 5.6% of wasting in Enrekang and Bone respectively. After 6 month of intervention, prevalence of stunting was 19.19% and 9.3% in Enrekang and Bone respectively. In addition, the prevalence chronic malnutrition in pregnant women reduced from 16.3% to 12.6% in Enrekang but it was consistent in Bone (17.7% to 17.3%). The counselor reported some activities that have been implemented in the community and some challenges during the programs.

Conclusions: Gammara'na may reduce prevalence of stunting in children and chronic malnutrition in pregnant women but some challenges should be considered for future programs.

Keywords: Gammara'na, Nutrition Counseling, Children, Culture





THE DETERMINANT OF CHRONIC ENERGY DEFICIENCY INCIDENCE IN ADOLESCENT GIRLS IN LOCUS STUNTING IN SOUTH SULAWESI

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ABSTRACT

Background

Problem of malnutrition in adolescents is chronic energy deficiency (CED) which will have an impact on increasing the prevalence of stunting in infants. The objective of this study was to assess determinant factors of stunting in adolescent girls district of Bone and Enrekang in South Sulawesi Province.

Methods

Type of research in this study is an observational crosssectional study in 40 villages of locus stunting Bone and Enrekang involving adolescent girls with cluster random sampling. Subjects were 533 adolescents 289 and 244 from Bone and Enrekang respectively. The instruments of this study is an interview software application on Android and anthropometric measurements of adolescent girls. The dependent variable was CED. The independent variables were age, nutritional knowledge, family income, eating Habits, food Taboo and family smoking status.

Results

The results of this study indicate that there was a significant relationship based on chi-square analysis ($p < 0.05$) in age and family income with CED in Bone regency. In enrekang regency there was a significant result between age and CED based on chi-square analysis ($p < 0.05$).

Conclusions

The nutritional status of adolescents, especially the chronic energy deficiency, needs attention because young women as expectant mothers must have good nutritional status to deliver quality generations. Therefore, there is a need to design and implement programs and strategies to improve nutritional status particularly focusing on adolescent girls.

Keywords: chronic energy deficiency, adolescent girls





RELATIONSHIP BETWEEN ECONOMIC STATUS, INFECTIOUS DISEASES AND EXCRETION IODINE URINE WITH STUNTING INCIDENCE OF ELEMENTARY SCHOOL CHILDREN IN IDD ENDEMIC AREAS, ENREKANG REGENCY

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ABSTRACT

Background: The prevalence of stunting children in 2019 in Enrekang Regency was 44.8%. The purpose of this study was to determine the relationship between economic status, infectious diseases and excretion iodine urine with the incidence of stunting in elementary school children in IDD endemic areas, Enrekang Regency.

Methods: Study with a cross-sectional design, involved 100 children aged 6-12 years old as samples were collected by purposive sampling. Data on economic status and infectious diseases were collected by interview method using a questionnaire, urine iodine measurement using the Ammonium Persulfat Digestion method using a spectrophotometer. Data were analysis used chi-square test.

Results: The results showed that the proportion of stunting was 72.2%. Low family economic status by 82.0%, infectious diseases by 79.0%, and low urinary iodine excretion by 21.0%. The chi-square test showed that there was a significant relationship between economic status ($p=0.045$) and infectious diseases ($p=0.012$) with the incidence of stunting. Urinary iodine excretion was not associated with the incidence of stunting ($p=1,000$).

Conclusion: There is a significant relationship between economic status and infectious diseases with the incidence of stunting. Utilization of agricultural land is recommended to increase family income and increase children's healthy and clean behavior is considered necessary to prevent infectious diseases.

Key Words: Stunting, Elementary School Children, Economic Status, Infectious Diseases, Excretion Iodine Urine





ASSOCIATED FACTOR ON STUNTING INCIDENCE AMONG CHILDREN IN BONE AND ENREKANG REGENCY (BASELINE DATA ANALYSIS FROM GAMMARA'NA PROGRAMS ON 2020)

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ABSTRACT

Background : Stunting is a condition of failure to thrive in children under five years old due to chronic malnutrition. Bappenas has designated South Sulawesi Province as a stunting convergence area with 11 districts as the locus of stunting handling and prevention. The Provincial Government of South Sulawesi took steps for stunting convergence by implementing the Gammara'Na program; community movement to eradicate stunting. This study aims to determine the associated factor on stunting incidence among children in Bone and Enrekang regency on 2020.

Methods: This research is quantitative research with an observational approach using cross sectional design. The population in the Gammara'NA program is 19,000 children aged 12-23 months in Bone and Enrekang regencies. Sampling is done by non-random sampling using purposive sampling technique by selecting 10 baduta in each village. The number of samples used as many as 503 baduta. Data analysis used univariate and bivariate analysis.

Results: The results revealed that the prevalence of stunting in Bone District (30.5%) and Enrekang (34.4%). The results of the analysis found associated between maternal height ($p = 0.015$), birth weight ($p = 0.003$) and drinking water sources ($p = 0.033$) with the incidence of stunting in children aged 12-23. month. There was no correlation between the variables of mother's education ($p=0.260$), mother's occupation ($p=0.770$), gestational age ($p=0.243$), colostrum ($p=0.558$), exclusive breastfeeding ($p= 0.685$), latrine ownership ($p=1.000$), clean water sources ($p= 0.712$) and cigarette smoke (0.775) with the incidence of stunting in children aged 12-23 months.

Conclusions: It is recommended for the South Sulawesi Provincial Health Office that the implementation of the Gammara'NA program can be continued, by seeking to optimize health facilities through improving the quality of antenatal care, providing counseling related to nutrition and good parenting to parents, especially mothers.

Keywords: Stunting incident, toddler 12-23 months old, Gammara'NA programs.





RELATIONSHIP OF ENVIRONMENTAL SANITATION WITH THE NUTRITION STATUS OF PREGNANT WOMEN AT TOAYA PUBLIC HEALTH CENTRE IN 2021

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ABSTRACT

Background : Sanitation is one of the crucial aspects for pregnant women. Poor sanitation problems can increase the incidence of infectious diseases that can cause nutritional problems in pregnant women who are at risk of experiencing Chronic Energy Deficiency during pregnancy. So it is considered necessary to know the relationship between environmental sanitation and the nutritional status of pregnant women.

Methods : This research is a correlative observational analytic study with a cross sectional approach using questionnaires and data on nutritional status examinations for 41 pregnant women at the Toaya Health Center in 2021 and sampling using the purposive sampling method, then analyzed using: Pearson correlation analysis.

Result : The results of the correlation analysis showed that there was no environmental sanitation variable that had a significant relationship with the nutritional status of pregnant women, this was indicated by the absence of an environmental sanitation variable that had a significance value of <0.05 .

Conclusions : There is a need for further studies related to this topic, so that it can be a reference in the approach to improving the health status of pregnant women.

Keywords: *Environmental Sanitation, Nutritional Status, Pregnant Women*





IMPACT OF PARENTING EDUCATION ON KNOWLEDGE OF, PRACTICE OF FIRST 1000 DAYS OF LIFE AND PARENTING AMONG MOTHER IN MAKASSAR, INDONESIA: PRE-POST STUDY

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ABSTRACT

Background: Various parenting problems arise from the inability of parents to provide care and education in their homes. Psychological conditions of parents cause various psychological problems in children, in addition to the awareness of parents about the importance of 1000 Days of Life can result in the next generation not only in physical problems but also mental and intelligence. Online education classes are a means for parents to get structured information. The purpose of this study was to analyze whether parenting education classes are really effective in increasing parents' knowledge and actions about the First 1000 Days of Life and appropriate parenting patterns.

Methods: This research is an experimental study with a one shot case study experimental design, with a sample of 115 mothers who have attended parenting education classes aged 20-45 years. Parenting education is the independent variable while parenting patterns, knowledge and actions of parents about the First 1000 Days of Life are as the dependent variable. The research instrument uses a parenting style scale, a knowledge questionnaire and a 1000 Days action scale that has been tested for validity and reliability. Data analysis used Paired Sample T-Test for describing the parenting patterns and Wilcoxon Test for parents' knowledge and actions about the First 1000 Days of Life.

Results: The results showed that classroom education had a significant effect on parenting ($p=0.000$), as well as the knowledge and actions of 1000 Days of parents ($p=0.000$). This shows that the education class is effective in educating parents about parenting and 1000 Rights.

Conclusion: The Parenting education has a significant effect on parenting patterns, knowledges and actions about the First 1000 Days of Life.

Keywords: Classroom Education, Parenting, Knowledge, Action, 1000 Days of Life





THE RELATIONSHIP BETWEEN CALCIUM LEVELS IN BREAST MILK AND THE EVENTS OF STUNTING IN TODDLERS: A SYSTEMATIC REVIEW

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ABSTRACT

Background:

Stunting is a chronic malnutrition problem that occurs worldwide, caused by insufficient breast milk intake. Breast milk contains calcium which plays an important role in preventing stunting. This study aims to identify the relationship between calcium levels in breast milk and the incidence of stunting in children under five.

Methods:

This type of research is a systematic review. Based on the PRISMA flowchart and literature feasibility criteria (PICOS framework). The research design criteria were cross-sectional and cohort. Scopus and Sinta Indonesia indexed journal publications. Indonesian and English articles and publications in the last 10 years. Excluding articles that are not accessible for free. Search literature with PubMed, Science Direct, ProQuest, Scinapse, and Google Scholar databases. A total of ten articles are eligible from 7,833 articles. There were seven cross-sectional articles and three cohort articles. The study population was children aged 0-59 months and/or breastfeeding mothers in Asia and Africa.

Results:

The articles reviewed from three articles showed a strong relationship between breast milk calcium levels and body length, while two articles showed a weak relationship. The two articles reviewed from three articles showed that breastfeeding mothers' calcium levels were higher in urban areas than in rural areas. Meanwhile, one in three articles showed that breastfeeding mothers' calcium levels were higher in the lowlands than in the highlands. Two of the four articles showed that calcium levels in children with low calcium intake contributed to stunting, while two out of four articles showed that children's calcium intake was sufficient/adequate to reduce the prevalence of stunting.

Conclusion:

There is a relationship between calcium levels in breast milk and the events of stunting in toddlers. Furthermore, the research design was further improved and paid attention to the calcium levels of breast milk during growth.

Keywords: Calcium, breast milk, calcium intake, geographical, stunting.





CHRONIC ENERGY MALNUTRITION IN MOTHERS IS ASSOCIATED WITH STUNTING INCIDENCE IN KARAWANG REGENCY

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ABSTRACT

Background: Stunting is a nutritional problem that has a long-term impact. Maternal nutritional status contributes to fetal growth restriction which increases the risk of low birth weight and increases the risk of stunting. This study aims to determine the relationship between maternal nutritional status during pregnancy and the incidence of stunting in children aged 6-23 months in Karawang Regency. **Methods:** This study is an observational study with a cross-sectional design. The number of samples was 125 children aged 6-23 months in Srikamulyan village, Karawang regency. Data were collected using a structured questionnaire to determine the identity of the child, the identity of the mother, the nutritional status of the child, the history of the nutritional status of the mother during pregnancy, and sociodemographic data. Anthropometric measurements of the mother's height using a microtoise and the child's body length using a length board. Data were analyzed using univariate and bivariate analysis. **Results:** The results showed that as many as 23.67% of children aged 6-23 months experienced stunting in Srikamulyan Village. Mothers who experience Chronic Energy Malnutrition during pregnancy as much as 8.2%. Data analysis showed that mothers with Chronic Energy Malnutrition during pregnancy were associated with stunting in children aged 6-23 months ($p < 0.05$). **Conclusion:** Chronic Energy Malnutrition during pregnancy is associated with the incidence of stunting in children aged 6-23 months. Prevention efforts from adolescent girls are an important key in improving the nutritional status of women of childbearing age and pregnant women in order to prevent stunting

Keywords: chronic energy malnutrition, stunting, maternal nutritional status, children aged 6-23 months





BREASTFEEDING PRACTICES DURING INFANCY 0-23 MONTHS OF AGE IN SOUTH BATUI SUBDISTRICT, BANGGAI DISTRICT, INDONESIA

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Background: Breastfeeding during infancy is very important in optimal child development. This study was intended to assess breastfeeding practices during infancy 0-23 months in South Batui Subdistrict.

Methods: This was a cross sectional study conducted in all ten villages in the subdistrict. Subjects were 199 infants 0-23 months of age selected from those who were registered in Posyandu. Mothers of infants were interviewed by a trained field worker using a structure questionnaire. Analyses were performed descriptively and by using chi-square test.

Results: Most of infant's mothers were low in education level (below junior high school, 49.2%), with family income levels less than two millions per month (73.9%). Exclusive breastfeeding at the age of 0-5 months was 75.9% while most children aged above six months were still breastfed (77.3%). There were correlations between breastfeeding practices with providing colostrum ($p=0.001.$), birth weight ($p=0.032$), mother's education ($p=0.048$), family income ($p=0.047$). In addition, there was no relationship between breastfeeding practices with mothers occupation and sex of infants ($p>0.05$).

Conclusion: This study shows breastfeeding practices are adequately enough in this study area and these associate with providing colostrum, birth weight, mother's education, and family income.

Keywords: Breastfeeding, Exclusive, Colostrum, Birth weight, Infant.





FETAL AND NEONATAL PROGNOSTIC IN MOTHERS WITH CORONAVIRUS DISEASE-2019 STATUS, IN REGIONAL GENERAL HOSPITAL OF KEBAYORAN LAMA, JAKARTA, INDONESIA

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ABSTRACT

Background: In reproductive health services, maternal and infant health problems are very important to note in order to reduce maternal and infant mortality. In the time of the Coronavirus Disease-2019 pandemic that is currently sweeping the world, it has put pregnant women and neonatal into groups vulnerable to exposure. The infectious status experienced by the mother can provide critical potential given the relationship between the mother and baby circulation system form through *uteroplacental* tissue. So this study will provide crucial information for us whether a babie in the womb and a newborn to a mother suffering from covid-19 has a prediction of the development of good or bad health conditions.

Methods: This research is an observational study with a cross-sectional design. The scope of this research is a hospital-based on a retrospective research design using medical record data of 187 maternal patients who were confirmed to be Covid-19 at the Kebayoran Lama Regional General Hospital, Jakarta, Indonesia, since Oktober 2020. Data were analyzed using descriptive statistics

Results: The number of positive COVID-19 pregnant women who were treated was 187 people, including thirty pregnant women who had not given birth (16%) while pregnant women who gave birth in hospital were 157 people (84%). .

The results of the assessment of the fetus in the womb (30) pregnant women who have not given birth) There are sixteen fetuses with fetal distress (53.3%), who experienced Intra Uterine Fetal Death (IUFD) in one case (3.4%), who experienced bleeding in three cases (10.0%) and sten fetuses were in normal condition (33.5%). Thus, there were twenty fetal cases (67.0%) which had a worse prognostic.

The results in neonates showed that five neonates contracted COVID-19 (3.2%), twenty with moderate-severe asphyxia (12.7%), one infant died (0.6%), while thirteen were born prematurely (8, 2%) and one hundred and eihteen were in normal condition. Thus 39 newborn (25%) had a worse prognostic.

Conclusion: Fetal prognostic for pregnant women with covid-19 who experienced worsening





condition was 62.5% while neonatal prognostic for pregnant women with covid-19 who experienced worsening condition was 25%. So that mothers with COVID-19 pregnancies will have a negative impact on the development of the fetus and the baby being born

Keywords: Fetal Prognostic, Neonatal Prognostic, Pregnant Women, Covid-19, Kebayoran Lama





PRACTICE OF COMPLEMENTARY FEEDING OF BREASTFEEDING TO INFANTS 6 – 23 MONTHS IN LENGKESE VILLAGE, TAKALAR REGENCY, SOUTH SULAWESI PROVINCE

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Abstract

Background: Provision of appropriate and appropriate complementary foods can prevent stunting. This study aims to identify a description of the practice of providing complementary feeding in Lengkesa Village, Takalar Regency, which is a Regency with a high stunting locus area.

Method: This research is a cross-sectional study conducted in Lengkesa Village, Takalar Regency, South Sulawesi Province. Data collection was carried out for three days. This study involved 40 baduta who met the criteria in each hamlet in Lengkesa village using an Online Questionnaire. Determination of the sample through the two-stage cluster sampling method. In this study, the samples were then grouped by age, namely 6-8 months, 9-11 months, and 12-13 months.

Results: Most of the children under two received food other than breast milk 3 times in the last 24 hours (67.5%), they started to receive complementary foods at the age of 6 months (82.5%). The practice of giving commercial baby porridge as their first food was quite dominant (50.0%). Then, based on the type of basic ingredients for complementary foods, it tends to only use 1-2 types of food ingredients with textures that are appropriate for the age of the toddler. However, based on the variety of dish menu, baduta tend to consume a combination of rice, vegetables, and side dishes, or rice and vegetables only.

Conclusion: Giving practice Complementary Foods for Breastfeeding Inappropriate practices are still carried out by the community in the stunting locus area in Lengkesa Village, Takalar Regency, South Sulawesi. It is advisable to provide assistance regarding the practice of giving Complementary Foods for Breastfeeding appropriate and appropriate for the fulfillment of nutrients under the age of five in order to reduce the risk of stunting.

Keywords: Stunting, Complementary Foods for Breastfeeding, Stunting locus area, preliminary





INDONESIAN VERSION OF BREASTFEEDING SELF-EFFICACY SCALE-SHORT FORM: ANTENATAL AND POSTNATAL SETTING FOR INDONESIAN WORKING WOMEN

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ABSTRACT

Background:

Breastfeeding Self-Efficacy Scale-Sort Form (BSES-SF) Indonesian version is a valid and reliable instrument to measure Indonesian mother's confidence in her ability to breastfeed. The instrument consists of 12 items, there are 2 invalid items from BSES-SF Dennis (2003). BSES-SF has been used antenatally and postnatally. Working women's self-efficacy is a significant variable on breastfeeding in Indonesia.

Methods:

This study assesses the BSE of working women during antenatal and postnatal periods. The sample was comprised of 38 pregnant working women recruited at 27 to 36 gestational weeks. BSES-SF Indonesian version examined to 38 pregnant working women (T1), and second test on day 7 postpartum (T2).

Result:

76,3% of working women have received breastfeeding education before also during pregnant, 60,5 % are primigravida. T1 mean score is 47.28 points and T2 is 50.50 points. Wilcoxon statistical test proved that there was a significant difference BSE mean score of working women in T1 and T2 ($p = 0.001$). Chi-square resulted that there were 17 (68%) working women who experienced an increase in BSE scores and received breastfeeding education, decreased BSE scores and received breastfeeding education 5 (100%) working women, the same BSE score and received breastfeeding education 7 (87.5%) working women ($p=0,216$).

Conclusions:

There is a difference in the BSE score of working women in the prenatal and antenatal periods, but there is no relationship between the increase in BSE scores with breastfeeding education that has been obtained by working women.

Keywords: Breastfeeding, self-efficacy, Indonesian version, working women





OMEGA-3 FATTY ACID INTAKE AND ITS CORRELATION WITH SEVERITY LEVEL OF PREMENSTRUAL SYNDROME (PMS): A CASE STUDY ON MENTALLY DISABLED GIRL

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ABSTRACT

Background

Premenstrual syndrome (PMS) is a combination of physical and emotional disorders that affect 20-80% of women of reproductive age that occur in the last 14 days of the menstrual cycle. Until now the cause of PMS is still unknown, many factors contributed to PMS severity, including nutritional intake and lifestyle. The purpose of this study was to analyse correlation between omega-3 fatty acid with the severity level of premenstrual syndrome (PMS).

Methods

This study was quantitative research by using a cross-sectional design. This study was used a total sampling technique with a sample of 34 mentally disabled girl aged 10-18 years old. A valid Semi Quantitative Food Frequency Questionnaire (SQ-FFQ) to assess omega-3 fatty acid intake and Shortened Premenstrual Assessment Form (SPAF) to measure the severity level of PMS. Data was analysed using chi square test ($p < 0.05$).

Results

Study found 55.9% girls have mild PMS and the rest have moderate to high PMS. 58.8% girls have inadequate omega-3 fatty acid (FA) intake. Furthermore, 36.9% with inadequate omega-3 FA intake have mild PMS. There was a significant correlation between omega-3 FA intake with severity level of PMS.

Conclusions

The severity level of PMS could be affected by omega-3 FA intake. The less intake of omega-3 FA, the greater opportunity has a moderate to high PMS. Increasing nutrition literacy, assistance and ensuring healthy lifestyle on mentally disabled girls could help lower PMS.

Keywords: Premenstrual syndrome (PMS), omega-3 fatty acid intake, mentally disabled girls





ANXIETY LEVEL AND FOOD INSECURITY LEVEL AMONG PREGNANT WOMEN DURING COVID-19 PANDEMIC IN SAMARINDA

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ABSTRACT

Background:

The COVID-19 pandemic is known to have globally caused various psychological disorders, especially in pregnant women. This is due to the effects of the disease on global economies and the health of individuals. Psychological disorders, such as anxiety and depression during pregnancy, reportedly have an impact on the wellness of mothers and offsprings. Since Samarinda is presently categorized as a red zone, exploring the impact of the pandemic on the anxiety of pregnant women and household food security is very important. Therefore, this study aims to identify the level of anxiety in pregnant women, and also analyze its association with household food insecurity.

Methods :

This research was conducted through an online questionnaire, as the instruments used to measure the levels of anxiety and food security were DASS 21 and HFIAS, respectively

Results :

A total of 201 pregnant women participated, and the result showed that 45.3% households were found with food insecurity, based on mild (29.9%), moderate (11.9%), and severe (3.5%) levels, respectively, while the majority (96.0%) of pregnant women were categorized as normal anxiety level. The bivariate test there was no relationship between the levels of food security and anxiety in pregnant women ($p = 0.340$).

Conclusions :

The psychological conditions of pregnant women should be essentially and hygienically considered during the Covid-19 pandemic. This is because, it provides a sense of security and comfort during pregnancy monitoring or childbirth

Keywords: COVID 19, Anxiety, Food Insecurity, Pregnant women





FOOD CONSUMPTION AND CHRONIC ENERGY MALNUTRITION IN PREGNANT WOMEN IN SOUTHERN BATUI, BANGGAI DISTRICT, INDONESIA

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ABSTRACT

Background:

Chronic energy malnutrition (CEM) is still public health problem during pregnancy in low to middle income countries. This study was intended to assess quality of food consumption and incidence of CEM in pregnant women in Southern Batui Subdistrict.

Methods:

This was a cross sectional study and conducted in all ten villages in the subdistrict. Subjects were 81 pregnant women selected from those who registered at village's midwives. Subjects were measured for weight, height, arm circumference by a trained field workers. In addition, food consumption was performed using 24h recalls method. Subjects were interviewed using standard questionnaire including pregnancy history, visiting to health centre, and nutrition supplement intake. Analyses of food consumption used Nutrisurvey and Indonesia's RDA for the adequacy while a chi-square test was used assessing differences.

Results: Most of pregnant women were between 20-35 years old (90.1%), graduated senior high school and above (50.6%), and housewife (79.0%). Average consumption of energy, carbohydrate, protein and fat were 49%, 43%, 65%, and 49% RDA, respectively. In addition, consumption of vitamin A, vitamin E, vitamin C, calcium, and iron were 78%, 28%, 30%, 14%, and 16% RDA, respectively. In addition, most mothers were checked their pregnancy to health workers (78%) mostly to midwives (73%) while those who received multi micronutrient tablets were 60%. The prevalence of CEM was 14.8% and there was no relationship between CEM and maternal education, family income, mother's occupation, maternal age, and antenatal visits ($p > 0.05$).

Conclusion:

We conclude that quality of food consumption was low during pregnancy and prevalence of CEM was high enough.

Keywords : Pregnant women, consumption pattern, malnutrition, education





RISK FACTORS FOR CHRONIC ENERGY DEFICIENCY IN PREGNANT WOMEN DURING THE COVID-19 PANDEMIC IN TANETE BULUKUMBA REGENCY 2021

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ABSTRACT

Background

Chronic energy deficiency can be caused by several risk factors, both socio-economic, biological, educational, and consumption factors. which in pregnant women can increase the risk of maternal death, fetal death (miscarriage), premature, low birth weight (LBW), birth defects, and infant death and can interfere with the process of fetal growth and development which can cause infectious diseases when they are adults.

Methods

This research is quantitative research with a cross-sectional design. the number of respondents as many as 110 with a total sampling technique. Data collection was done by filling out a questionnaire, a food recall form, and measuring LILA. Data analysis using Chi-square test and prevalence ratio (PR) to see the possibility of arising or developing a behavior associated with risk factors.

Results

The results showed that fat intake ($p = 0.000$; $PR = 13,194$; $95\% CI = 1,859-93,650$) and protein intake ($p = 0.000$; $PR = 17,308$; $95\% CI = 2,432-123,157$) were significantly associated risk factors. with the incidence of chronic energy deficiency in pregnant women while other risk factors are not associated with the incidence of chronic energy deficiency in pregnant women.

Conclusions

The risk factors associated with the incidence of chronic energy deficiency in pregnant women during the Covid-19 Pandemic in the work area of the Tanete Health Center, Bulukumba Regency are fat intake and protein intake.

Keywords: Chronic energy deficiency, pregnancy, Covid-19.





DETERMINANS OF THE EVENT OF CHRONIC ENERGY LACK (KEK) IN PREGNANT WOMEN IN HIGHLY RISK AREAS OF STUNTING IN SOUTH SULAWESI

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ABSTRACT

Background :

Pregnant women who experience Chronic Enregy Deficiency (CED) can increase the risk of Infant and Maternal Mortality Rates, Infants with Low Birth Weight (LBW) and stunting. The Objective of this study was to identify determinants that affect the incidence of Chronic Energy Deficiency (KEK) in pregnant women in the stunting risk area of South Sulawesi.

Methods : This was a cross sectional study in 70 villages categorized highly risk villages of stunting prevalence. The subjects of this study were 410 pregnant women consisting of 209 in Bone district and 201 in Enrekang district. Data collection using an android application-based questionnaire and anthropometric standard measurements. The analysis of the results of the study was bivariate using chi square and multivariate using logistic regression.

Results: The results showed that there were 94 pregnant women (22.9%) who experienced CED. The results of the chi square analysis showed that there was a significant relationship, namely maternal age (p-value: 0.000 and family history of smoking (p-value: 0.002) with the incidence of CED. In addition, a multiple logistic regression showed that maternal age (OR= 2.79, 95%CI= 1.67-4.64), family history of smoking (OR=0.45, 95%CI=0.27-0.75) which is a factor in the incidence of CED in pregnant women.

Conclusion: we conclude that maternal age and family history of smoking are determinants of CED in pregnant women in the stunting locus area.

Keywords: Pregnant women, CED, Age, family history of smoking





RAMANIA (*BOUEA MACROPHYLLA GRIFFITH*) EXTRACT AS A WOUND HEALING AGENT: A LITERATURE REVIEW

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ABSTRACT

Background: The prevalence of Traumatic Dental Injury (TDI) worldwide using bibliometric analysis between 1999-2018 is ranging from 6%-59%, while data from RISKESDAS 2018 on the proportion of soft tissue injury after traffic accident is 20.1%. WHO has encouraged its members to expand the use of traditional complementary medicine in order to further study the development of alternative therapies based on traditional medicine, one of which is the use of herbal medicines for wound healing processes, systemic diseases and even cancer treatment because of its high efficacy and safety, as well as minimum side effects. This proves the ability of traditional medicine to be equivalent to modern medicine so that many health experts are interested in using and developing traditional medicine as an alternative therapy. One of the herbal plants that have potential in wound healing is *Bouea macrophylla* Griffith, which has anti-inflammatory and antioxidant properties with potential as a wound healing agent. The purpose of this study is to obtain theoretical basis of Ramania (*Bouea macrophylla* Griffith) leaves extract effect on the wound healing process of soft tissue.

Methods: A literature review study spanning from 2010 to 2020 using PubMed, Google Scholar, Scopus, Web of Science as search databases was conducted under the keywords of *Bouea macrophylla*, *Bouea+macrophylla+Griffith+Wound+Healing*. The results of the search discovered a total of 56 articles and 5 selected literatures which were included to be reviewed.

Results: Ramania (*Bouea macrophylla* Griffith) is proven to accelerate wound healing process because it contains anti-inflammatory and antioxidant properties. In addition, Ramania also contains flavonoids, phenolics, triterpenoids, steroids, saponins, alkaloids and tannins. Flavonoids have antioxidant properties that can accelerate wound healing process by neutralizing and suppressing the negative effects of free radicals.

Conclusions: Ramania (*Bouea macrophylla* Griffith) has been shown to accelerate wound healing process.

Keywords: Herbal medicine, *Bouea Macrophylla* Griffith, Wound Healing





THE EFFECT OF ADDING MORINGA LEAVES ON THE ACCEPTABILITY AND NUTRITIONAL VALUE OF RED DRAGON FRUIT SYRUP

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ABSTRACT

Background

The syrup is a kind of drink in the form of a thick solution with a variety of flavours. The syrup is not taken directly but must be diluted first. One of the fresh fruits used in making syrup is dragon fruit. Dragon fruit contains antioxidants, dietary fibre, calcium, phosphorus, iron, vitamin B1, vitamin B2, and vitamin B3. On the other hand, moringa is known as the miracle tree with medicinal properties whose contents are beyond the typical content of plants in general.

Methods

The method used in this study is the organoleptic test with Friedman test and Wilcoxon test for the acceptance rate. At the same time, the nutritional values are gained by using the *TKPI/nutrisurvey application*.

Results

The result shows that the highest acceptance rate of red dragon fruit syrup taste is in P0 (no addition), with an average of 2.93, The highest rates are also in P0 (no addition) for the aroma and colour, with an average of 2.83 and 2.78, respectively. Furthermore, the highest rate of viscosity is in P2 (the addition of 25 g moringa leaves) with an average of 2.85. and finally the highest nutritional values in P3 (the addition of 30 g moringa leaves).

Conclusions

In conclusion, the highest acceptance rate of taste, aroma, and colour of red dragon fruit syrup is in P0, the highest viscosity rate is in P2, and the highest nutritional value is in P3.

Keywords: Acceptance Rate, Nutritional Values, Syrup, Red Dragon Fruit, Moringa Leaves





HOW DOES THE PHARMACEUTICAL AND NUTRACEUTICAL POTENTIAL OF COCOA WASTE ? A LITERATURE STUDY.

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ABSTRACT

Background

Cocoa pod husk and Cocoa bean shell are the cocoa fraction that remains after the extraction of cocoa beans and often only become waste that pollutes the environment. Various studies have proven that both are sources of bioactive compounds. The purpose of this review discusses current knowledge about the pharmaceutical and nutraceutical potential of cocoa husk waste.

Methods

This was a narrative review using sources from the Google Scholar, Proquest, Pubmed databases. Key terms Cocoa waste such as ((Cocoa pod shell OR cocoa bean husk OR cocoa by-product) AND Pharmaceutical OR Nutraceutical. Of the 38 studies identified in the search phase, 11 studies were eligible for inclusion in this review.

Results

The included studies demonstrate the potential of bioactive compounds, especially polyphenols, fiber and pectin contained in cocoa waste have pharmaceutical or nutraceutical potentials, such as being able to control cortisol levels in conditions of renal insufficiency, overcoming hypertension and hyperuricemia by inhibiting XO and ACE enzymes. Lowers the risk of cardiovascular disease, hypolipidemic effect, lowers MDA levels as a marker of lipid peroxidation, also as antidiabetic, antibacterial, prevents obesity, plays a role in gastrointestinal function, anti-inflammatory, especially in the intestines.

Conclusions

Cocoa Waste may have enormous potential for health, although so far the research is still quite limited and most of it is still done in vitro. More studies are needed to prove in vivo the potential of bioactive compounds from cocoa shell waste products against various health problems such as cardiovascular disease, diabetes.

Keywords: Cocoa pod husk, Cocoa bean shell, pharmaceutical, nutraceutical.





MACRONUTRIENT PROFILE AND CALORIE CONTENT OF DADIAH PUDDING, AS A DIETARY SUPPLEMENT FOR PREGNANT WOMEN

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ABSTRACT

Background :

Optimal supply of maternal nutrients during pregnancy is positively related to birth outcomes. Dadiah, known as a potential source of probiotics from West Sumatra, Indonesia also contains macronutrients. This study aims to determine the daily intake of pregnant women in West Sumatra and whether dadiah pudding as modified original dadiah can maintain the contents of carbohydrate, protein, and fat as an energy source.

Methods :

Energy and macronutrient intakes of 208 pregnant women during the first trimester were assessed using repeated twenty-four-hour diet recall. Dadiah pudding was produced using dadiah from Bukittinggi, West Sumatra. Carbohydrate, protein, and fat levels were analyzed according to the Indonesian National Standard (SNI) and total calories were calculated using the 4:4:9 kcal/g conversion.

Results :

Our study revealed that 85.6%, 95.2%, 46.2%, and 61.1% of pregnant women had inadequate intakes of energy, carbohydrate, protein, and fat, respectively. The mean daily energy intake was 1706.14 ± 470.44 kcal, 219.87 ± 67.45 g of carbohydrate, 69.29 ± 22.73 g of protein and 61.35 ± 24.33 g of fat. There were 2.09 and 6.49 g of carbohydrate (SNI 01-2891-1992,9), 7.91 and 6.12 g of protein (SNI 01-2891-1992,7.1), 19.56 and 23.31 g of fat (SNI 01-2891-1992,8.1), 216.04 kcal and 260.23 kcal, respectively in 100 g of original dadiah and mango dadiah pudding.

Conclusions:

This research found that there were changes in the levels of carbohydrate, protein, fat, and total calories content due to the addition of ingredients and processes during the making of dadiah pudding. We suggest that dadiah pudding may be a good choice as a maternal supplement to fulfill macronutrient and calorie intake to optimize birth outcomes.

Keywords: *Dadiah, dietary supplement, pregnant women*





QUALITY EVALUATION OF PUMPKIN SEEDS (CUCURBITA MOSCHATA DURCH) FLOUR AND CAPSULES AS FOOD SUPPLEMENTS

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Abstract

Background : Pumpkin seeds contain a variety of useful nutrients, so that they become a food supplements. This study aims to evaluate the quality of pumpkin seed flour and capsules.

Methods : This study uses the experimental method. The pumpkin used comes from a local market in Makassar City. Clean pumpkin seeds, then dried in the sun for ± 7 hours. After that, the pumpkin seeds put in the oven at a temperature of 70-75°C for 3 hours. The pumpkin seeds were then blended until and sieved through a 70 mesh sieve. The flour then put into a capsule shell size 00. The quality of the flour and pumpkin seed capsules is tested at the Nutraceuticals Laboratory and the Integrated Laboratory of Hasanuddin University. The evaluation of flour quality was carried out with 3 indicators, namely the moisture content test, the incompressible density test and the flow time test. Evaluation of capsule quality was carried out with 3 indicators, namely disintegration time test, weight diversity test and shelf life test.

Results: Based on the evaluation of flour quality, pumpkin seed capsules met the requirements for moisture content (3.57%) and the incompressible density test (0.2427 g/cm^3), but did not meet the requirements for flow time test. Pumpkin seed capsules met the requirements for weight diversity (according to Pharmacope 1 edition 3), disintegration time (6 minutes) and shelf life (115 days).

Conclusions: Pumpkin seed capsules and flour can be used as a food supplement because they meet the requirements for evaluating quality

Keywords : capsules, flour, nutraceuticals, pumpkin, seeds





THE MIRACLE OF *MORINGA OLEIFERA* LEAVES IN EFFORTS PREVENTION OF ANEMIA: A LITERATURE REVIEW

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ABSTRACT

Background :

Moringa Oleifera Leaves contain very rich compounds which include nutrients, minerals, vitamins, amino acids and many other compounds that too many beneficial for humans' life. This literature review discusses the benefits of *Moringa Oleifera* Leaves in an effort to prevent anemia.

Methods :

This review is a narrative review using research of journal sources from databased Q1, Q2, Q3, Q4 and other Scopus and National journals in the last 10 years. The Keywords such as anemia, hemoglobin, and *Moringa Oleifera*/M.*Oleifera* Leaves were used. Based on the 35 journals reviewed, 12 studies were included in this review.

Results :

The literature showed that there was a statistically significant relationship between administration of *Moringa Oleifera leaves extract* and an increasing number of hemoglobin (Hb) levels (P Value < 0.05). On the other hand, this review found other benefits of *Moringa Oleifera leaves extract*, such as to improve the morphology of damaged red blood cells and for antioxidants. So that it becomes an alternative in the treatment of anemia. Another finding by adding Royal Jelly to one of the intervention groups, showed an increasing number of *Mean Corpuscular Volume (MCV) / Red Blood Cell Volume* compared to the non-intervention group. Meanwhile, adding Vitamin C to the other intervention group found an increase in hemoglobin and serum iron levels compared to other groups that were not added. If *Moringa Oleifera leaves extract* were combined with them, the iron absorption process will be faster which will have an impact on increasing hemoglobin levels and erythrocyte index levels.

Conclusions :

Giving *Moringa Oleifera leaves extract* has a statistically significant relationship to the increasing number of hemoglobin levels in the blood so as to prevent anemia.

Keywords: *Moringa Oleifera leaves extract*, Anemia





INTERVENTION OF GIVING ICE CREAM AND TEA TAKOKAK (*SOLANUM TORVUM*) TO HEALTHY PEOPLE

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Abstract

The number of cancer patients in Indonesia is estimated to continue to increase every year with an estimated number of 12 million people in 2030. Antioxidant compounds can prevent cancer and other non-communicable diseases. Sources of natural antioxidants can come from plants, one of which comes from native vegetables such as takokak fruit. The purpose of this study was to examine the potential of takokak as an antiproliferative of cancer cells. Phase I research, phase II and phase III are experimental research. Phase I research conducted in 2021 is an experimental study with a completely randomized design (CRD) I. This research will look at the potential of takokak tea and takokak ice cream as CD44. In the first phase of this research, the purpose of this research was to examine the effect of giving tea and ice cream to healthy people. All treatment groups on MDA levels, cholesterol levels obtained a significance value of $p < 0.05$. Then all treatment groups on albumin and CD44 levels obtained a significance of $p < 0.05$. Then several treatment groups on the levels of SGOT, SGPT and lymphocytes obtained $p < 0.05$ and $p < 0.05$. There is no effect on MDA levels, cholesterol levels in healthy people. There is an effect on albumin and CD44 levels. there is an effect of giving takokak ice cream on lymphocyte levels and SGPT levels in healthy people. There is an effect of giving takokak tea on SGOT levels in healthy people.

Keywords: takokak, CD44, healthy people





EFFECT OF MORINGA OLEIFERA LEAF AS A GALACTOGOGUE ON BREASTFEEDING MOTHERS : AN UPDATE SYSTEMATIC REVIEW

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ABSTRACT

Background :

Insufficient milk production can be overcome by giving galactagogues in the form of Moringa leaves. Research that has been carried out shows that Moringa leaves can act as galactagogues with different preparations and doses and there has been no systematic study on this matter. Therefore, this study aimed to examine the effectiveness of Moringa leaf as a galactagogue based on its preparation and dosage.

Methods :

This type of research is a systematic review, conducted based on the PRISMA flow diagram. The research design criteria were RCTs and experiments. The criteria for publication are from Scopus and/or SINTA indexed journals, and use Indonesian or English, excluding articles that cannot be accessed for free. Literature searches were carried out on the PubMed, Science Direct, ProQuest, DOAJ, and Google Scholar databases.

Results :

A total of six eligible articles from the 5587 literature identified and constituted his work were published in 2016-2021. Two articles are using a double-blind RCT design and four articles using an experimental design. The six articles studied were indexed by SINTA, the research was conducted in Indonesia, and the number of samples was 24-70 samples. Moringa leaf pudding with a dose of 2x1 servings of 125 g/day is effective on baby weight, capsules of a mixture of Moringa leaf extract with Moringa leaf flour at a dose of 2x2 capsules of 800 mg/day are effective on breast milk volume, Moringa leaf extract capsules at a dose of 2x1 capsules of 250 mg /day effective on maternal prolactin hormone levels and sleep duration.

Conclusions :

Moringa leaves are effective to be consumed as galactagogues in the form of capsules of mixed extract with Moringa leaf flour at a dose of 2x2 capsules of 800 mg/day, capsules of Moringa leaf extract at a dose of 2x1 capsules of 250 mg/day, and Moringa leaf pudding at a dose of 2x1 servings of 125 g/day. Further systematic review expected to use a broader range of research questions.

Keywords: *Moringa, galactagogues, breastfeeding, preparations, dose*





EXTRACT OF TORBANGUN (*COLEUS AMBOINICUS* LOUR) LEAVES INHIBITS THE EXPRESSION OF PEPCK AND G6PASE IN STREPTOZOTOCIN-INDUCED DIABETIC RATS

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ABSTRACT

Background :

Hyperglycemia will increase the expression of glucose homeostasis regulating genes, namely PEPCK and GP6ase. Torbangun (*Coleus amboinicus* L) leaves have been used in diabetes mellitus therapy. However, there is no information about the effect of Torbangun leaves extract (TLE) on glucose homeostasis key genes expression in the liver.

Methods :

This post-test controlled group design study used a completely randomized design (CRD). Seven rats were separated as a normal group (N) and other rats were injected with streptozotocin (STZ). Hyperglycemia was characterized by fasting blood glucose (FBG) >126 mg/dl. Hyperglycemic rats were divided into three groups: H-IM (control drug metformin hydrochloride dose 62.5 mg/kg BW), H-IT (TLE dose 620mg/kg BB), and NG (negative control, hyperglycemic rats). Rats were given intervention for 14 days

Results :

The results showed a significant difference between initial and final FBG of the HI-IM group ($p = 0.002$, $\alpha = 0.01$) and the H-IT group ($p = 0.005$, $\alpha = 0.01$) and effect on the key gene expression of gluconeogenesis in the liver. The H-IT group showed a decrease in PEPCK gene expression 0.80 times and decreased G6Pase gene expression by 0.65 times compared to NG group.

Conclusions :

The findings suggested the administration of TLE in STZ-induced hyperglycemic rats was able to reduce blood sugar levels and was involved in inhibiting the expression of PEPCK and G6Pase expression genes in the liver.

Keywords: G6Pase, Hyperglycemia, PEPCK, Rats, Torbangun





ASSOCIATION OF SAGO CONSUMPTION WITH BLOOD GLUCOSE LEVEL AND BODY MASS INDEX IN COMMUNITY OF KEPULAUAN MERANTI REGENCY RIAU PROVINCE; SAGO AS FUNCTIONAL FOOD

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ABSTRACT

Background

Sago is one of the food crops in Asia including in Indonesia. Kepulauan Meranti is one of the Regency in Riau Province which has a sago area in Indonesia. Generally, sago is used in traditional processed forms such as noodles, vermicelli, fat sago, egg sago, lempeng, gobak and various other processed foods (Karim *et al.* 2008). Research states that sago could be a functional food with low glycemic index content in sago compared to rice and other sources of carbohydrate, which was good for diabetics (Hariyanto, 2014; Haliza *et al.* 2006). This study aims to analyze the association of sago consumption with blood glucose level and body mass index in Kepulauan Meranti Regency of Riau Province.

Methods

Cross-sectional study through interviews and filling out food frequency questionnaires and food recall questionnaires, also measured of blood glucose level and body mass index from 180 respondents with inclusion criteria are sago consumption, aged 35-65 years, and not diagnosed with diabetes

Results

From 180 respondents who consumed sago more for then 10 years and consumed sago 3-6 times a week, about 88.9% (160 respondents) had normal blood glucose levels (<140 mg / dL) and had a normal body mass index of 74.4% (134 respondents)

Conclusions

Sago can maintain normal blood glucose levels if consumed regularly with the frequency 3-6 times a week.

Keywords: Sago, blood glucose level, body mass index





THE EFFECTS OF MORINGA OLEIFERA LEAVES ON NUTRITIONAL STATUS OF CHILDREN UNDER FIVE YEARS

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ABSTRACT

Background

Children health status is important for determining the human quality of life. Thus, the first life of a newborn child is critical because the consequences of disturbances that occur in children can be permanent. Moringa oleifera has been known as the miracle tree with many health benefits, including for children. The study was aimed to evaluate the effect of Moringa oleifera in different forms (boiled soup and biscuit) in improving the nutritional status of children under five years.

Methods

The study was a quasi-experiment with a pre-post-test non-equivalent control group design. The sampling technique used was purposive sampling, with a total of 48 participants dividing into two groups (24 participants for the Moringa soup group and 24 participants for the Moringa biscuit group). The interventions were given for 30 days.

Results

The result shows that children weight was significantly altered after the intervention in both groups ($p < 0.001$). Height was not significantly changed after the intervention in the Moringa soup group ($p = 0.100$) and in the Moringa biscuit group ($p = 0.317$).

Conclusions

Both Moringa soup and biscuits effectively improve weight in children under five years of age.

Keywords: Weight, Biscuits, Moringa, Vegetables, height





FOOD SECURITY ANALYSIS TOWARDS THE UNDER FIVE STUNTING CHILDREN IN THE COASTAL AREA OF SOROPIA KONAWE SOUTHEAST SULAWESI , INDONESIA

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ABSTRACT

Background

The government has established several policies and programs in preventing stunting, which include specific nutrition interventions and sensitive interventions. One type of sensitive intervention is increasing access to nutritious food and promoting food security. This study aims to analyze food security in relation to the incidence of stunting in children under five .

Methods

This type of research is observational analytic with a case control study approach. Held in the coastal area of Soropia sub-district, Konawe Regency, Southeast Sulawesi, in 2019. The population is all toddlers in the coastal area totaling 192 people. The sample was divided into two groups, namely cases (stunted toddlers) as many as 34 people and controls (toddlers with normal nutritional status) as many as 34 people.

Results

The results of the study showed . Most of the parents (mother) in the case group are housewives (94.1%), fathers (52.1%) are fishermen. The number of family members in the case group is mostly (58.8%). The family expenditure of the case group is mostly in the high category (70.6%), and the control group is 67.6%. ,1%) were in food insecurity with moderate hunger and the control group (55,9%) were in food insecurity without hunger. The results of the bivariate analysis of family expenditure with the incidence of stunting with the chi square test obtained a value of $p = 1,000$. Analysis of food security with the incidence of stunting using the chi square test obtained the value of $p = 0.242$, OR = 0.414 (95% CI = 0.124 – 1.377).

Conclusions

Family expenditure is not a risk factor for stunting. Food security is not a risk factor for stunting

Keywords: *Food Security, Coastal Area, Stunting's children under- 5 years*





FARMER'S BEHAVIOR IN CHEMICAL PESTICIDE USE IN PENYASAWAN VILLAGE, KAMPAR DISTRICT, KAMPAR REGENCY

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ABSTRACT

Background

The study of farmers' behavior in using pesticides is necessary to improve the reduction of pesticide technology. The Hypothesis with that farmers' perceptions of risk, cultivar resistance, the price and efficacy of pesticides, their knowledge, counseling, and pest control influence their decisions to use pesticides. The purpose of this research is to examine the behavior of farmers in using chemical pesticides.

Methods

This research is a descriptive study using primary data directly to farmers with a classification of research instruments in the form of data collection forms to measure the behavior of farmers towards the use of pesticides in rice plantations. The score for each variable with an ordinal scale is converted into an interval scale using the successive interval method to complete the analysis rules.

Results

Most farmers think that pests that attack rice crops are moderate, 55.88%. Then 35.26% think that currently circulating pesticides are expensive with a relatively good level of effectiveness, and 35.89% think pesticides are cheap and less effective. The farmers stated that the pesticide reduction technology they had received was integrated pest management (IPM). Classification of pest control behavior in most rice farmers includes moderate to poor (48.08%). The use of pesticides, flour, and liquid at the research sites, was not too different.

Conclusions

The higher the farmer's risk perception, the higher the number of chemical pesticides used. The lower the cultivar's resistance to pest attack, the higher the number of chemical pesticides farmers use. The lower the knowledge of farmers, the higher the number of pesticides used by farmers.

Keywords: Farmers' behavior, pesticides, pest control





ACCESSIBILITY TO STAPLE FOOD IN KEPULAUAN MERANTI RIAU PROVINCE, INDONESIA

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ABSTRACT

Background

Accessibility of the community to food is an absolute requirement to achieve community welfare. Food insecurity is a reflection of the people being unable to access food. This study aimed to determine the factors that affected food accessibility to fulfill food needs in Riau Province.

Methods

The research approach was a survey. This research used SEM-Smart Partial Least Square (Smart PLS) analysis tool.

Results

The results showed that the factors of the level of economic, physical, social, and food culture together affected the level of household food accessibility in Riau province by 55.4 percent.

Conclusions

The level of economic capability, physical availability, and social ability had a positive and significant effect on the level of food accessibility. In contrast, the level of food culture had a negative and significant impact on the level of household accessibility to food.

Keywords: accessibility, food, household, food-insecurity.





THE IMPACT OF FOOD PACKAGING REBRANDING TOWARDS VEGETABLE PRODUCTS OF OKEFARM NEGLASARI WOMEN FARMER GROUP

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ABSTRACT

Food packaging is one of the aspects that affecting the trust of consumers to a product. The aims of this research is to provide information of how a good packaging help small medium-enterprises expand their market. In this study, we collected data through a questionnaire that covered areas such as design elements of the package (size, shape, material, graphic design of package, typography, images and pictures), user's perception regarding market targeting, Packaging Rebranding and Redesign, Packaging Finalization, Packaging Acceptance Test, Statistical Analysis and conclusions drawing. The finalized designs were tested to packaging acceptance test by mean questioner methods. Rebranding resulted 30 new loyal consumers, 25 of them responded to the questioners. 76% of the new consumers were females and 24% of it were males. Most of the new consumers were at age range 31-35 years old (44%) and 26-30 years old (36%). The rebranding effective to attract consumers with income range 3.1-6 million IDR (40%), and 6.1-9 million IDR (24%). The new food packaging brand significantly increased the acceptance of vegetables products.

Keyword: food packaging, small medium-enterprises, *packaging survey, branding.*





EFFECTIVENESS OF HEALTH EDUCATION FOR TEENAGERS IN DIGITAL ERA: A REVIEW OF THE LITERATURE

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ABSTRACT

Background:

This study aims to analyze the effectiveness of interventions in the form of adolescent reproductive health education in the digitalization era.

Methods:

This was a narrative review using sources from databases of scientific journals, namely Elsevier, BMC, BMJ, SagePub, Taylor & Francis, and Scopus using the topics of adolescent reproductive health, promotion, social media, health education, health reproduction, sexual health, digital era, mobile phone, Mhealth, mcare, ehealth, telemedicine, health services, adolescence, youth, young adult, or young adolescent. From 75 studies identified in the search stage, 21 studies are eligible for inclusion in this review.

Results:

Adolescent reproductive health interventions in the digital era are very diverse, ranging from social media, mcare applications, and even game models. Therefore, the success of the health intervention program is strongly influenced by the support of the government. Some have made in-depth preparations, starting with discussions with decision-makers and professionals in their field. Others have taken training to make the most of interactions with the adolescent reproductive health education. As many as 90.4% from the review results of 21 studies showed an increase in knowledge, attitudes, or behavior towards providing reproductive health education to adolescents. Meanwhile, 9.6% considered that the internet media still contradicts and provides a cultural shift.

Conclusion:

The range of interventions is diverse and quite wide, since most studies show very good quality and validated interventions. Because today's adolescents are very close to gadgets, education using social media, more and games is very effective.

Keywords: Youth, Education, Digitalization, Reproductive Health





SOCIO-CULTURE IN MATERNAL CARE: A Review of the Literature

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ABSTRACT

Background: The SDGs target of reducing maternal mortality is 70/100,000 KH, but currently maternal mortality is more than 200/100,000 KH. Maternal health problems during postpartum are a contributor to maternal mortality due to various things including socio-cultural problems in postpartum maternal care. This article review aims to identify the socio-cultural factors of the community in the care behavior of postpartum mothers in various places, both nationally and globally.

Method: This literature review was conducted by collecting articles and data related to socio-cultural care for postpartum mothers with a time limit of the last ten years (2011- 2021) from a database of reputable international journals (Scopus), National, Google Scholar, reputable journals SINTA Dikti with the keywords Socio culture, maternal health, as well as quantitative data obtained from the World Bank website, WHO website, Indonesia's SDGs report. Of the 50 journal literature collected, 21 literatures met the criteria. This literature review uses Mendeley's reference management. The literature was synthesized by looking at socio-cultural themes in the behavior of postpartum mother care.

Result: Based on the results of a literature review, postpartum maternal care is strongly influenced by the social culture of the community, such as the behavior of heating the body, consuming potions, using shaman massage services, ritual ceremonies. In addition, the limitations of mothers in personal autonomy to make decisions about seeking care, low levels of education, early marriage, access to health facilities, social status of women in society, and values in society are also the causes of problems in postpartum maternal care.

Conclusion: Socio-cultural factors in the care of postpartum mothers are still a problem faced in maternal and child health services, especially postpartum mothers. Therefore, it is necessary to solve the problems of maternal and child health based on socio-culture.

Keyword: Socio-culture, Maternal Health





MODEL OF HEALTHY PUSKESMAS IN ISLANDS TO SUPPORT HEALTHY CITIES IN SOUTH SULAWESI PROVINCE, INDONESIA

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ABSTRACT

Background: Healthy island is one of the initiatives to promote health in island communities. Elemental settings such as hospitals have been widely developed in various countries, but not in Public Health Centers (*Puskesmas*) which have different positions and roles and responsibilities in improving health, especially in island areas. This study aims to find a model of Healthy Puskesmas in the archipelago to support healthy cities in South Sulawesi Province.

Methods: This study used a quantitative analysis. The total samples were 700 respondents. They were people who used the Puskesmas services or who were in the working area of the Puskesmas. The research locations are in 3 archipelagic regencies/cities, namely the islands of Makassar City, Pangkajene Islands Regency and Selayar Islands Regency. Data was analyzed using Confirmatory Factor Analysis (CFA) and then analyzed by Structural Equation Modeling/SEM.

Results: Based on this research, it was found 7 dimensions with 28 indicators of a model of healthy Puskesmas in the archipelago. Based on the results of this study, it can also be seen that the strongest contribution in shaping the model of Healthy Puskesmas in the archipelago is the dimension of working group with the average factor loading value on each indicator is > 0.9.

Conclusion: The results of this study are expected to be input for the Ministry of Health, Health Offices, Provincial and District/City Governments and also for the community as a whole in realizing Healthy Puskesmas. Detail recommendations are provided.

Keywords: Model; Healthy Puskesmas; Healthy Cities; Island





HIV PREVENTION BEHAVIOR IN SERODISCORDANT AND SEROCONCORDANT COUPLES

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ABSTRACT

Background

Heterosexual transmission of HIV is the main method of transmission that dominates new case findings in Indonesia. HIV prevention in serodiscordant and seroconcordant couples is related to individual views and beliefs. This study aims to determine the HIV prevention behavior in serodiscordant and seroconcordant couples in the Peduli Kelompok Dukungan Sebaya Foundation.

Methods

This research uses a qualitative approach with a case study design. Data was collected by means of in-depth interviews with serodiscordant couple, seroconcordant couple and PLWHA assistants.

Results

Most people living with HIV have limited information related to HIV and how it is transmitted. All PLWHA have disclosed their status to their partners. Both partners had the same assessment of the risk of HIV transmission to partners and the severity of HIV. Most of the serodiscordant and seroconcordant couples made prevention efforts by using condoms, being obedient in taking ARV drugs and avoiding risky behavior that could lead to transmission to partners. The serodiscordant couple had a lower perception of inhibition than the seroconcordant couple. The effort to overcome obstacles in both couples is the need for communication and commitment to partners so that they can support each other in prevention.

Conclusions

Prevention of HIV transmission to negative partners is very important. Therefore, it is necessary to fulfillment health services for serodiscordant and seroconcordant couples.

Keywords: Serodiscordant couple, seroconcordant couple, HIV AIDS prevention





PREDISPOSING, ENABLING AND REINFORCING FACTORS AFFECT THE BEHAVIOR OF HEALTH PROTOCOL IMPLEMENTATION : PATH ANALYSIS MODEL

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ABSTRACT

Background

Cases of the outbreak of Covid-19 are horrendous around the world. The number of people who are confirmed to be COVID-19 continues to increase and in the working area of the Bontonmpo I Health Center as many as 40 people have been confirmed. The Indonesian government has implemented the prevention and control of COVID-19 by enforcing health protocols. The purpose of this study was to analyze the relationship between knowledge, attitudes, infrastructure, family support and support from health workers as well as the variables most related to community behavior models in implementing health protocols.

Methods

This research uses quantitative method with cross sectional study design. The population of 1,433 was taken as a sample of 313 people using the slovin formula. The sampling technique is purposive sampling. Analysis using chi square test, multinominal regression and path analysis.

Results

The results revealed that each variable was knowledge ($0.04 < 0.05$), attitude ($0.03 < 0.05$), infrastructure ($0.03 < 0.05$), family support ($0.02 < 0.05$) and support from health workers ($0.01 < 0.05$) and the most related factor is attitude based on analysis using multinominal regression statistical tests with p value = 0.00 with a chi-square value of 13,985.

Conclusions

Predisposing, enabling and reinforcing factors are related to the stage model of community behavior in the application of health protocols. It is hoped that the community and government will pay attention to knowledge, attitudes, availability of infrastructure, increase family support and health workers in breaking the chain of transmission of COVID-19.

Keywords: Health protocol, predisposing, enabling, reinforcing, behaviour





USING GAMES TO PROMOTE HEALTHY BEHAVIOR IN CHILDREN : A NARRATIVE REVIEW

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ABSTRACT

Background

Games are a fairly effective method to overcome public health problems, especially in children. This study aims to review the use of games to promote healthy behavior in children.

Methods

The method used is to search for literature published in Pubmed in 2017-2021. Search using the keywords : games, intervention, children, health, and behavior. Based on the search, 452 articles were found. Then the articles are selected based on inclusion criteria, which are open access articles, original research and addressing behavioral problems related to public health.

Results

Based on the inclusion criteria, 18 articles were selected to be analyzed. Of the 18 articles discussed about the use of games to overcome health behavior problems in children. In detail, there are 3 articles on mental health, 8 articles on nutritional behavior, 4 articles on physical and sedentary activity, 1 article on dental health, and 2 articles on hand washing practices.

Conclusions

The game method is mostly used to shape nutritional behavior. There are still few articles that discuss clean living behaviors, such as waste management. So that research is needed that looks at the effectiveness of the game method to shape waste management behavior in children

Key words: games, children, health, behavior, effectiveness





A REVIEW OF THE LITERATURE : HOW WOMEN'S EMPOWERMENT RELATES TO COVERAGE OF ANTENATAL CARE VISITS?

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ABSTRACT

Background

This review discusses the latest knowledge about the relationship between women's empowerment and antenatal care coverage. In recent decades, women's empowerment has emerged as a major theme on the international development agenda. Furthermore, the commitment on increasing gender equality and empowering women is reaffirmed in the targets of the sustainable development Goals (SDGs) 3.7 and 5.3.

Methods

This was a narrative review using sources from Medline and Scopus databases since 2016-2021 among reviews conducted mostly using Demographic and Health Surveys (DHS) in Sub-Saharan African countries and countries in Asia. The keywords used are women empowerment, antenatal care, childbirth, family support, pregnancy and their synonyms. From 48 studies identified in the search stage, 10 studies are eligible for inclusion in this review.

Results

The included studies show that household decision-making power indicators are the most frequently researched domain of women's empowerment. The findings show that women's empowerment with components of labor force participation, disapproval of domestic violence, level of knowledge of pregnant women, access to health services, Socio-Cultural and Economics are related to the coverage of ANC visits.

Conclusions

The number of ANC visits is positively related to women's empowerment, although studies using coverage of visits between 4 and 8 times during pregnancy show limited quality. Further studies looking at tailored policies on increasing women's access to the workforce and health information in each country may be needed to increase the use of ANC.

Keywords: Woman empowerment, Antenatal Care Visit, Pregnant





DEVELOPMENT AND EVALUATION OF MODULE AND EDUCATIONAL TOOLS USING SELF DETERMINATION THEORY AMONG HIGH SCHOOL TEACHERS IN MAKASSAR CITY

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ABSTRACT

Background: Metabolic syndrome was risk factor cardiovascular disease and diabetes mellitus type 1 and it was increasing among adult. Indonesia has nutrition balance guidelines and using for prevent Non-Communicable Diseases. This study describes the Development and process evaluation of module and educational tools based balance nutrition guidelines using Self Determination Theory (SDT) among high school teachers in Makassar city.

Methods: Literature review conduct for developing modules and educational tools. Evaluation conduct in one senior high school in Makassar.

Results: Module and educational tools was developing by literature review. Literature review were carried out based on educational tool used in previous research conducting using adult education and best concept has been used and able to provide behavior change and can be done continuously. SDT concept chosen because it showed behaviour changed and in various studies showed continued adoption of behavior. Modules and educational tools were prepared using balanced nutrition guidelines by Ministry of Health. Educational tools chosen in this study were posters and desk calendar, because its suitable for the teachers. The results of the assessment of the module, poster and calendar respectively (98,89; 100; and 96,3).

Conclusions: Module and educational tools were good and can be used in research.

Key words: Development modules, Educational Tools, SDT, Metabolic Syndrome





ROLES OF *TUHA PEUT GAMPONG* IN HEALTHCARE SERVICES FOR PREGNANT WOMEN

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ABSTRACT

Background: Maternal health determines health quality of the future generation. *Tuha Peut Gampong* (the village's elders) together with *Keuchik* (the village's head) have important roles in decision-making that relevant to maternal healthcare.

Objective: This research aimed at identifying the roles of *Tuha Peut* with regard to healthcare for pregnant women, the obstacles that preventing *Tuha Peut* to conduct their roles, and the efforts taken to strengthen these roles.

Method: This research employed quantitative and qualitative approach. Quantitative approach using a quationaire to collect data was used to provide indicators for maternal healthcare and the knowledge of *Tuha Peut* towards maternal health care. Qualitative approach using focus group discussion (FGD) was employed to explore the constraints and efforts in improving the maternal healthcare. The research location was in Nagan Raya, Aceh Province. The population in this study was the *Tuha Peut Gampong*–48 people.

Results: The results show that *Tuha Peut's* knowledge about facilitating maternal healthcare was still low (54,7%). *Tuha Peut* are not informed about the facts that pregnant women need: checking at least 4 times during pregnancy (54.8%), consuming at least 90 Fe tablets during pregnancy (45%), delivering mothers and their babies should receive at least 3 times postpartum care from a midwife or doctors (61.2%), pregnant women might have high risk conditions and/or Chronic Energy Deficiency (57.8%). Concerning the decision-making, most of *Tuha Peut* were not involved in decision making related to health sector, some of them were only passively involved, and some had lack of ability to provide considerations for maternal healthcare. *Tuha Peut* perceived the obstacles were not receiving adequate socialization about their roles regarding maternal healthcare, conflict of understandings between *Tuha Peut* and *Keuchik*, lack of communication and coordination among the *Tuha Peut* members. Unfortunately, efforts to maximize their roles in improving maternal healthcare had not been carried out. It is recommended that *Tuha Peut* can be more involved in every planning process of maternal healthcare services. *Tuha Peut* must also be able to arrange *Qanun Gampong* (village's rules) related to maternal healthcare as a legal basis for implementing maternal health services.





Conclusion:

Tuha Peut still has less opportunity and less involvement in maternal healthcare services. Hence, their roles should be maximized for supporting maternal healthcare.

Keyword: *Tuha-Peut*, Pregnant, Health, Services





Potential Of Sharia Hospital Services In South Sulawesi Readiness Of Community Based

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ABSTRACT

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 which was initiated by Imam Syatibi. This paper aims to conduct an initial survey to see several aspects related to Sharia Hospitals. 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. Data analysis was performed using descriptive analysis. The results of the survey showed that, for the response to the understanding that sharia hospitals are hospitals that apply Maqasid Sharia to the services provided, the results of respondents' answers are 58.35% of respondents agree and 34.8% state strongly agree.

Keywords: *Health Services, Sharia Hospital, Consumer Behavior*





THE POTENTIAL OF PROGRESSIVE MUSCLE RELAXATION ON REDUCING ANXIETY LEVEL IN PATIENTS DIABETIC FOOT ULCERS

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ABSTRACT

Background

Diabetic foot ulcers are infection, ulceration and/or destruction of deep tissue, neurological disorders and various peripheral vascular diseases in the lower limbs. Sudden life changes make people with diabetic foot wounds show some negative psychological reactions. The purpose of this study was to determine the effectiveness of progressive muscle relaxation on reducing anxiety levels in diabetic foot ulcer patients

Methods

The research design used in this study was a quasi-experimental research design, namely pre-test and post-test control group. Researchers divided the sample into 2 groups, namely the control group was given deep breathing relaxation while the experimental group was given progressive muscle relaxation. Hypothesis testing was then carried out by testing the mean difference (ratio scale) of the anxiety level scores as measured by the HARS (Hamilton Anxiety Rating Scale).

Results

This study shows that the results of the Independent t-test showed that before the intervention was given there was no significant difference in anxiety in the two sample groups with $p \text{ value} = 0.181 > 0.05$, but after the intervention was given the mean difference was 6.82 and $p \text{ value} = 0.001 < 0.05$. which means that there is a difference in anxiety between the group given progressive muscle relaxation therapy and the group given deep breathing exercises.

Conclusions

Progressive muscle relaxation can be very well used as a complementary therapy in managing anxiety in clients with diabetic foot ulcers.

Keywords: Progressive Muscle Relaxation, Anxiety





THE RELATIONSHIP BETWEEN CLIMATE CHANGE AND DENGUE HEMORRHAGIC FEVER : A LITERATURE REVIEW

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ABSTRACT

Background

Dengue fever is the most common human infectious disease spread by Aedes mosquitos. Climate change could worsen mosquito-borne diseases in Asia. Changes in physical environmental elements, such as climate, must be monitored. Rainfall, humidity, and temperature all play a role in the occurrence of dengue hemorrhagic fever. The goal of this review paper is to find out how climate change affects the incidence of dengue hemorrhagic fever.

Methods

A literature search using the electronic databases PubMed, Scopus. The key terms such as climate change ((climate change OR rainfall OR humidity OR temperature) AND dengue hemorrhagic fever and asia were used. From 37 studies identified in the search stage, 10 studies are eligible for inclusion in this review.

Results

Ten research matched the criteria for inclusion, and the majority of them revealed that dengue transmission is very susceptible to environmental conditions, particularly temperature, humidity and rainfall. According to studies on the possible effects of climate change on dengue hemorrhagic fever, the environmental suitability for transmission will grow and the geographic areas at risk will expand within this century.

Conclusions

Climate change may influence the Aedes aegypti mosquito's breeding grounds, resulting in a rise in dengue disease cases in tropical and subtropical countries. In order to prevent Dengue Hemorrhagic Fever, multiple parties must work together.

Keywords: climate, humidity, temperature, rainfall, dengue hemorrhagic fever





DOES LAND-USE ASSOCIATE WITH ESCHERICHIA COLI POLLUTION IN KARST SPRINGS? A REVIEW OF THE LITERATURE

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ABSTRACT

Objective

This review discusses the effect of land use on Escherichia coli bacterial contamination in karst springs which shows a decrease in water quality.

Methods

This literature review is a narrative review using sources from the Scopus and Pubmed databases. Keywords used are pollution, Escherichia coli, land use, and karst springs. Of the 52 studies identified in the search phase, 10 were eligible for inclusion in this review.

Results

Concentration of Escherichia coli increases with increasing rainfall in all types of land use, namely forested land, mixed garden land, residential land, and grazing or livestock land. Factors that cause concentration Escherichia coli does not meet water quality standards due to feces from wild animals, fertilization with organic fertilizer contaminated with feces, construction of septic tanks in settlements that are not impermeable to water, and feces from livestock grazing.

Conclusions

Repair of septic tanks and sewage treatment in areas with high population density will reduce Escherichia coli contamination, and further research is needed to formulate strategies and policies on the management of springs in the karst area.

Keywords: Pollution, Escherichia coli, Karst Springs, Land-Use





DOES MERCURY RELATED TO THE SEVERITY OF AUTISM SPECTRUM DISORDER (ASD)? A REVIEW OF THE LITERATURE

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ABSTRACT

Background

WHO reports that of 160 children, one of them is Autism Spectrum Disorder (ASD). Experts estimate that the cause of autism is heavy metals. This review aims to see how research progresses on the relationship of mercury to the severity of ASD.

Methods

This review uses sources from the Pubmed and ScienceDirect databases. The keywords used are (mercury OR Hg) AND (autism OR autistic OR autism spectrum disorders OR ASD) AND (severity OR severity level). At the research identification stage, 119 studies were obtained, after being filtered, 12 studies were found that met the requirements for review.

Results

The included study showed differences in mercury concentrations in ASD children and controls. In general, these studies show an association with ASD severity, although several other studies show different things. Mercury accumulation may result from metallothionein dysfunction and an increase in free radicals. Defective detoxification function causes mercury cannot be excreted. This can cause damage to the central nervous system that affects social development, communication, and behavior, thus causing the severity of ASD in children.

Conclusions

Mercury has the potential to have an association with the severity of ASD, although the mechanism has not been fully elucidated. Further research is needed to see how mercury interacts with the body's immune system on the severity of ASD.

Keywords: Mercury, Autism Spectrum Disorder, Severity.





IS THE CIRCULAR ECONOMY A WAY TO SOLVE WASTE? A SYSTEMATIC REVIEW

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ABSTRACT

Background

The waste problem in Indonesia poses a crisis threat to the nation's economic sustainability. Therefore, several programs have been launched in Indonesia, including the Waste Bank. The circular economy model was created to address the resource and environmental challenges caused by waste production. This study aims to determine the problem of waste, develop a management system, and integrate waste management based on a circular economy towards sustainable development goals in West Sulawesi Province.

Methods

This is a narrative review using sources from the Elsevier and Pubmed databases. One hundred studies were identified in the search phase; 60 were eligible for inclusion in this review using journal articles from 2013-2021.

Results

This study contributes to sustainable development goals, including health and well-being. The concept of a waste bank is a model that fits the principles of a circular economy. The circular economy model was created to address the resource and environmental challenges caused by waste production. Circular economy and waste management play a role in reducing and handling waste with systematic, comprehensive, and sustainable activities.

Conclusions

The waste management strategy aims to improve the quality of life, change the way people react, and measure several activities that impact the community. Therefore, good waste management is a solution to today's environmental problems.

Keywords: Circular Economy, Waste Bank, waste management





BEST PRACTICE OF PREVENTION OF COVID-19 TRANSMISSION THROUGH SMALL ISLAND REGION QUARANTINE: STUDY ON KADATUA ISLAND, SOUTH BUTON DISTRICT, INDONESIA

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ABSTRACT

Background : Various regions are looking for strategies to reduce the transmission rate of Covid-19. One area that allows for quarantine is small islands. This study aimed to explore the strategies carried out by Kadatua Island in South Buton District to prevent the rate of transmission of Covid-19.

Methods : High-resolution satellite imagery from Nokia (Here.com Hybrid) and Satellite (Google maps) downloaded using the SAS Planet open-source software was then processed with ArcMap 10.3 software to obtain spatial access to and out of the island. Data on island quarantine implementation was obtained through direct observation and in-depth interviews with the Covid-19 countermeasure officer in the region.

Results : We found that Kadatua Island is a small island and separated from the mainland of South Buton district has the advantage that it is relatively easy to control the mobility of newly arrived residents from outside the area. Local governments and indigenous people work together in a regional quarantine effort with a coordinated supervision system. When the community wants to enter Kadatua Island, they will be directed to do a regional quarantine, empty houses will be prepared for 14-21 days and will be closely monitored by village officials. In addition, the efforts of indigenous peoples are also called 'poago' by forbidding communities from doing activities outside and making sounds. All these efforts are considered effective, especially in controlling the transmission of Covid-19 on Kadatua Island.

Conclusions : Kadatua Island can carry out regional quarantine in preventing Covid-19 transmission rates. This capacity can be realized due to several geographical locations that are separated from the mainland as a small island, local government policies that are health-oriented, and supports from citizens and indigenous peoples. Local governments need to make similar strategies on a larger scale for other island regions.

Keywords: Covid-19, Territorial Quarantine, Small Island





RISK FACTOR OF HEALTH BEHAVIOR TO NON-COMMUNICABLE DISEASES IN MAKASSAR CITY, INDONESIA

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ABSTRACT

Background: Non-Communicable Diseases (NCD) caused 71% of death globally. Makassar, is one of cities in Indonesia with highest burden of NCD. In order to develop best strategies for NCD prevention in Makassar city, this research is aimed to analyze NCD prevalence in Makassar city based on gender, ages, and educational level of citizens as well as their behavior pattern.

Method: This research was supported by the United States Agency for International Development-funded Building Healthy Cities (BHC) project. We used secondary data of Riskesdas 2018 (National health research of Indonesia) that was collected by 18 April-30 May, 2018. By chi-square test, we analyzed the relationship between NCDs (diabetes mellitus, hypertension, and stroke), and health behavior including tobacco use, alcohol use, physical inactivity, and dietary pattern (salt/sugar intake, vegetable and fruit intake). A total data of 1803 respondent aged 15-95 years were analyzed using STATA with a 95% confidence interval (CI).

Result: This research found that dietary pattern and physical activity are significantly related to NCDs. Consumption of sugary food ($p=0.000$), sugary drink ($p=0.000$), and less intake of fruit ($p=0.035$) are significantly related to diabetes mellitus; while, consumption of salty food ($p=0.005$), fatty food ($p=0.029$), and food containing preservatives ($p=0.000$) are significantly related to hypertension. In addition, less physical activity ($p=0.003$), intake of fatty food ($p=0.000$), consuming food containing preservatives ($p=0.004$) and less intake of fruit ($p=0.029$) are significantly related to stroke. Although tobacco use, BMI and alcohol were not significantly related to NCDs, the number of respondents exposed to these factors was quite high, 31% respondents were active smokers, 3.9% consumed alcohol, and 34.3% were overweight and obese.

Conclusion: We suggest health promoting efforts, improving healthy behavior and physical activity, consume lower risky food, increase intake of fruit and vegetables by standard as recommended

Keywords: NCDs, Risk Factors, healthy Behavior





REVIEW OF GOVERNMENT REGULATION OF THE REPUBLIC OF INDONESIA NUMBER 47 OF 2021 CONCERNING THE IMPLEMENTATION OF HOSPITAL SECTOR

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ABSTRACT

Background: To implement the provisions of Article 61 and Article 185 letter b of Law Number 11 of 2020 concerning Copyrights for work, a review is needed regarding Government Regulation Number 47 of 2021 particularly about the achievement of the law in terms of community access to health services, ease of business actors in providing health services, employment, and training facilities for health workers/labors for improving their competence. The aim of this research is to review the Government Regulation of the Republic of Indonesia Number 47 of 2021 concerning the Implementation of Hospital Sector as a mandate from Republic of Indonesia Law Number 11 of 2020 concerning Job Creation.

Methods: The study is a review of regulations related to health policy. Review analysis was used to analyzed the implementation of the regulations. Sources of information came from electronic databases including Scopus, Pubmed, and Google.

Results: Government Regulation Number 47 of 2021 was made with the spirit of opportunity to fulfil access to the needs of Advanced Level Health services which provide opportunities in developing quality services through increasing hospital construction. However, it has not been able to answer technical problems related to the health care accessibility for the community. The impact on the community is that they can have access to hospitals only if there is an even distribution of specialist doctors. The referral system remains based on service competence according to the patient's medical needs. The amount of the fine is Rp. 10,000,000 for each violation of hospital obligations and it should not be rigidly formulated.

Conclusion: It is expected that more technical regulations are needed to regulate the main issues raised in Government Regulation Number 47 of 2021.

Keywords: Health Policy, Government Regulation, Implementation of Hospital Sector





FEASIBILITY STUDY OF ANDROID-BASED HEALTH APPLICATION “DIETDUCATE” USING THE UMARS METHOD (END-USER VERSION OF THE MOBILE APPS RATING SCALE)

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ABSTRACT

Background :

One strategic effort to handling nutrironial issues that often complex is through an online consultation on nutrition. Smartphone use in Indonesia is on the rise, particularly on Android OS smartphones. Indonesia entered the Industrial Revolution 4.0, namely the use of technology in various areas, including health. One form of use of this technology is the development of an android "dietducate" application. This study aims to assess the feasibility of an Android-based health app "dietducate" for nutritionists using the uMARS (End-User Version of The Mobile Apps Rating Scale) method.

Methods : The design of the research used is quantitative with the uMARS research method with a five-point scale. The technique of taking the subject using purposive sampling technique as many as 35 nutritionists. Applications were assessed using the uMARS questionnaire.

Results : The results showed that the application quality score was in the good category (4.05/5). The components of the results are obtained from 4 supporting aspects, namely aspects of engangement, functionality, aesthetics and information. The results of each score in sequence are 3.97; 4.03; 4.02; 4.23.

Conclusions : It can be concluded that dietducate application is suitable for use by nutritionists. Applications are considered easy to use and effective in carrying out nutritionist's work. However, there are too many ads and minor bugs that need to be fixed to maximize the performance of the app.

Keywords: Dietducate, Feasibility of app, mHealth, uMARS





DEVELOPMENT AND USE OF MOBILE APPLICATIONS IN GROWTH MONITORING OF CHILDREN UNDER-FIVE: NARRATIVE ARTICLE REVIEW

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ABSTRACT

Background

Increasing interest in child nutrition problems globally is hindered by a paper-based surveillance system, so it is necessary to develop digital monitoring of toddler growth through the Mobile Health (mHealth) program.

Methods

This is a review using sources from the ProQuest database. The search keywords were ((mHealth OR mobile application OR telehealth OR android application OR Web Application) AND (growth monitoring OR stunting monitoring OR *posyandu* monitoring)). Of the 17 studies identified in the search phase, 8 studies were eligible for inclusion.

Results

The included study shows that the use of mobile applications for growth monitoring can strengthen systems for monitoring children's nutritional status. The measurement data is recorded in a database that can be accessed by health workers and CHWs. Some applications include features in the form of recommendations for food ingredients, recipes, and the suitability of food ingredients with the early age of baby growth and development and types of baby allergies. Other features include nutritional information, immunization history, administration of vitamin A, as well as a complaint feature, so parents can consult directly with health workers regarding child development problems.

Conclusions: The mHealth digital recording application can be used as a basis for decision making in planning activities in stages up to the national level. In its development, it can add features that facilitate cross-sectoral coordination so that child development problems such as stunting can be communicated more quickly by decision makers.

Keyword: mHealth, growth monitoring, under-five





IMPLEMENTATION OF SCHOOL HEALTH PROGRAM (SHP) AT AMAHATAN CATHOLIC PRIMARY SCHOOL, RAIMANUK SUB-DISTRICT, BELU DISTRICT

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ABSTRACT

Background : School Health Program (SHP) is an important approach to educate students to prevent disease, treat minor accidents, and improve children's health in the school environment. This study aimed to describe the implementation of SHP at Amahatan catholic primary school related to the implementation of health education, health service, and healthy environment as the main programs, the role of teachers, and infrastructure development.

Methods : This research was qualitative with a phenomenological approach. Data were collected through in-depth interviews and documentation. There were 10 informants consisting of the school principal, teachers, parents, the head of the school committee, students and health workers. Thematic analysis was applied in this research.

Results : The results showed that health education focused on healthy and clean behavior. Health care service were not routinely provided by health workers due to the uncertain schedule from the local health center. This led the school to passively wait for the service. The healthy environment developed only prioritized the physical condition such as clean classrooms without paying attention to supporting the healthy relationship between teachers and students. Teachers facilitated SHP by giving health-related information, assessing, checking, and guiding students to practice health behavior at school. However, teachers had no sufficient knowledge and skill to treat minor injuries from accidents. Available infrastructures had not met the standard as no SHP room and sewerage built at school, and the water storage was also limited.

Conclusions : The school implements the main programs of SHP. However, it has an irregular schedule of health service for students and a limited approach to build healthy environment. The school needs to build an SHP room, and sewerage, and ensure the availability water storage. A training to treat minor accidents at school is necessary for teachers.

Keywords: SHP, Teacher, Infrastructure





THE IMPACT OF BRANDING AND MARKETING ON PATIENT SATISFACTION: A LITERATURE REVIEW

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ABSTRACT

Background

Patient satisfaction is an indicator which reflects the quality of health services. Higher patient satisfaction can provide more benefits for the patients and healthcare. Currently, patient satisfaction of health services is only 34% of patients. This shows the need for attention to increase patient satisfaction through optimization the factors related including branding and marketing. Therefore, this study analyzes the influence of branding and marketing on patient satisfaction to improve the quality of health services.

Methods

This literature review is synthesized by collecting data from PubMed, science direct, and google scholar. The selection of articles performed using the keywords (((branding OR brand image) AND marketing)) AND (Patient Satisfaction). The inclusion criteria are the last 10 years studies and the outcome of study is to evaluate the impact and relation between branding and marketing on patient satisfaction. From 190 identified studies, there were 5 studies fulfilled the inclusion criteria and are used as primary data in this study.

Results

The included studies show that branding specifically in the form of brand image and brand trust, as well as marketing has a significant positive effect on patient satisfaction. This increasing of patient satisfaction will synergistically improve the quality of health services, loyalty, and brand image which shows mutual beneficial effect.

Conclusions

Branding and marketing have significant positive impact on the level of patient satisfaction and loyalty so that current problems in branding and marketing development need to be carried out with the latest strategies.

Key words: branding, marketing, patient satisfaction.





SHARIA HOSPITAL, DOES IT AFFECT PATIENT SATISFACTION AND LOYALTY ? : A LITERATURE REVIEW

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ABSTRACT

Background

A sharia hospital is a hospital which all of its activities apply sharia principles. To maintain the quality, sharia hospital certification is applied. The performance of a sharia hospital is largely determined by the work ethic of all staff, including doctors, nurses and other staff. One of the indicators is hospital customer satisfaction. Objectives of this study is to determine the effect of sharia hospital certification on patient satisfaction and loyalty.

Methods

This literature review takes online database sources such as Pubmed, Google Scholar with a range of 2011-2020 in English, using the keywords "hospital according to sharia", "patient satisfaction" 'halal hospital' and worship-friendly hospitals" and satisfaction and loyalty patient. Of the 50 studies identified, 8 met the criteria in this review.

Results

There is a significant relationship between sharia services and the level of patient satisfaction in hospitals. Factors of religiosity, Muslim work ethic, halal food, worship facilities and the increased performance of sharia hospitals provide satisfaction to patients so that their loyalty increases.

Conclusions

Sharia hospitals provide impetus for improving hospital performance and services, but further research is needed on the application of sharia standards with employee work ethic so as to further increase patient satisfaction and loyalty.

Keywords: sharia hospital, certification, work ethic, patient satisfaction





ASSESSMENT OF MATURITY MODELS AND SAFETY CULTURE IN VARIOUS HOSPITALS: A LITERATURE REVIEW

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Abstract

Background: The concept of maturity model is in accordance with the application of safety culture in hospitals as improvement efforts. Maturity culture assessment usually by using Patient Safety Culture Improvement Tool (PSCIT), Hospital Survey on Patient Safety Culture (HSoPSC), and Manchester Patient Safety Framework (MaPSaF). This review aims to see variations in assessment of maturity model and safety culture in various hospitals.

Methods: This narrative review is employing PRISMA method, sourced from 3 well-known academic journals databases within period of 2010-2021: Science Direct, Pubmed, and Scopus. The review using keywords: assessment AND maturity models AND (safety culture OR patient safety culture OR safety culture maturity) AND hospitals. 70 studies were identified in the searching phase, and 12 were eligible to be used for the review.

Results: From all 12 studies, as many as 7 studies have used MaPSaF. Maturity of safety culture with its 10 dimensions can be categorized as Pathological, Reactive, Calculative or Bureaucratic, Proactive, and Generative.

Conclusion: Assessment of maturity models and safety culture in Indonesia is developing limitedly. It is necessary to develop an assessment of the maturity model and safety culture that can be implemented in hospitals for quality improvement efforts.

Keywords: safety culture maturity, maturity models and safety culture assessment





NATURAL PLANTS AS ALTERNATIVE ANTI-BACTERIA IN DRINKING WATER DISINFECTION: AN ARTICLE REVIEW

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ABSTRACT

Background

Various efforts to kill pathogenic bacteria in water with disinfection materials that are safer and more economical are continuously being pursued. The presence of anti-bacterial compounds in plants can be a very promising alternative for natural disinfection. This review discusses the use of natural materials as alternative natural materials that are safer and more economical in the water disinfection process.

Method

This is a narrative review using sources from the ProQuest database. Key terms such as Natural plant ingredients (Antibacterial natural ingredients OR antibacterial plant ingredients OR antibacterial plant extracts OR Anti-bacterial plant compounds) AND Water Disinfection (Natural ingredients disinfection OR plant extract water disinfection OR pathogenic bacteria disinfection OR natural extract water disinfection)) are used. Of the 45 studies identified in the search phase, 12 were eligible for inclusion in this review.

Results

This study shows that natural plant extracts have many uses not only as food ingredients but also as protection against various infectious diseases. Plant extracts as natural ingredients have active anti-bacterial compounds such as tannins, alkaloids, flavonoids, saponins and phenols sourced from seeds, flowers, leaves, bark and roots. Active compounds in plants can reduce or even eliminate pathogenic bacteria found in water.

Conclusion

Natural plant extracts have antibacterial compounds that can kill pathogenic bacteria. Further studies on the use of natural plant extracts need to be carried out as alternative water disinfection materials that are easy to obtain, safe and economical.

Keywords: Natural plant, disinfection, drinking water.





Dietary Diversity and Eating Patterns in Children With Under Nutritional Status

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ABSTRACT

Background : To examine the relationship between dietary diversity and eating patterns in children among 0 to 60 months with undernutritional status

Methods : The analysis was carried out by measuring using a 24-hour food recall instrument. Statistical analysis was conducted by spearman rho analysis for dietary diversity, and chi-square X2 analysis for eating patterns. Researchers recorded the children feeding activity used 24-hour food recall instrument for 1 month. The time for data collection is from August 1 to 31, 2021, for 31 consecutive days. Setting: The research location is in the working area of Nipah and Tanjung Primary Health Care, which is the area with the highest number of children undernutritional status. Participants: The respondents are 54 children aged 0-60 months with undernutritional status.

Results : The most frequently consumed variety of food was the staple food category of rice, 89.5%, fish was the side dishes category of frequently consumed at 28.8%, continued with Moringa as a most frequently vegetables variety consumed with a percentage of 35.7%. Bananas for fruit are 48.5% and lastly for mineral water sources are 96.9%, there is a relationship between dietary diversity and the nutritional status of toddlers with a correlation coefficient value of 0.31. For eating patterns based on the X2 chi-square test, no correlation was found with the P-value of 0.354.

Conclusions : For the nutritional status of toddlers to be good, increasing the skills of parents in managing the diversity of the food menu consumed by toddlers as well as training on the introduction of food menus and nutritional status of toddlers for parents is carried out programmatically through collaboration with village officials and health centers.

Keywords: Dietary Diversity, Eating Pattern, Undernutrition, Children, Toddler Under Red Line





EPIDEMIOLOGY MODEL QUALITY OF LIFE OF COVID-19 SURVIVORS IN MAKASSAR CITY

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ABSTRACT

Background

The COVID-19 pandemic has infected and killed millions of people around the world. The World Health Organization reports that the number of COVID-19 sufferers in the world continues to increase, but the number of recovered patients reaches 85-90%. The study wanted to see how the epidemiological model of the quality of life at covid-19 survivors in the city of Makassar.

Method

The design of this research is a *cross sectional study*. The sample is a patient who has recovered/ Survivors from COVID-19 as many as 366 people, sampling using a random sample technique. Collecting data by interviewing covid-19 survivors, data analysis was carried out with bivariate and multivariate methods.

Results

The results showed that 55.5% of Covid-19 survivors' quality of life was poor, and the variable length of suffering (p value 0.0042 OR 1.52), Comorbid COVID-19 (p value 0.009 OR 2.76), Level of depression (P value 0.001, OR 1.18), Social support (P value 0.001, OR 2.18), influence of mass media (P value 0.001, OR 12.07), and Reinfection (P value 0.001, OR 1.70), with epidemiological model equations has a significant relationship to the Quality of life of COVID-19 Survivors in Kota Makassar. Epidemiological modelling results show 98% the influence of all variable to poor quality of life and variable Mass media and comorbid are major risk factor to the quality of life Covid-19 survivor

Conclusion

Variables length suffering, Comorbid COVID-19, Level of depression, Social support, influence of mass media and Reinfection have a significant relationship to the Quality of Life of COVID-19 survivors in Makassar City

Keywords: COVID-19, COVID-19 Survivors, Quality of Life.





ROOT CAUSE ANALYSIS OF HEALTH LITERACY FOR THE VISUAL IMPAIRMENT IN INDONESIA

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ABSTRACT

Background: The limited access to health information is the root cause of health behavior for the Visually Impairment people (Das, 2018). So the visually impaired people really hope for accessible health information to support their daily life (Universal Eye Health, 2018). More than 15% of the world's population lives with a disability. The group with the most difficulty in accessing information is the blind because of the limited vision they experience. The Visually Impaired people need special health literacy by treating them, as if giving literacy to elementary school children. This is because they need orientation (introduction) of various things outside of themselves, that cannot be observed as people see (World Health Organization (WHO) 2020).

The purpose of this study is to present the root of health problems for people with visual impairments through the presentation of the most needed health literacy content.

Methods: This research is a qualitative research with a phenomenological design. The informant selection technique used purposive sampling technique. The informants of this study were the visually impairment people who were fostered at the Development Foundation/Center in Bandung, Bekasi, Manado, and Bali areas. The main informants in this study were total blind and low vision as many as 56 people. While the supporting informants are 36 people consisting of partners/teachers/parents/managers of centers or foundations who have known the visually impaired for more than one year.

Results: The results of this study indicate that there are at least 3 large groups of health literacy content needs for the visually impaired to support their daily lives, including Balanced Nutrition, Covid-19, and General Health. Balanced nutrition is divided into two domains, namely 4 pillars of balanced nutrition and 10 messages of balanced nutrition. The 4 pillars of balanced nutrition consist of a variety of foods that are easily accessible, Clean and Healthy Behavior, especially Personal Hygiene, light to moderate physical activity, and maintaining body weight. Understanding Covid-19 information starting from understanding, symptoms,





transmission, prevention by maintaining immunity and health protocols, handling, covid survivors, and vaccines. In addition, the information that is really needed by the blind is general health information, especially access to health services, both hospitals, clinics, health centers, and the nearest pharmacies.

Conclusion: The root of the health problem Visually impaired people is health information is not accessible. While the most needed information is about balanced nutrition, covid-19, and the nearest health service.

Keywords: Root Cause, Visually Impaired, Balanced Nutrition, Covid-19, Health Service





THE EFFECTIVENESS OF THE ACCELERATION OF STUNTING REDUCTION PROGRAM THROUGH CONVERGENCE ACTION IN GOWA DISTRICT, SOUTH SULAWESI PROVINCE, INDONESIA

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ABSTRACT

Stunting is a high-priority concern in Indonesian development. According to the 2018 Basic Health Research (Riskesdas), the prevalence of stunting in Indonesia is still relatively high at 30.8 %, exceeding the global average. Therefore, efforts are being conducted through convergence initiatives to accelerate the reduction in the prevalence of stunting. The Gowa Regency is one of the locus districts for the convergence action's implementation. The effectiveness of the convergence action program executed in Gowa Regency is investigated in this study.

This research adopted a descriptive qualitative approach. Efficacy is measured by evaluating the effectiveness of the inputs, the effectiveness of the process, which includes planning, implementation, and evaluation, and the effectiveness of the outcomes. The findings indicated that the program to expedite the reduction of stunting prevalence through convergence efforts had been undertaken, however the outcomes were ineffective.

The program's inputs, in the form of human resources and financing sources, are insufficient. The method of implementing the convergence action is also ineffective because the planning is not based on current difficulties, the program's implementation is still incomplete, and the evaluation process has been ineffective. Due to the ineffectiveness of the inputs and procedures, the output produced is also ineffective, and so the aim of lowering stunting prevalence has not been achieved.

Keyword: Stunting, Acceleration of Stunting Reduction Program Through Convergence Action, Effectiveness





DOES TELEHEALTH EFFECT ON HOSPITAL MARKETING? A REVIEW OF THE LITERATURE

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ABSTRACT

Background

Telehealth emerged as a popular medium to connect consumers with health care providers to meet public health needs amid the current pandemic where many people are afraid to go to the hospital. The purpose of this literature review is to identify and describe the latest evidence-based information and knowledge regarding the effect of using telehealth applications on hospital marketing.

Methods

This was a narrative review using sources from Elsevier database. The key terms such as telehealth ((telemedicine OR virtual heath) AND marketing (promotion OR economic)) were used. From 100 studies identified in the search stage, 60 studies are eligible for inclusion in this review.

Results

The included studies demonstrate the potential of telehealth as a new solution for hospital marketing in this pandemic era. Telehealth can improve the efficiency and accessibility of health services, protect medical staff, and reduce the risk of infection between patients. The use of telehealth felt by patients in various parts, such as the Department of Surgery, Respiration, Cardiology, Psychiatry, control of drug use, etc. showed satisfactory results. Telehealth as a health business model can accelerate the accessibility of health services and improve the quality of health services for citizens of a country.

Conclusions

Telehealth may have effect on hospital marketing, although studies showing the causality are limited. Further studies observing the effect of the use of the telehealth on hospital marketing is necessary.

Key words: Telehealth, application, hospital, marketing, impact





ASSESSING THE BENEFITS OF MORINGA BISCUITS AS A DIETARY SUPPLEMENT TO IMPROVE THE BREAST MILK OF BREASTFEEDING MOTHERS

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ABSTRACT

Background: Mothers who exclusively breastfeed require additional nutrients to enhance the quality and quantity of breast milk. Moringa biscuits are a highly nutritious food that is easy to consume and store over long periods. This study analyzes the effects of moringa biscuit consumption on the quality and quantity of breast milk produced by exclusively breastfeeding mothers.

Methods: This study employed a pretest-posttest control group design with 20 breastfeeding mothers of 0–1-month-old infants divided into two groups. The intervention group received 50 g moringa biscuits/day for six months, while the control group received no supplementation. Breast milk quantity (volume) and nutritional content, including protein, fat, carbohydrate, iron, and vitamins A and C, were measured monthly. Data were analyzed using an independent *t*-test, Mann-Whitney U test, repeated ANOVA, and Kruskal-Wallis test.

Results: Protein, carbohydrate, iron, and vitamin C levels were higher in the intervention group than in the control group. Significant differences were observed in the fourth ($p = 0.043$) and fifth ($p = 0.001$) months for carbohydrate content, in the sixth month ($p = 0.045$) for protein content, in the fourth month ($p = 0.005$) for vitamin C content, and in the third ($p = 0.008$), fourth ($p = 0.001$), and fifth ($p = 0.000$) months for iron content. While the intervention group produced greater quantities of breast milk than the control group (314.58 ± 263.30 vs. 293.24 ± 264.62), it was not statistically significant ($p = 0.733$).

Conclusion: The results of this study suggest that regular consumption of moringa biscuits by exclusively breastfeeding mothers could enhance milk production and significantly increase the carbohydrate, protein, iron, and vitamin C content in breast milk.

Keywords: Moringa, biscuit, breast milk, dietary supplement, breastfeeding





EDUCATION AND SURVEILLANCE OF FOLLOWING EVENTS POST COVID-19 IMMUNIZATION AT GENERAL HOSPITAL TADULAKO, PALU

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ABSTRACT

COVID-19 vaccination in Indonesia began in early 2020. This program aims to reduce the transmission/transmission of COVID-19, reduce morbidity and mortality due to COVID-19, achieve herd immunity, and protect the community from COVID-19 19 to remain socially and economically productive. After administering the vaccine, adverse event following immunization (AEFI) may occur. This follow-up event is often a source of doubt for the community to be vaccinated. This was the basis for the implementation of this research which aims to increase public knowledge about AEFI after the COVID-19 vaccination. The research was carried out by providing socialization to 135 people using media flyers, evaluating their knowledge about the benefits of the COVID-19 vaccine, and also recording follow-up events after immunization after 24 hours of vaccination. The evaluation results show the median value of 83.3 while the AEFI report reaches 57.4%. All AEFI complaints that appear are in the mild category with the most complaints being pain at the injection site (43.5%) and fatigue/drowsiness (13.9%). These results show the importance of education and surveillance related to vaccination and AEFI vaccine for COVID-19.

Keywords: AEFI, COVID-19 vaccine, education, surveillance





KNOWLEDGE, ATTITUDE, AND PRACTICES TOWARDS BALANCE NUTRITION AFTER NUTRITION EDUCATION IN PRECONCEPTION WOMEN IN TAKALAR DISTRICT, SOUTH SULAWESI, INDONESIA

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Background: Nutrition education is highly important in women during preconception. This study was aimed to assess effects of nutrition education on food pattern and weight in preconception women in Takalar District.

Methods: This was a quasi-experiment with non-randomized control group design. Preconception women were divided into two groups according to location, the first group (GW, n=38) received a booklet and whatsapp messages while another group (GB, n=42) received only a booklet. Knowledge and attitude toward balance nutrition and the first of thousand days were measured using questionnaire while food consumption was measured using recall 24 hours dan food frequency questionnaire (FFQ). Mothers were measured also for weight and height. Data analyses were performed using chi-square or student-t test.

Results: Mothers were mostly graduated from senior high schools (80%) and did not work outside home (74%). At baseline, there were no significant differences between groups in all measured variables ($p>0.05$). After intervention, there were significant improvement of knowledge on balance nutrition in GW (74% to 100%, $p<0.05$) and did not improve in GB. In addition, attitude on balance nutrition in GW improved significantly (51% to 82%, $p<0.05$) but not in GB. In addition, healthy food pattern improved significantly in GW (3% to 31%, $p<0.05$) but not in GB. However, improvement of carbohydrate, protein, and lipid as well as weight in both groups were no different ($p>0.05$).

Conclusion: we conclude that nutrition education using booklet and social media show better improvement in knowledge and attitude compared to booklet alone but future studies should explore more in dietary practices.

Keywords: Nutrition Education, Food Pattern, Weight, Preconception





CHANGES IN BREAKFAST, SNACKS, EATING HABITS, AND PHYSICAL ACTIVITY OF INDOONESIAN ADOLESCENTS DURING COVID-19 PANDEMIC

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ABSTRACT

Background

Restrictions on public mobilization during the Covid-19 pandemic have resulted in changes of people's lifestyles, including adolescents. Changes can occur in diet and daily activities thus can further affect the increasing risk of nutritional status and related-health problems. This study aims to describe changes in breakfast habits, snacking, eating habits, and activities among Indonesian adolescents during Covid-19 pandemic.

Methods

An online survey was distributed through WhatsApp, targeted for adolescents aged 10-22 years throughout Indonesia who were willing to participate in the study. A total of 772 adolescents completely filled out the questionnaire in the form of a google form during October 2020. A descriptive analysis was carried out to see the distribution of the adolescents who experienced changes in breakfast, snacks, eating habits, and physical activity.

Results

The study findings showed that there were changes in several aspects of adolescents' lifestyles in Indonesia during the Covid-19 pandemic, including breakfast, snacking, eating habits, and physical activities. Changes in breakfast occurred in the form of reduced (27%) and increased (23%) frequency of breakfast in adolescents. The frequency of snacking also increased (36%) and decreased (25%). Moreover, the findings showed a reduction of eating portions (21%) and an increase of eating portions (19%). Physical activity also decreased (45%) and increased (28%). These patterns of changes are differently indicated by different adolescents' age group.

Conclusion

Breakfast habit, snacking, and other eating habits, as well as daily activities of Indonesian adolescents have changed during the Covid-19 pandemic. Attention is required to prevent the further impacts of these lifestyle changes on increasing the risk of nutritional problems and health-related problems.

Keywords : Adolescents, eating habits, physical activity, Covid-19, Indonesia





IDENTIFICATION OF ECTOPARASITES ON RATS IN THREE STUDENT HOUSING MAKASSAR PUBLIC UNIVERSITIES

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ABSTRACT

Background

Rats can affect health because mice are one of the vectors of disease carriers in humans. Rats as vectors carry ectoparasites and endoparasites that can cause various health problems in humans. The study aimed to identify parasites in rats caught in the student housing areas of Unhas, UIN, and UNM.

Methods

This research is descriptive observational. A total of 135 traps were installed and installed for 4 consecutive days for each location.

Results

The most common type of ectoparasite found was *Laelaps nutalli*, which was 236 (69.0%). The next types of ectoparasites were *P. spinulosa* with 95 individuals (27.8%) and *X. cheopis* with 11 (3.2%).

Conclusions

There were 342 ectoparasites obtained in the housing area of Unhas, UIN and UNM with species including *P. spinulosa*, *X. cheopis*, *L. nutalli*. The condition of the presence of holes in the roof and positive for rats was 23.9% while those without holes and negative for rats were 80.9%. Environmental conditions, namely the presence of a rat path to the roof and positive rats were 23.3%, while those without a path and rat negative were 80.3%. Therefore, it is expected that students can maintain a clean environment such as cleaning floors and walls, tidying up items and disposing of unused items to prevent the breeding of rat vectors.

Keywords: Ectoparasites, Rats, Students Housing, Public Universities





IDENTIFICATION OF ENDOPARASITES ON RATS IN THREE STUDENT HOUSING MAKASSAR PUBLIC UNIVERSITIES

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ABSTRACT

Background

Rats can affect health because mice are one of the vectors of disease carriers in humans. Rats as vectors carry ectoparasites and endoparasites that can cause various health problems in humans. The study aimed to identify endoparasites in rats caught in the student housing areas of Unhas, UIN, and UNM.

Methods

This study was a descriptive observational study with samples of intestine, heart and liver at the Makassar Health Laboratory Center (BBLK). A total of 135 traps were installed and installed for 4 consecutive days for each location

Results

The number of rats caught was 29 with the most types of endoparasites found were *H. diminuta* and *H. nana*, each of which was 10 (31.25%). The next type of endoparasite is *T. taeniaeformis* as many as 5 individuals (15.63%), *Moniliformis* sp. A total of 4 tails (12.5%) and 3 tails of *N. brasiliensis* (9.37%).

Conclusions

There were 32 endoparasites with species including *T. taeniaeformis*, *H. diminuta*, *H. nana*, *N. brasiliensis* and *Moniliformis* sp. Therefore, it is hoped that the community can maintain a clean environment, especially students to dispose of unused items to prevent the breeding of rat vectors.

Keywords: Ectoparasites, Rats, Students Housing, Public Universities





PREVALENCE AND DETERMINANTS OF STUNTING IN CHILDREN AGED 0-59 MONTHS IN BATUI SELATAN DISTRICT, BANGGAI REGENCY

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Background

Stunting that occurs in children under five can be caused by various factors. This study aims to assess the level of stunting in children under five and analyze its determinants in Batui Selatan District, Banggai Regency.

Methods

Research was conducted in August – October 2021 using a cross sectional study design. The number of samples in this study were 306 children aged 0-59 months. Several variables related to the socioeconomic characteristics of parents of children under five, history of morbidity and immunization were collected in this study. Analysis of the data using the SPSS program using multivariate analysis to determine the factors associated with the incidence of stunting in children under five.

Results

The prevalence of stunting in the sample population was 22.5%. Stunting was more commonly found in male toddlers (25.1%) and the age group 12-17 months (41.2%). Children under five who experienced morbidity in the last 2 weeks amounted to 36.6%. The results of statistical analysis showed that there was a relationship between maternal height and the incidence of stunting in children aged 0-59 months ($p = <0.001$). Furthermore, the birth weight of children also has a relationship with the incidence of stunting in children aged 0-23 months ($p = 0.023$). Other variables such as maternal age, maternal education, parity, occupation, history of morbidity, and immunization status did not have a significant relationship with the incidence of stunting in children under five ($p = > 0.05$).

Conclusions

The incidence of stunting in children aged 0-23 months is associated with low birth weight. While the incidence of stunting in children aged 0-59 months is associated with low maternal height.

Key words: stunting,determinant, children,mother height, morbidity





SPATIAL DYNAMIC MODEL 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 pattern the 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





DETERMINANTS OF TRAFFIC ACCIDENT ON ONLINE RIDERS IN AMBON CITY

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ABSTRACT

With the increasing number of deaths due to traffic accidents, which according to WHO is the third largest cause of death in the world after heart disease and HIV AIDS, the issue of safety is part of a health problem. Even traffic accidents are classified as non-communicable diseases (Immunicable Disease). Accidents not only cause trauma, injury or disability but also death. This study aims to determine the most dominant factor in the incidence of traffic accidents on online riders in Ambon City. The method in this study is a quantitative study using a cross sectional study design approach, the sample in this study was 96 riders. The location of this research is in Ambon City. Primary data collection using questionnaires and conducting interviews. The results of this study indicate that the age variable does not affect the incidence of traffic accidents on online riders in Ambon City with a value (p-value = 0.684). The education variable affects the incidence of traffic accidents with a value (p-value = 0.000). Fatigue variable affects the incidence of past accidents with a value (p-value = 0.003). The sleep quality variable did not affect the incidence of traffic accidents with a value (p-value = 0.280). The length of work variable does not affect the incidence of traffic accidents with a value (p-value = 0.592). The most dominant variable affecting traffic accidents in Ambon City is fatigue with sig = 0.006 and Exp (B) = 3.562. Conclusion: The most dominant factor influencing the incidence of traffic accidents on online riders in Ambon City is fatigue. It is hoped that online motorcycle taxi drivers will overcome fatigue and related agencies should provide socialization to online motorcycle taxi drivers regarding driving safety and the impact of fatigue on drivers.

Keywords: Traffic accident; Online riders





A LITERATURE REVIEW OF THE RELATION BETWEEN IRON DEFICIENCY ANEMIA WITH ACTIVITY AND COGNITIVE FUNCTION IN ADOLESCENTS GIRL

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ABSTRACT

Background

Iron deficiency is a nutritional deficiency that affects a large proportion of the female population, especially adolescent girls and pregnant women. Decreased iron stores affect physical performance and cognitive function, but results from epidemiological studies relating iron deficiency to cognitive activity and function in adolescents are inconsistent. Therefore, it is necessary to study observational studies or RCTs on the relationship between iron deficiency and cognitive activity and function in women or adolescent girls.

Methods

This was a narrative review using sources from PubMed and ProQuest databases were searches up 2014 up 2021. The key terms such as Iron deficiency OR Anemia AND Adolescents girl OR Young Women AND Activity AND Cognitive were used. Criteria for This Review was limited by English language, sample adolescents and young women. From 63 studies identified in the search stage, 12 studies are eligible for inclusion in this review. .

Results

The included studies demonstrate Iron status in adolescents was associated with activity and cognitive function. Conclusions related to cognitive function are based on only a few cognitive domains of overall cognitive function. Little evidence was found for the association of iron deficiency with activity.

Conclusions

Women or Adolescents girl with iron deficiency anemia had lower physical work capacity and cognitive function than women without iron deficiency anemia, but there was no significant difference in overall cognitive function. Therefore, research is needed on nutritional intervention programs to improve iron anemia status in women in relation to physical activity and cognitive function.

Keywords: Iron deficiency, adolescents, activity and cognitive





POSTER PRESENTATION SECTION

SERUM ZINC AND LINIER GROWTH IN UNDERFIVE CHILDREN IN GIANYAR BALI

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ABSTRACT

Background Zinc deficiency in children under five can affect the decrease in appetite and linear growth of children under five. The purpose of this study was to determine the relationship between serum zinc and linear growth expressed by the PB/U or TB/U index.

Methods The research design used was a cross-sectional study, with the population being all children under five aged 12-59 months and domiciled in the village of More Gianyar-Bali. The sample size of this study was 91 children under five who were randomly selected using a random number table. The data collected were characteristics, serum zinc, and height or body length. Data were analyzed by descriptive statistics, and correlation between zinc serum and stature by Rank-Spearman correlation test, with 95% confidence level ($\alpha = 5\%$).

Results The median serum zinc of children under five was 73.1 $\mu\text{g/dL}$, the median z value was -0.78, and there was no relationship between serum zinc and linear growth ($p = 0.89$, $p > 0.05$).

Conclusions There is no relationship between serum zinc and nutritional status of children under five based on the index of TB/Age or PB/age. There may be other factors associated with zinc deficiency in children under five. outside of the factors studied.

Keywords: stature, deficiency zinc, under-five





IMPLEMENTATION OF BALANCED NUTRITION IN THE MIDDLE OF THE COVID19 PANDEMIC THROUGH BALANCED NUTRITION EDUCATION VIDEO

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ABSTRACT

Background

The government through the Ministry of Health has issued Guidelines for Balanced Nutrition as a substitute for *4 sehat 5 sempurna*. The COVID-19 pandemic has hit the world at the beginning of 2020. The government took decisive steps to temporarily stop activities outside and switch to activities inside. Virtual activities begins. Teleconference has become a new habit for some circles. The aim of this study was to see how the people adjust of balanced nutrition in a pandemic situation after watching the video.

Methods

This study started with educational videos consists of an explanation related to 4 pillars of balanced nutrition for 13.04 minutes with the target group being people aged 20 years who are active on social media. The sample of this research involve 103 random respondents from social media. All of relative data was measured through a questionnaire. Data was analyzed using univariate analysis to describe 4 pillars of balanced nutrition.

Results

The results show that Implement an active lifestyle and exercise at least 30 minutes a day 50.2%, consume a variety of foods 70.9%, implementation of clean and healthy lifestyle 76.7%, routinely control body weight at least once a month 55.3%.

Conclusions

Based on the results of this study, 97.1% of the public already know the meaning of balanced nutrition, but there are still 27.2% of people who still use the principles of *4 sehat 5 sempurna* in their daily life, including on pandemic situation.

Keywords: balanced nutrition, education, pandemic.





RELATIONSHIP BETWEEN KNOWLEDGE AND AVAILABILITY OF VEGETABLES AND FRUIT CONSUMPTION AMONG STUDENTS IN URBAN AND RURAL AREAS OF SOUTH SULAWESI DURING THE COVID-19 PANDEMIC

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ABSTRACT

Introduction:

Objective: This study aims to examine the relationship between knowledge and availability of vegetable and fruit consumption among students in urban and rural areas of South Sulawesi during the COVID-19 pandemic.

Methods:

This research is a quantitative study with a cross sectional study approach which was conducted at Zion Makassar High School and Makale Catholic High School with a total sample of 277 people. According to gender, the majority of respondents were women, while based on the age group, the most samples were 15 years old and the least 17 years old. Collecting data using a semi-quantitative questionnaire and FFQ in the form of an online questionnaire, namely a google form which was filled out by the respondents themselves. The analysis of this study included univariate and bivariate using the Chi-Square test with a 95% confidence degree ($\alpha = 0.05$) using the SPSS program.

Results:

60% of respondents at Zion Makassar High School and 53,5% Makale Catholic High School respondents were included in the category of good fruit and vegetable consumption. Bivariate analysis showed that there was a relationship between knowledge and consumption of vegetables and fruit in Zion Makassar High School (p value = 0.001) and Makale Catholic High School (p value = 0.007). Likewise, there is a relationship between availability and consumption of vegetables and fruit at Zion Makassar High School (p value = 0.002) and Makale Catholic High School (p value = 0.001).

Conclusion:

This study shows a relationship between knowledge and availability of vegetable and fruit consumption among students in urban and rural areas during the covid-19 pandemic. Further research is needed on the relationship between knowledge and availability with consumption of vegetables and fruits in adolescents.

Keywords: Vegetable and fruit consumption, Knowledge, Availability, Urban and Rural





QUALITY OF COMPLEMENTARY FEEDING PRACTICES IN 6-23 MONTHS OF AGE IN SOUTH BATUI SUBDISTRICT, BANGGAI REGENCY, INDONESIA

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Background:

Quality of complementary feeding (CF) is still low in many low to middle income countries. This study was intended to examine the quality of CF in children aged 6-23 months in South Batui Subdistrict,

Methods:

This was a cross sectional study and conducted in all ten villages in the subdistrict. Subjects were mothers who had children 6-23 months of age. Mothers were interviewed for CF practices and characteristic of family including, mother's education, parents' income, and mother's occupation using standard questionnaire. CF intakes of each child were analyzed using Nutrisurvey and compared to Indonesia's RDA while a Chi-square test was used to assess differences.

Results:

In general, mothers were mostly graduated from junior high school and below (56.9%) and family income was less than two million rupiah per months (76.1%). According to adequacy of CF, average intake of energy, carbohydrates, protein, and fat were 64%, 36%, 90%, and 33% RDA, respectively while average intake of micronutrients were mostly less than 50% RDA including iron, zinc, vitamin A and vitamin E. Number of infants consumed a good quality of CF were only 27%. There were significantly different among ages group for a good quality of CF (5.7%, 35.3%, and 50.0%, respectively for 6-11, 12-17 and, and 18-23mo of age, $p=0.001$). However, there were no significant differences between mother's education, family income, and mother's occupation with the quality of CF ($p>0.05$).

Conclusions:

Quality of CF is very low and this is significantly different between age groups.

Keywords: Complementary Feeding, food Intake, age group.





FACTORS RELATED TO INCREASING PREVALENCE OF OBESITY IN PRIMARY SCHOOL CHILDREN DURING COVID-19 PANDEMIC

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ABSTRACT

Background

The COVID-19 pandemic has led to restrictions such as the closure of schools and public places. This review aims to evaluate factors related to increasing prevalence of obesity in primary school children during the COVID-19 pandemic.

Methods

A literature search was conducted using PubMed, Google Scholar, and SINTA to evaluate relevant study from 2016 up to 2021. The keywords applied were 'obesity', 'primary school', 'pandemic', and 'COVID-19'. A study was considered eligible if it was a cohort or cross sectional study focused on obesity in primary school children. Review articles were excluded from this study. The various studies were carried out among children aged 2-18 years. A total 79 studies were identified; out of which 10 were about obesity in primary school children.

Results

A total of 10 articles were eligible, identified participant's age ranged 2-18 year, including primary school children. The result show during COVID-19 confinement, children gained weight and obesity prevalence increased. Children tend to more psychically inactive, increased screen time and sleep time during confinement. Changes in eating behaviors, increased food intake, unhealthy food choices such as sweets, sugar-sweetened beverages, fried foods, and high density calory snacks were found during COVID-19 pandemic.

Conclusions

Confinement and school closures due to COVID-19 pandemic has led to changes lifestyles and eating behaviors, screen time, and physical activity. To protect them, schools should work together with local primary health care in providing prevention strategies to counteract the impact of the COVID-19 pandemic.

Keywords: COVID-19, Obesity, Pandemic, Primary School





ASSOCIATION BETWEEN NUTRITIONAL STATUS AND COVID-19 OCCURRENCE IN RSKD DADI, SOUTH SULAWESI PROVINCE

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ABSTRACT

Covid-19 has become a global health problem. According to the World Health Organization (WHO), in January 2021 there were 95,321,880 cases of Covid-19 worldwide with 2,058,227 deaths. In early 2021, Indonesia recorded 1,037,993 people exposed to COVID and 29,331 deaths. Various efforts have been made by the government to prevent and cope with the occurrence of COVID-19, such as the mandatory use of masks, protective clothing, social distancing, even society limitation mobilization, and the last is vaccination. Although there have been many prevention efforts, the incidence of covid is still high, including health workers. For this reason, we will look for what factors that association the incidence of COVID in health workers. This cross-sectional study aims to analyze the association between nutritional status and the Covid-19 occurrence. All of population (72 health workers) who work in Covid-19 Room participated to this research by filled the questionnaire of Covid-19 occurrence and their body mass index were measured. The results showed that overweight respondents were 56.9%, normal respondents were 30.6%, and underweight were less than 12.5%. Almost of overweight respondents (91.5%) had been exposed to Covid-19, more than a half normal respondents (68.2%) who had been exposed to covid-19, and only 11,1% underweight respondents had been exposed to covid 19. There were association between nutritional status and Covid-19 occurrence ($p=0.000 < \alpha=0.05$). We hope that the efforts of fulfillment balance nutritional need will be increased in the future.

Keywords : Covid-19 occurrence, nutritional status





RELATIONSHIP BETWEEN EMOTIONAL EATING WITH NUTRITIONAL STATUS OF ADOLESCENTS DURING COVID-19 PANDEMIC IN PALANGKA RAYA CITY

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ABSTRACT

Background

Online learning during Covid-19 pandemic has brought changes to the mental and lifestyle of adolescents. Several studies have revealed that emotional eating as a deviant eating behavior has a close correlation with the nutritional status of adolescents. This study aimed to determine relationship between emotional eating with nutritional status of adolescents during Covid-19 pandemic in Palangka Raya City.

Methods

This study is an analytical observational study with cross sectional design. The sample is 114 adolescents with incidental sampling technique. This study was conducted in Palangka Raya City, Central Kalimantan, in September 2021. The structured tool included baseline information of respondents, nutritional status by anthropometric data (BMI) and emotional eating using the Dutch Eating Behavior Questionnaire (DEBQ). Data analysis was performed using univariate and bivariate analysis with statistical test using Chi-Square that used to associate emotional eating with nutritional status.

Results

The results revealed that majority of samples had normal nutritional status (43,9%), while the samples with abnormal nutritional status were 56,2% (underweight 25,5% and overweight/obesity 30,7%). Based on emotional eating, majority of samples had high emotional eating (53,5%). The results of crosstabulation showed that the sample with high emotional eating occurred in adolescents with overweight/obesity (37,7%), compared to samples with low emotional eating that most of them had normal nutritional status (64,2%). The results of Chi-Square test showed that there was a significant correlation between emotional eating with nutritional status of adolescents in Palangka Raya City ($p=0,000$).

Conclusions

Deviant eating behavior in adolescents is a response of body to stress due to changing learning patterns during Covid-19 pandemic that it tends to affect of their nutritional status. We recommended to governments to provide accommodation to adolescents in dealing with changing learning processes and implementing efforts to improve the education system that affected by Covid-19 pandemic.

Keywords: Adolescent, emotional eating, nutritional status





DETERMINANTS OF STUNTING IN INFANTS AGED 12-24 MONTHS IN HIGHLY RISK AREAS OF STUNTING IN SOUTH SULAWESI

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ABSTRACT

Background :

Stunting is a condition in which the body is short for age up to a deficit of -2 SB below the standard median length or height for age. It has been known that all childhood problems, beginning in the process of fetal growth and development in the womb until the age of 2 years. If calculated from the first day of pregnancy, the birth of a baby to a child aged 2 years is a period. Many factors can trigger a toddler to become stunted, namely gender, age, Birth Weight, history of exclusive breastfeeding, Parental Education and Knowledge. This study aims to examine the determinants of stunting in infants aged 12-24 months in Bone and Enrekang districts, South Sulawesi province.

Methods :

This was a cross sectional study in 70 villages categorized highly risk villages of stunting prevalence. Subjects were 511 infants and mothers consisting 254 and 257 from Bone and Enrekang respectively. Mothers were interviewed using structured questionnaire via software application on Android while weight and length of infants were measured using a standardized anthropometric procedure

Results : The results showed that the chi square analysis showed that there was a significant relationship, namely Gender (pvalue: 0.001), Baduta Age (pvalue: 0.014) and Birth Weight (pvalue: 0.009) with Stunting Incidence. In addition, a multiple logistic regression showed that Gender (OR=2.10, 95%CI=1.42-3.10), Childhood Age (OR=0.60, 95%CI= 0.41-0.89) and Birth Weight (OR = 2.53, 95 %CI = 1.33-4.83 which is a determining factor for stunting

Conclusion : We conclude that gender, age and birth weight are the determinants of stunting in children under five at the Kab. Bone and Enrekang.

Keywords : Stunting, Age, Gender and Birth Weight.





NUTRITIONAL EDUCATION BASED ON SOCIAL COGNITIVE THEORY OF BREAKFAST PATTERN ADOLESCENTS MALNUTRITION IN SMALL ISLAND OF MAKASSAR CITY, SOUTH SULAWESI.

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Backgrounds:

The prevalence of skipping breakfast in children and adolescents is 16.9–58% and about 6% of student have low-quality breakfast. Adolescents who have skipping breakfast habits can be malnutrition. Nutrition education is expected to be able to increase adolescent knowledge so that they are able to change eating habits into a balanced diet. Many interventions have been carried out in Indonesia to address the problem of undernutrition, be it direct counseling, using interesting media or distributing additional food. However, theory-based interventions are very rare. Social cognitive theory targets behavior change by emphasizing personal and environmental factors.

Methods:

This was a quasi-experimental study, with pre-post test control group design. Subjects were totally 92 person consist of 46 intervention group and 46 of control group. Intervention group used modul for 12 weeks and control group used leaflets. Were analyzed using Wilcoxon and Mann Whitney.

Results:

a) the difference of self efficacy ($p=0.000$), breakfast motivation ($p=0.000$), practical and knowledge level ($p=0.000$) were found before and after given nutritional education based on kognitif social theory in intervention group. b) There are significant difference of self efficacy ($p=0.033$), breakfast motivation ($p=0.000$), practical and knowledge level ($p=0.000$) before and after given nutrition education base on kognitif social teory in control group. c) There are significant difference of self efficacy ($p=0.001$) breakfast motivation ($p=0.042$) before and after given nutrition education between control group and intervention group. d) The absence of difference in practical and knowledge level ($p=0.907$) before and after given nutrition education





between control group and intervention group.

Conclusions:

Nutritional education based on social cognitive theory can improve self efficacy, breakfast motivation, practical and knowledge level in intervention group and control group. However, Modul and leaflets is more efficient and effective as a media education.

Keywords: nutrition education, cognitive social theory.





CORRELATION SOSIOECONOMIC, INADEQUATE NUTRIENTS INTAKE AND WASTING STATUS ON PRECONCEPTION WOMEN IN TAKALAR DISTRICT

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ABSTRACT

Objective: *This study aims to examine the nutritional intake and wasting status of preconception mothers in Takalar Regency, South Sulawesi Province, Indonesia.*

Methods: *This study involved 130 preconception mothers aged 18-30 years with a cross sectional method. Data on nutritional intake and nutritional status were collected using questionnaires, 24-hour recall and anthropometric measurements. Analysis of nutritional intake using nutrisurvey and analysis of variables using the Chi-square test.*

Results : *the average age of the mother is 20-30 years (80.8%). The average occupation of the father as an entrepreneur (46.9%) and work as a housewife (71.5%). The education of the mother and father is on average high and the average family income is above 1 million rupiah (56.2%). The majority of maternal energy, protein, carbohydrate and fat intakes were in the less category (<80% RDA). The results of bivariate analysis showed that wasting status was strongly influenced by maternal age ($p = 0.008$) and there was a relationship between maternal nutritional intake in the form of energy, protein, and carbohydrates with mother's education, mother's occupation and family income ($p < 0.05$), except for fat. ($p > 0.05$).*

Conclusion : *Preconceptional women in Takalar district are prone to lack of nutritional intake, especially in energy, protein, carbohydrate, and fat intake. The mother's education, mother's occupation and family income are strongly related to inadequate nutrients intake in preconception mothers.*

KEYWORDS : Inadequate intake; Preconception Women; Wasting





ATTITUDE AND BEHAVIOUR OF THE ELDERLY IN PREVENTION OF HYPERTENSION

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ABSTRACT

Background

Hypertension is a disease related to human blood pressure that occurs in human arteries when blood is pumped by the heart to all parts of the body. The estimated number of cases in Indonesia is 63,309,620 people while the death rate is 427,218 deaths. One of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 25% by 2025. This study aims to determine the attitudes and behavior of the elderly in preventing hypertension.

Methods

This study uses a qualitative method with a case study approach. Informants in this study amounted to 9 informants. The data collection method was carried out by in-depth interviews which included elements of the attitudes and behavior of the elderly in preventing hypertension.

Results

The results of the study show that the attitudes of the elderly all support the prevention of hypertension, but in practice the behavior of the community is not optimal in preventing hypertension, this is due to several factors including the cost for treatment and distant health care facilities, not knowing if they have hypertension and the lack of maximum family support. Family support is very important because most of the elderly do not have a steady income so they need financial assistance and transportation to health services.

Conclusion

Based on the results of the research above, it shows that the attitudes and behavior of the community are still not in harmony, this is influenced by the cost factor, the health service is far away, does not know if he has hypertension and family support.

Keywords: Attitude, Behavior and Hypertension.





DETERMINANT OF THE FINE MOTOR DEVELOPMENT TO THE STUNTING TODDLERS IN MAROS REGENCY, SOUTH SULAWESI, INDONESIA

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ABSTRACT

Background : Stunting is caused by the slow maturation of nerve cells, especially in the "*cerebellum*" which is the center of coordination of motor movements and is caused by a long-term lack of nutrients (especially fat and protein-energy), thus inhibiting the process of formation and maturation of muscle tissue, resulting in mechanical ability. reduced muscle tone and causes low motor skills. Based on UNICEF data, shows that the incidence of growth and development disorders in children, especially motor development disorders, is still high at 27.5% (WHO, 2006). Meanwhile, according to national data of the Indonesian Ministry of Health, children with growth and development disorders are 11.5% (the Indonesian Ministry of Health, 2018). The purpose of the study was to analyze determinants of the fine motor skill of the stunting toddlers in Maros regency, South Sulawesi, Indonesia.

Methods : This study is observational analytic, crosssectional design. The sample of the study is the stunting toddlers. The total samples are 100 respondents. The instrument study is using questionnaire of DDST (*Denver Developmental Screening Test*) to measure Fine Motor Skills.

Results : The results showed that the stunting toddlers had normal fine motor skills are 17.3% and 82.7% of stunting toddlers had suspect fine motor disorders skills. There was a relationship between diet ($p=0.036$), history of infectious disease ($p=0.032$), breastfeeding ($p=0.003$), and emotional bonding ($p=0.038$) with the fine motor skills of stunting toddlers. Meanwhile, the immunization ($p=0.94$) and mother's knowledge ($p=0.604$) had no relationship with the fine motor skills of stunting toddlers.

Conclusions : Stunting Toddlers had suspect fine motor disorders as much as 82.7%, and the determinant factors that affect the significant correlation of fine motor development in stunting toddlers are diet, emotional bonding, breastfeeding, and a history of infectious diseases.

Keywords: Stunting Toddlers, Fine Motor Skill.





LITERATURE REVIEW: PHYSICAL ACTIVITY AS OBESITY MANAGEMENT IN SCHOOL-AGE CHILDREN

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Background: The number of obese people in the world has increased significantly every year. Decreased physical activity due to changes in lifestyle patterns caused by increasingly advanced technological developments can be one of the primary triggers for obesity in school-age children. The purpose of this literature review is to determine the relationship between physical activity and weight loss in school-aged obese children.

Methods: This type of research is a literature review. The inclusion criteria used in this literature review study are research articles related to obesity and physical activity in school-age children. Data obtained from databases such as PUBMED, Wiley Online Library and Google Scholar were searched using the keywords: Physical Activity, the intervention of obesity, obesity in childhood. The results 5 articles were found from 14 articles that fit into the inclusion criteria.

Results: Research proves that obese children have low levels of physical activity and physical fitness. Interventions to provide physical activity to children that are quite effective in reducing obesity are interventions in the form of multidisciplinary programs consisting of school-based physical activities, physical activity programs at home, programs during holidays, and providing eating guidelines and changes in healthy behaviour children. **Conclusion:** Physical activity is very influential on weight loss in obese children. It can be done to prevent obesity in children by directing children to do physical activities both at school and at home.





FACTORS ASSOCIATED WITH GESTATIONAL HYPERTENSION IN THE WORK AREA OF THE KADING HEALTH CENTER, BONE REGENCY IN 2021

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ABSTRACT

Background : Gestational hypertension is systolic blood pressure > 140 mmHg and diastolic blood pressure > 90 mmHg, without proteinuria, gestational hypertension develops and can be detected at 20 weeks of gestation. to determine the factors associated with gestational hypertension.

Method : This study was conducted to look at the risk factors between age, parity, history of hypertension, obesity, antenatal care visits and family support for the incidence of gestational hypertension in the working area of the Kading Public Health Center in 2021.

Results : The results showed that the results of the Chi-square test analysis p value $= 0.002 < 0.05$ which means that there is a relationship between age and the incidence of gestational hypertension, parity of the results of the Chi-square test analysis p value $= 0.634 > 0.05$ which means there is no significant relationship between parity with the incidence of gestational hypertension, history of hypertension p value $= 0.000 < 0.05$ means that there is a significant relationship between history of hypertension and the incidence of gestational hypertension, obesity p value $= 0.050$ means that there is a relationship between obesity and the incidence of gestational hypertension, antenatal care visits p value $= 0.022 < 0.05$ means that there is a relationship between antenatal care visits and the incidence of gestational hypertension, and the results of the chi-square analysis of family support, p value $= 0.017 < 0.05$, meaning that there is a significant relationship between family support and the incidence of gestational hypertension.

Conclusion : Of the six variables, namely maternal age, parity, history of hypertension, obesity, antenatal care visits and family support, only the parity variable had no relationship with the incidence of gestational hypertension.

Keywords: Risk Factors, Gestational Hypertension





MOMASI Education on Lactation Management in Primiparas (0-3 Months) in Sudiang Raya Public Health Center, Makassar City, South Sulawesi

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ABSTRACT

Backgrounds: Primiparas are often faced with difficulties and even failure to breastfeeding, low of lactation management is the main cause. This study was intended to examine the effect Mobile of Management Lactation (MOMASI) on increasing knowledge, attitudes, and practices of lactation management in primiparas 0-3 months in Sudiang Raya Public Health Center, Makassar City, South Sulawesi in 2021.

Methods: This was a quasi-experimental study, with pre-posttest control group design. Subjects were totally 60 primiparas who had infants aged 0-3 months (30 intervention groups, 30 control groups). Intervention group used smartphone-based application, MOMASI for 12 weeks and control group used leaflets. This studied was 20% in face to face and 80% virtual by smartphone (WhatsApp, telephone number, google form). Were analyzed using Wilcoxon, Paired t-test, Mann Whitney and Independent t-test.

Results: Pretest, there was no significant difference between the two groups in mean score of knowledge, attitude, and practice of lactation management ($p = 0.917, 0.910, 0.165$; $p > 0.000$). Intervention and control groups, there was a significant increase in mean score of knowledge, attitudes, and practices of lactation management between before and after education ($p = 0.000$). Posttest, the two groups had a significant difference in mean score of knowledge, attitudes, and practices of lactation management ($p = 0.000$).

Conclusions: MOMASI and Leaflet can improve knowledge, attitudes, and practices of lactation management. However, MOMASI is more efficient and effective in Information Communication and Education (ICE), especially during the Covid-19 pandemic.

Keywords: Primiparas, lactation management education, knowledge, attitude, practice.





IMPROVEMENT OF COMPLEMENTARY FEEDING PRACTICES: A COMMUNITY PROGRAM TO ACCELERATE STUNTING REDUCTION IN TAKALAR DISTRICT, INDONESIA

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Background:

Complementary feeding practices (CFP) is an important determinant factor of stunting in children. This study was conducted to assess effect of community program to improve CFP in infant's mothers.

Methods:

The program was undertaken in a Talasa Village, Mangarobombang Subdistrict, Takalar. At baseline, there are 40 children aged 0-23 mo was measured for nutritional status including stunting, wasting, and food intake. CFP was measured at baseline and then follow up qualitatively after a community program. Recipe of CF were developed according to local resources and then socialized to cadre and health staffs in the village level. In addition, a nutritionist was hired and stayed for a month to introduce and ensure expected mothers tried and used the recipes.

Results:

Some of infant's mothers were only graduated from primary schools (35%) and mostly stayed at home (68%). In addition, most of infants were still breastfeed (73%). There were 18 recipes consisted of 6 recipes for each age 6-11mo, 12-17mo, and 18-23mo. After socialization program in the community and individual counseling at the household, most of mothers improve their CFP and said that the recipes was easy to follow and they can make the CF. In addition, they said that the children liked the food.

Conclusions:

A community program to improve CFP using local food is successful being implemented at the village. A future study should be made to assess its effect on nutritional status of children.

Keywords: Complementary feeding, Infancy, nutritional status.





DETERMINANTS OF IODINE DEFICIENCY DISORDERS (IDD) AMONG WOMEN OF REPRODUCTIVE AGE IN ENDEMIC AREAS, ENREKANG REGENCY

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ABSTRACT

Objective

This study aimed to examine the determinants of Iodine Deficiency Disorder (IDD) among women of reproductive age in endemic areas, Enrekang Regency.

Methods

This was an observational analytic study with the cross-sectional approach. The subjects of this study were 100 women of reproductive age. The iodine levels of salt were examined by the Iodine test, the iodine of drinking water, and soil using the titration method. Excretion levels of Iodine Urine (EYU) were assessed by the Ceric Ammonium Sulfate method. The data were analyzed using Chi-Square analysis.

Results

61,4% iodized salt and 38,6% non-iodized salt. Iodine content in water ranges from 0-9 µg/L, the mean 0.60 µg/L. Iodine content in the soil was sufficient from 8.53%-14.09%, the mean 10.756%, and the median 9.65%. The EYU value was 42.6% lower and 57.4% sufficient. The result of this study indicated a significant relation between the iodine content of salt and EYU ($p=0.043$). In addition, there were no significant relations between iodine levels in water and EYU ($p=0.290$).

Conclusion

The use of non-iodized salt in long period can result in Iodine Deficiency Disorder (IDD)

Keywords: IDD, EYU, salt, water, soil





FERMENTED MILK WITH ADDITIONAL OF BEET ROOT AND YELLOW SWEET POTATO AS PREBIOTICS

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ABSTRACT

Background : Fermented milk is milk that is fermented by lactic acid bacteria. An adequate quantities lactic acid bacteria can boost the human immune system. The number of lactic acid bacteria can be increased by the addition of prebiotics. In this study, fermented milk was made with the addition of a prebiotic combination of beetroot and yellow sweet potato. The purpose of this study was to determine the effect of adding prebiotics beetroot and yellow sweet potato on the number of lactic acid bacteria and qualities standard in accordance with the provisions of SNI (7522:2009) regarding the quality requirements of flavored fermented milk.

Methods : The design of experiment used completely randomized design with one-factor pattern, namely the concentration of addition of beetroot and yellow sweet potato juice: (F1) as a control; F(2) 10%:0%; F(3) 0%:10%; F(4) 5%:5%; F(5) 6%:4%; F(6) 4%:6%. The data analyzed using ANOVA and continued with Duncan's test. The method used in calculating the number of lactic acid bacteria, coliform, and salmonella was the Total Plate Count (TPC). Proximate contents were tested with standard measurement which was gravimetric (water and ash content); soxhlet extraction (fat content); kjeldahl (protein content); and by difference method (carbohydrate content).

Results : The results showed that F(6) produced the best number of lactic acid bacteria and met the SNI requirements which was 8×10^8 colonies/ml, pH value 3,984, water content 81,46%, ash content 0,61%, protein content 2,31%, fat content 3,48%, carbohydrate content 12,14%, negative for coliform and salmonella bacteria, and organoleptically preferred by the panelists.

Conclusions

Most of components in this fermented milk have met SNI requirements for fermented milk quality, but not the protein content. It is assumed because of less content of high protein component that has added roots to the formulation.

Keywords: Yellow Sweet Potato, Beetroot, Prebiotic, Probiotic, Fermented Milk





TEMPEH-FISH SAUSAGE AS A HIGH PROTEIN SNACK FOR BREASTFEEDING WOMEN

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ABSTRACT

Objectives:

The purpose of this study was to evaluate the chemical content and physical properties of sausages made from tempeh and anchovies as a snack for breastfeeding mothers.

Methods:

The research design was experimental with a simple randomized design with 1 factor ; the formulation of tempe-fish sausage. Based on the results of the acceptability test of the sausages (taste, color, aroma, texture, and overall), sausages made from tempeh 30% and anchovies 70% were the most preferred by the panelists. Moisture content, ash, total protein, fat, carbohydrates, crude fiber, calories, calcium, and physical properties were observed then compared with the national standard of sausage (SNI 3820:2015).

Results:

In 100 grams of the sausages contained 222.15 cal of energy, 13.74 g of protein, 15.8 g of fat, 10.15 g of carbohydrates, 0.79 g of crude fiber, 0.39 mg of calcium, 59.4 g moisture content, and 0.87 g ash content. The sausage has a bright color with a value of L = 60.72 and a texture value of 28.41 N. The assessment of 30 panelists on the color of the sausage 36 panelists liked it and 6 panelists liked it a lot. Meanwhile, 27 panelists liked the aroma and 22 panelists liked the taste. **Conclusions:**

The nutritional content of these sausages is following the requirements of SNI 3820:2015 for sausages and has met the requirements as an alternative protein source for nursing mothers based on BPOM requirements for processed food standard.





THE EFFECT OF FUNCTIONAL FLOUR ON SENSORY QUALITY, LEVEL OF PROTEIN AND ZINC IN COOKIES

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ABSTRACT

Background

Local Functional Flour (TFL) substitution from soybeans, green beans, carrots and sago worms is needed to improve the sensory quality and nutritional value of cookies. This study aims to know the effect of functional flour on sensory quality, level of protein and zinc in cookies.

Method

This study developed Cookies with TFL substitution made from a combination of 40% soybeans, 35% green beans, 10% carrots and 15% sago worms. The TFL concentrations of each treatment were FO (0%), F1 (10%), F2 (20%) and F3 (30%). Sensory quality was assessed based on the organoleptic test method using a hedonic scale (score 1-7). We used 30 semi-trained panelists. Protein levels was analyzed using the *micro kjedhal* method and zinc levels using the AAS method. The data analysis using the Kruskal-Wallis test.

Result

Score total of acceptability Cookies FO (4.97 ± 0.95), F1 (4.96 ± 1.07), F2 (5.55 ± 1.06) and F3 (4.87 ± 1.15). Protein levels FO=8.49%, F1=9.68%, F2=9.72% and F3=11.23%. Zinc levels per 100 grams cookies are FO=3.20 mg, F1=4.21 mg, F2=38.85 mg and F3 42.91 mg. There is an effect of the concentration of functional food flour substitutions on texture quality ($p=0,000$), smell ($p=0.018$) and taste ($p=0.030$).

Conclusion

The acceptability in cookies with best sensory quality in substitution 30% functional flour. Cookies substitution with Functional flour can increase protein and zinc levels in cookies.

Keywords: Cookies, sensory, protein, zinc, sago worms, green beans, sago worms





CONSUMPTION PATTERNS OF MILKFISH (*CHANOS CHANOS*) AND LEAD (PB) EXPOSURE ON THE COASTAL COMMUNITY OF TARAKAN CITY

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ABSTRACT

Lead (Pb) in marine waters has a high impact on marine life related to its contamination. This contamination also affects the public health status of the people as the permanent consumer which has some noncarcinogenic or carcinogenic effects on the human body. This study aims to analyze risk management of potential non-carcinogen and carcinogen Pb exposure as the consequences of the milkfish (*C. chanos*) consumption using the environmental health risk assessment (EHRA) method on Tarakan coastal population with a total of 77 participants. inductive coupled plasma mass spectrometry (ICP-MS) was used to identify the concentrations of Pb in the fish. The result shows Pb concentrations in the meat of the milkfish (*C. chanos*) was 0.003-0.046 mg/kg. The Risk Quotient (RQ) value of Pb in the milkfish (*C. chanos*) was 60(78%) respondents at risk and 17(22%) were not at risk of non-carcinogenic potential, while the value for the carcinogenic potential of Excess Cancer Risk (ECR) of milkfish showed 77(100%) of respondents at risk due to its consumption. The contamination control system in Tarakan coastal area is highly necessary, domestic waste management should be socialized to every household particularly before it disposed directly to marine water, and also minimalizing of using an-organic fertilizer in fishpond aquaculture is also highly recommended.

Keywords: Lead (Pb) contamination, EHRA, milkfish, Coastal Tarakan





TRANSMISSION RISK OF COVID-19 IN BONTORAMBA DISTRICT JENEPONTO

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ABSTRACT

Background

Corona Virus Disease 2019 (COVID-19) which started in Wuhan since December 2019 has reached 275,469 people spread across 166 countries. COVID-19 data in Indonesia showed 7,775 cases while for South Sulawesi Province by 397 were confirmed positive, and Jeneponto by 1. Meanwhile, there were 2 people confirmed positive in Bontoramba District. This study aimed to describe the level of transmission risk in COVID-19 outside and inside the house, as well as based on immunity.

Methods

This was descriptive research carried out in November-December 2020 in that number of samples was 183 households from population of 12,242 selected by accidental sampling.

Results

The results revealed that the high risk of COVID-19 transmission outside house was 101 people (55%), high risk of transmission inside the house by 127 (69%), and high risk of transmission based on immunity by 179 (98%).

Conclusions

It concluded that most respondents performed fairly high-risk level of transmission of COVID-19. It is encouraged to community in Bontoramba District Jeneponto to maintain Health Protocols such as wearing masks, routinely washing hands, and maintaining social distance in order to reduce the number of COVID-19 spreads. In addition, the government should participate to regularly socialize the urgency and the dangers of COVID-19 transmission.

Keywords: Transmission risk, COVID-19, community





EVENT OF BULLYING ON ANXIETY LEVEL ELEMENTARY SCHOOL AGE CHILDREN

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ABSTRACT

Background

Bullying often occurs in school-age children both verbally, physically and mentally. The impact that occurs due to bullying behavior can affect children's lives at a later stage of development, especially psychologically, children and children become anxious and even panicked. The purpose of this study was to find out how the relationship between bullying and the level of anxiety of elementary school-aged children is

Methods

This type of research is quantitative using a correlational research design with a cross sectional study approach with a total sampling technique based on inclusion and exclusion criteria, with a total sample of 52 people. respondents.

Results

shows that the incidence of bullying in school-age children is mostly in the severe category as much as 57.69%, the level of anxiety in elementary school-aged children related to the incidence of bullying is mostly in the moderate category as much as 51.92%, and there is a relationship. between the incidence of bullying and the level of anxiety of elementary school age children (p -value = 0.002).

Conclusions

parents are expected to always supervise their children, for example when playing with peers and directing if bullying occurs.

Keywords: Bullying, anxiety, school age children





“UTILIZATION OF RAINWATER AS CONSUMABLE WATER WITH RAINWATER HARVESTING METHOD” : REVIEW OF LITERATURE

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ABSTRACT

Background

Water demand is expected to increase in all sectors. Rainwater can be a solution to the problem of the clean water crisis. The quality of rainwater harvested is highly dependent on the rainwater harvesting system.

Methods

This literature review is a narrative review using sources from the Scopus and Pubmed databases. The keywords used were utilization, rainwater, rainwater harvesting methods. Of the 30 references identified in the search phase, 10 were eligible for inclusion in this review.

Results

The harvested rainwater can be used for multiple purposes such as watering plants, washing, bathing and even cooking if the water quality meets health standards. There are three basic components that must be present in a rainwater harvesting system, namely: 1) catchment, which is a rainwater catcher in the form of a roof surface; 2) delivery system, namely the rainwater distribution system from the roof to the shelter through gutters; and 3) storage reservoir, which is a place to store rainwater in the form of barrels, tubs or ponds.

Conclusions

To meet the demand for water whose supply is increasingly limited, water conservation efforts are needed. Harvesting rainwater is one of the methods of water conservation that can be carried out by the community in the household as raw water for drinking water suitable for consumption. If rainwater harvesting is practiced in a sustainable manner, it will help maintain water sustainability and environmental sustainability as a livelihood supporter for present and future generations.

Keywords: Utilization, Rainwater, Consumable, Harvesting





THE EFFECT OF WORK FAMILY CONFLICT (WFC) ON SLEEP QUALITY AND NURSE PERFORMANCE IN MAKASSAR CITY HOSPITAL

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ABSTRACT

Background

A worker is required to work professionally in completing his duties regardless being married or not. Married female workers have heavier loads because they also have the responsibility to take care of their families. The existence of two roles for female workers may cause family conflicts that can interfere with work, known as Work Family Conflict (WFC).

Methods

This research was conducted in three hospitals in Makassar, namely Wahidin Sudirohusodo hospital, Tajuddin Chalid hospital, and Sayang Rakyat hospital. The study was a cross-sectional study conducted from May to July 2021. Based on the number of nurses in each hospital, the sample size in this study was 143 samples consisting of 73 samples from Wahidin Sudirohusodo, 33 samples from Tadjuddin Chalid, and 37 samples from Sayang Rakyat. Interview was used to collect data on work-family conflict variables, sleep quality, and nurse performance, as well as measurement of sleep quality with a pulse oximeter, blood sugar using ACCU-Check, myotape for abdominal and upper arm circumference, and Body Mass Index (BMI). Data analysis was performed using Confirmatory Factor Analysis (CFA) and path analysis.

Results

The results showed that the family commitment indicator gave the greatest correlation to work family conflict with a loading factor of 0.73, medical history on sleep quality with a loading factor of 0.60 and quantity on a nurse's performance variable with a loading factor of 0.72. Workplace Family Conflict has a direct effect on sleep quality ($p=0.034<0.05$) and has no direct or indirect effect on performance ($p=0.308>0.05$).

Conclusions

The conclusion of this study was that Work Family Conflict has a direct effect on sleep quality and has no direct or indirect effect on performance. It is suggested that the nurse's families will provide moral support for nurses in their work and give them sufficient time to rest.

Keywords: Work Family Conflict, Sleep Quality, Performance, Female Nurse





A REVIEW: CRISIS LEADERSHIP IN SUPPORTING NATIONAL RESILIENCE COVID-19 PANDEMIC

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ABSTRACT

Background:

This article aims to analyze the role of leadership in support national resilience which is the country's resilience in facing multidimensional challenges. Since the ratification of the Decree of the President of the Republic of Indonesia Number 12 of 2020 concerning the Determination of Non-Natural Disasters for the Spread of Corona Virus Disease 2019 (Covid-19) as a National Disaster, the policy strategy is directed at Disaster Risk Reduction (DRR) by implementing health protocols. DRR is a systematic effort to analyze and reduce the factors that cause disasters in the form of concepts and practices to reduce disaster risk.

Methods:

The method for analyzing the leadership crisis is through a descriptive approach to leadership and a qualitative method for searching literature relevant to disaster risk reduction. The article search provides the data information needed in the context of the article on leadership crisis and national resilience.

Results: Leadership competence in human resource development requires supervisory support, psychological empowerment, positive reinforcement and work appreciation, and communication from leaders during the covid-19 pandemic crisis.

Conclusions:

The results of this search reveal that the Covid-19 pandemic has the potential to threaten economic weakness and force majeure conditions require an understanding of disaster risk which includes vulnerability, capacity and threat characteristics. Threat to state stability due to the emergence of public distrust of the state which erodes the overall legitimacy of the government. The success of the health protocol implementation policy is supported by leadership competence in times of crisis. Crisis leadership competencies are about uncertainty and fear that require anticipation, vision, flexibility and empowerment.

Keywords: crisis leadership, covid-19, competency





WHY IS IT IMPORTANT TO STUDY HEALTH LAW IN HEALTH COLLEGES? A REVIEW OF THE LITERATURE

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Abstract

Objective: The purpose of the literature review is to provide an overview of the incidence of malpractice in the world and to know the importance of health law in college.

Methods: Sources of 32 literatures were obtained from Google Scholar, Elsevier and Scimago. The keywords used are malpractice, medical negligence, litigation and health law.

Results: The number of malpractice cases continues to increase, as in the United States from 2006-2015 there were 1538 malpractice cases of cardiologists. In Japan from 1978-2017 there were 166 dental malpractice cases, half of which benefited the plaintiffs. Likewise, in Indonesia, there were 182 cases of malpractice from 2006-2012 recorded at the Indonesian Medical Discipline Honorary Council. The pressure has increased since the world of telecommunications is developing, doctors are faced with electronic medical records, electronic communication to courts as well as electronically.

Conclusion: The litigation process and the costs incurred by a doctor involved in a malpractice case make doctors feel frustrated and depressed. Not a few after that choose to retire early. One of the causes of the high malpractice rate is the low level of knowledge about medicolegal. Preventive actions can be taken early on by providing health legal education that includes ethics, professional discipline, administration, civil and criminal at the final stage of medical/dentistry students and even other health workers. Further research is needed on the importance of health law education in college.





EVALUATING THE QUALITY CRITERIA OF HOSPITAL WEBSITES: A LITERATURE REVIEW

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ABSTRACT

Background: Internet users increased rapidly worldwide. Many people access the internet to find the right hospital according to their health needs. Hospital websites give essential information to patients, families, and healthcare providers. Therefore, hospital websites should meet the quality criteria. This study purposed to evaluate the quality criteria of hospital websites.

Methods: This study was a literature review using sources from Pubmed and Scopus databases. We used key terms such as hospital website, evaluation, and quality criteria on titles and abstracts to search articles. The study's criteria are in English, free full text, and published from 2000 to the present. From 35 studies identified in the search stage, eight studies are eligible for inclusion in this review.

Results: The methods for evaluating the quality criteria of hospital websites include online tools, the combination of automated and expert-based, WebMedQual scale, expert opinion, checklist, and the Codebook. The quality criteria used in the methods are performance, search engine optimization (SEO), quality, availability, mobile-friendliness, accessibility, usability, presence, content, source credibility, design, links, user support, privacy, efficiency, user friendly, service, reliability, interaction, technical characteristics, hospital information and facilities, medical services, interactive online services, external activities, marketing, and technology. The most commonly used quality criteria are content and usability.

Conclusions: Hospitals should follow the best practices to improve their websites, taking into consideration the quality criteria. It is recommended that national authorities develop minimum quality criteria for hospital websites.

Keywords: Evaluation, quality criteria, hospital websites





“AEDES MOSQUITO RESISTANCE AND EFFECTIVENESS OF BIOLARVICIDES ON AEDES VECTOR MORTALITY”: A LITERATURE REVIEW

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ABSTRACT

Background: Until now, dengue is still a public health problem in Indonesia. For dengue vectors, various control approaches have been applied, such as the use of insecticides, but several studies have found resistance to insecticides. The purpose of this is to see the incidence of resistance.

Methods: This literature review uses Mendeley reference management. Literature is synthesized by looking at themes related to Aedes mosquito resistance and biolarvicides, namely from journals that can be accessed for free such as Q1-Q4 journals, SINTA accredited journals, Google Scholar. Other sources also come from WHO, the Indonesian Ministry of Health, and Bappenas. The source library is not limited by time as long as the published information is still relevant to the topic being written.

Results: Research from several countries reports that there has been insecticide resistance to Aedes mosquitoes, including in several cities in Indonesia. In addition, we also collect research on plants that can be used as biolarvicides which are very useful for alternative control of resistance and can improve public health.

Conclusion: This review provides a better insight into Aedes resistance and the effectiveness of laboratory-tested biolarvicides plants as a reference for field testing.

Keywords: dengue fever, Aedes mosquito, Insecticide resistance, Biolarvicides





THE EFFECT OF HEALTH PROMOTION ON MOTHER'S KNOWLEDGE OF STUNTING PREVENTION IN TODDLERS: LITERATURE REVIEW

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ABSTRACT

Background:

Health promotion is an effort to improve the ability of the community through self-learning by and for the community so that they can help themselves, as well as developing community-based activities in accordance with local socio-cultural and supported by health-oriented public policies. Stunting occurs when the fetus is still in the womb and only appears when the child is two years old. Stunting is a condition where a person's height is shorter than the height of other people in general. This study aims to examine the effect of health promotion on mother's knowledge about preventing stunting in toddlers.

Methods:

Literature review was done by searching on science direct sites, Pubmed and google sholer. By using the keyword The effect of health promotion on mother's knowledge of stunting prevention in toddlers. References were selected based on the criteria of 1) journals related to stunting prevention, health promotion, maternal knowledge, 2) 2017-2021 published years, 3) fully accessible journals.

Results:

A total of 8362 journals were analyzed but did not meet the criteria or were not related to the effect of health education on maternal knowledge about stunting prevention. Then the 25 references obtained indicate the effect of health promotion on mother's knowledge of stunting prevention

Conclusion:

Health promotion is a learning process carried out to change unhealthy behavior patterns into healthy behavior so that stunting can occur.

Keywords: Health promotion, knowledge, mothers, toddlers, stunting





THE EFFECT OF COVID-19 PANDEMIC ON PHYSICAL ACTIVITY AND MENTAL HEALTH IN ADOLESCENTS: SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Objectives:

Our review was to examine the effect of a covid-19 pandemic on physical activity and Mental health in adolescents

Methods:

Systematic literature review was searched within various databases from Google Scholar, PubMed, and DOAJ using the following keywords: “Covid-19”, “Physical Activity”, “Mental Health”, “Adolescents” in Indonesian and English. studies were selected based on the following inclusion criteria: publication date from 2019 to 2021, discussing the effect of a covid-19 pandemic on physical activity and mental health in adolescents, English and Indonesian articles, full texts, open access, and academic journals. Articles were analyzed using a matrix table.

Results:

Based on the studies have identified an increase in the prevalence of insomnia, anxiety, depression, and decreased physical activity as well as an increase in sedentary habits in adolescents during the COVID-19 pandemic. This can be due to social restrictions, lockdowns, fear, and anxiety about the coronavirus as well as increased screen time during the pandemic.

Conclusions:

This study concludes that physical activity during the pandemic can reduce the negative effect of anxiety and fear from coronavirus. Therefore, doing physical activity during the pandemic is highly recommended to support physical and mental health.

KEYWORDS: Covid-19, Physical Activity, Mental Health, Adolescents





MODIFIABLE RISK FACTORS ASSOCIATED WITH TYPE 2 DIABETES MELLITUS AND HYPERTENSION: A CROSS SECTIONAL STUDY

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ABSTRACT

Background

Type 2 Diabetes Mellitus and hypertension are highly prevalent worldwide health non-communicable diseases and are associated with chronic complications. The prevalence of type 2 diabetes and hypertension is increasing in Indonesia. This study aimed to determine the risk factor of type 2 diabetes mellitus and hypertension.

Methods

A cross-sectional study using secondary data from Field Learning Experience students of the Faculty of Public Health, Hasanuddin University. Data collection in Polongbangkeng Utara District, Takalar Regency. A sample of 7,370 people aged 26-64 years. The data regarding smoking behavior, alcohol consumption and risky food consumption patterns were collected. The data were analyzed using the chi-square statistical test.

Results

A total of 7,370 (3,902 women and 3,468 men) respondents aged 26-64 participated in this study. Overall the prevalence of T2DM and Hypertension was occur more among women than men (T2DM: 2.3% vs 1.1%) and (Hypertension: 16.9% vs 9.1%). Smoking ($p<0.0001$), hypertension ($p<0.0001$), low daily fruit consumption ($p=0.02$), and consumption of sweet foods ($p<0.0001$), and consumption of sugary drinks ($p<0.0001$) were significantly associated with T2DM. Smoking ($p<0.0001$), alcohol consumption ($p<0.0001$), low daily consumption of vegetables ($p<0.0001$), consumption of salty foods ($p<0.0001$), consumption of fatty foods ($p<0.0001$) and consumption of seasonings ($p=0.03$) were significantly associated with hypertension.

Conclusions

The factors associated with T2DM and hypertension are potentially modifiable. Therefore, intervention by changes people's lifestyle behavior is needed to reduce the increase in non-communicable diseases.

Keywords: T2DM, Hypertension, Risk factors, Lifestyle, Behavior





IMPLEMENTATION OF HEALTH PROTOCOL IN EFFORT TO PREVENT THE SPREAD OF COVID-19 AND THE USE OF CORONA LIKELIHOOD METRIC ON STUDENTS

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ABSTRACT

Background: The corona virus pandemic is still a public health problem. Since cases were discovered in March 2020, cases in Indonesia have continued to increase and have reached more than 1 million cases. The impact of the Covid 19 pandemic on the educational aspect is imposing a learning model that must be carried out online or remotely. This is to prevent the spread of the virus. Students are agents of change and controllers of social life. All students, especially health students, must be active and critical in supporting government programs to prevent the spread of Covid-19. In addition, students can also provide understanding or education to the public based on data submitted by the government through the media. Students must be able to care about Covid-19, so that later students can take precautions for themselves and the surrounding environment by helping to campaign for the impact and prevention of Covid-19 using digital media such as social media.

Methods: The implementation of socialization and education related to health protocols to prevent the spread of Covid-19 was carried out directly by implementing strict COVID-19 prevention health protocols and filling out the Corona Likelihood Metric (CLM) to provide experience using the application while simultaneously measuring the risk of being exposed to Covid-19 directly. independent.

Results: From the observations during the implementation of the activities, all students appeared to have implemented the health protocol to prevent the spread of Covid-19 very well as well as the activeness of students during discussions related to efforts to prevent and use the Corona Likelihood Metric by seeing that all students had filled out the application.

Conclusions: All students have implemented a health protocol to prevent the spread of Covid-19 and know the use of Corona Likelihood Metric

Keywords: Covid-19, Corona Likelihood Metric, Health Protocol





TELEDENTISTRY AND PATIENT'S SATISFACTION IN PANDEMIC COVID-19: A LITERATURE REVIEW

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ABSTRACT

Background: Telehealth has been used by many hospital to play a critical role in giving communication with patients. Teledentistry as known a part of telemedicine or telehealth that combine of telecommunications and dentistry, which includes the exchange of clinical information and relevant imaging over remote distances for consultation and treatment planning. This review to compile literature on patient's satisfaction used teledentistry in Pandemic COVID-19.

Methods: Using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) which is carried out systematically by following the correct stages or research protocols. The procedure of this literature review consists of several steps. Searching the data with the (((TELEDENTISTRY AND (PATIENT)) AND (SATISFACTION))) paths yielded 149 journals. Then selected according to the inclusion criteria into 6 research titles. Based on pre-determined inclusion and exclusion criteria, articles focused on patient's satisfaction using teledentistry. Literature search was carried out in the database; PubMed library, PMC, google scholar. The accepted language for the articles included is English.

Results: The search led to 6 publications including, meta-analyses, systematic and non-systematic reviews, published between 2020 and 2021. Teledentistry reduce the risk of viral transmission and compliance with social distancing

Conclusion: Patients that used teledentistry consultation had better satisfaction with their experience, respectively. And it's indicating that the teledentistry services would be very useful in saving time in Pandemic COVID-19.

Keywords: Teledentistry, Patient, Satisfaction, Pandemic, COVID-19





OVITRAP DENSITY AND MOSQUITO BITE PREVENTIONS IN THE PAMPANG COMMUNITY HEALTH CENTER WORK AREA, MAKASSAR CITY

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ABSTRACT

Background

Dengue Hemorrhagic Fever is one of the endemic diseases in Indonesia. This disease is transmitted by the *Aedes aegypti* mosquito. Pampang Public Health Center is the area with the highest number of dengue cases in Makassar City during 2017 – 2020. The study aim to determine the Ovitrap density and mosquito bite prevention measures in the Pampang Health Centre area of Makassar City.

Methods

The number of samples was 53 samples of Dengue patients' houses and 36 public buildings, each with ovitrap installed inside and outside in two high and low dengue endemic villages, Panaikang and Karampuang villages, Makassar City. Spatial analysis with Nearest neighbor index (NNI).

Results

The ovitrap index was 20.22%, which was higher indoor the house (35.84%) than outside public buildings (8.33%). Spatial analysis of Ovitrap density has an NNI value of 1 which means that the Ovitrap density distribution pattern was random. Mosquito bite prevention measures were quite high, using Long Sleeves (46.88%) and Wire Gauze (39.58%). However, prevention measures were low, using mosquito repellent plants (16.67%), mosquito repellent (12.50%); Mosquito net (4.17%), and Repellent (4.17%).

Conclusions

The ovitrap index was relatively high and the Ovitrap density distribution pattern was random. Generally mosquito bite prevention measures were Low

Keywords: Ovitrap, Mosquito Bites Prevention, Dengue hemorrhagic fever





INFLUENCE CALORIC RESTRICTION ON BODY COMPOSITION AT YOUNG AGE

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ABSTRACT

Background

Body composition is one key components of health in both individuals and populations. caloric restriction (CR) is one of the most effective strategies to delay the symptoms of ageing and to extend longevity in the life. This study determined influence of caloric and fluids restriction on body fluids, muscle mass, bone mass and fat body at young age.

Methods

Thirty one young people age between 18 and 25 years of age (21.1 ± 1.82) consented to voluntarily participate in this study. The subjects engaged caloric restriction for 21 days. The duration of caloric restrictin is fasting during 12-14 hours every day. Body fluids, muscle mass, bone mass and fat body were measured by bioelectric impedance analyzer.

Results

Result the study showed mean of pre-test body fluids was 61.3(%) and post-test was 58.8(%). The mean of pre-test muscle mass is 47 (Kg) and post-test is 44.2 (Kg). The mean of pre-test bone mass was 2.5(Kg) and post-test was 2.3 (Kg). The average of pre-test body fat is 18.3(%) and post-test is 15.0(%). There were significant differences in body fluids, muscle mass, and body fat ($p < 0.05$). There was no significant difference in bone mass ($p > 0.05$).

Conclusions

The conclusions is there an effect of caloric restriction on body fluids, muscle mass and bady fat in the young age. Caloric restriction can also influence bone mass as well. Therefore, caloric restriction can be considered as one of several medicine programs to maintain health and well-being.

Keywords: caloric restriction, fasting, body composition





THE RELATIONSHIP OF SANITATION TO THE NUTRITIONAL STATUS OF PRE-CONCEPTION WOMEN AT THE KALEKE HEALTH CENTER

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ABSTRACT

Background: An environment with poor sanitation can be a source of disease development, causing health problems for the community, especially pre-conception women. Inadequate nutrition in pre-conception women can make it easier for the body to be exposed to infectious diseases and accelerate the occurrence of malnutrition. This study aimed to determine the relationship between environmental sanitation and the nutritional status of pre-conception women at the Kaleke Health Center

Methods: This study was a correlative observational analytic study with a cross-sectional approach using a questionnaire and examination of the nutritional status of pre-conception women at the Kaleke Health Center in 2021. The sampling method was purposive sampling based on inclusion and exclusion criteria, which the study sample consisted of 30 pre-conception women—analysis of the data using the Spearman test.

Results: The variable shows the results of the correlation analysis dug wells with the nutritional status of preconception women having p-value = 0.0001 and piping facilities with nutritional status of preconception women having p-value = 0.001, where the significance value of $p = < 0.05$.

Conclusions: There was a significant relationship between environmental sanitation (dug wells and piping facilities) and pre-conception women's nutritional status. The role of environmental factors dramatically affects a person's health, especially pre-conception women.

Keywords: *environmental sanitation, nutritional status, pre-conception women*





ANALYSIS OF FACTORS ASSOCIATED ANEMIA IN PREGNANT WOMEN IN PUSKESMAS BULILI PALU, INDONESIA

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ABSTRACT

Background : Globally, anemia in pregnancy increases mortality and morbidity of mothers, fetuses, and neonatal—anemia in pregnancy, ranging from 5.4% in developed countries to more than 80% in developing countries. The high prevalence of anemia in pregnant women is a problem facing the Indonesian government. Puskesmas Bulili is one of the Puskesmas in the area of Palu affected by the earthquake disaster, and Liquefaction makes several health services, including maternal and child health services, need more attention; one of them was anemia in pregnant women.

Methods : This research was a descriptive-analytical study with a cross-sectional design conducted at Puskesmas Bulili in May-June 2019 (8 months post-disaster). The population of Pregnant women is 398, and samples are 80 based on inclusion and exclusion criteria. Sampling techniques are performed with purposive sampling. This research was analyzed univariate, bivariate (Chi-Square), and multivariate (Logistic Regression and Nagelkerke R Square test).

Results

There is a correlation between stress and the incidence of anemia. It is shown as p-value = 0.000. The high risk (odds ratio/OR) is 7,500 with 95% CI on (2.671-21.063), there is a nutritional status relationship with the incidence of anemia with a p-value = 0.007. The amount of OR is 3,549, with 95% CI on (1.385-9.09). The other result is the connection between the level of compliance with the incidence of anemia, p-value = 0.005. The amount of OR is 2,384, with 95% CI on (1.443-106.295).

Conclusions

Multi-factor can be attributed to being the cause of maternal anemia in Palu. Stress levels, Nutritional Status, and Iron tablets compliance were being factors that cause anemia in pregnancy. A comprehensive approach from health professionals and health care services in treating anemia in pregnancy is indispensable.

Keywords: Anemia, Pregnant Women, Risk Factor, Puskesmas Bulili





THE EFFECT OF GEMBILI STARCH (DIOSCOREA ESCULENTA) ON TRIGLYCERIDES LEVELS IN DIABETEC WISTAR RATS (RATTUS NORVEGICUS) INDUCED WITH STREPTOZOTOCIN

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ABSTRACT

Background

Dyslipidemia is a lipid metabolism syndrome on an abnormal situation inside the body that marked with increasing or decreasing of the fraction of plasma lipid. *Gembili* or *Dioscorea esculenta* is a local food that is produced by several areas in Indonesia. Few studies have reported its health benefits for diabetes mellitus but a little is understood about its mechanism of an antioxidant that can be found that contain high flavonoid and fiber has potency to control the lipid levels inside the body. The purpose of the this study is to know the effectiveness of *Gembili* to decrease the lipid profile of Wistar rats.

Method

The design of this study is a true experimental pre test and post test with group of the control. The sample, white rat (*Rattus norvegicus*) grouped into 5 groups and inducted by STZ 60 mg/kgBB. Group I is the normal control, group II is a negative control that not given the treatment, group III, IV, V as the group that given the treatment of *Dioscorea esculenta*. The data analysis is done by the parametric statistical test, Two-Way Anova.

Results

The Two-Way Anova test showed that there was significant difference in triglycerides levels that showed P Value < 0,05 after the treatment. Plasma blood triglycerides in group III, IV and V was reduced after invention that received *gembili* starch and has significance difference with negative control (Group II) ($p < 0,05$).

Conclusion

This study shown that the consumption of *Dioscorea esculenta* has a significant effect to decreasing the triglycerides levels of the Wistar rat (*Rattus norvegicus*).

Keywords: *Dioscorea esculenta*, starch, lipid profile, diabetes mellitus, streptozotocin





CONTENTS OF PATHOGENIC BACTERIA IN THE PEANUT SAUCE ON SIOMAY SNACKS AT THE UNIVERSITY OF TADULAKO

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ABSTRACT

Background

Siomay is a traditional food that is popular among Indonesian people. The main sources of food contamination come from workers, equipment, garbage, insects, rats, and environmental factors such as air and water. Traditional foods that are less safe for consumption are caused by microbial growth.

Methods

The method used is descriptive observational. Sampling was carried out with 35 samples as total sampling.

Results

In the research results, there are 9 species of bacteria consisting of *Proteus* sp (5.71%), *Proteus vulgaris* (17.14%), *Proteus penneri* (14.29%), *Pseudomonas aeruginosa* (20%), *Morganella morganii* (5.71%), *Staphylococcus* sp (5.71%), *Serratia* sp (5.71%), *Enterobacter gergoviae* (11.43%), and *Eschericia coli* (14.29%).

Conclusions

All of the samples tested positive for opportunistic pathogenic bacteria. The most common bacteria found were bacteria from the genus *Proteus*. This indicates that the peanut sauce that is on siomay snacks in Tadulako University Environment is not hygienic.

Keywords: *Siomay, peanut sauce, local food, food poisoning, food contamination*





RELATIONSHIPS BETWEEN PARENTAL EDUCATION AND OVERWEIGHT WITH CHILDREN OVERWEIGHT IN 10-15 YEARS OLD

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ABSTRACT

Background

Obesity has now become a global epidemic. Overweight and obesity in children and adolescents have also increased yearly in developed and developing countries. Many factors from parents play a role in causing obesity/obesity in children and adolescents. This study aims to assess the relationship between education level and parental obesity with the incidence of overweight/obesity in children aged 10-15 years in Palu City.

Methods

This research is a quantitative study with a cross-sectional method conducted in Palu City from October – November 2021 on children aged 10-15 years. BMI determines the determination of overweight/obesity according to age greater than +1 Standard Deviation.

Results

From the study results, there was no significant relationship between the educational level of the father and the incidence of overweight/obesity in children ($p=0.257$). The relationship between mother's education level with obesity/obesity in children obtained significant results ($p=0.025$) and a history of obesity in parents with the incidence of obesity/obesity in children ($p=0.037$).

Conclusions

There is a significant relationship between mothers' level of education and obesity in parents with the incidence of obesity/obesity in children.

Keywords: Parental education, childhood, overweight





THE RELATIONSHIP BETWEEN BANANA AND COFFEE CONSUMPTION AND MIGRAINE ATTACKS AMONG MALE PRISON INMATES IN PALU'S CITY

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ABSTRACT

Background

Migraine is a widespread headache that has a significant significant impact on people. Several exogenous or endogenous factors, such as nutrition and lifestyle factors, can have a significant impact on migraine intensity and frequency.

Methods

An observational analytic study using a cross sectional approach was performed at the Class IIA Petobo Prison in Palu, Central Sulawesi, Indonesia, from July to September 2021. The size of sample is defined with 95% CI, a 5% error margin, and 6% population proportion. We gathered data on banana and coffee consumption patterns, as well as the frequency of migraine attacks. Migraine was diagnosed using the International Headache Society's revised diagnosis criteria.

Results

81 subjects with an average age of 39.49 9.42 years, ranging from 21 to 59 years. According to the study's findings, 21 participants (25.9%) had migraine headaches. The Chi square test revealed a correlation between banana consumption and migraine ($p=0.00$), as well as a correlation between coffee consumption and the frequency of migraine attacks ($p=0.00$).

Conclusions

Consumption of bananas may be associated with migraine headache attacks due to their calcium content, whereas coffee may be attributed with migraine headache attacks due to its effect on cerebral blood flow.

Keywords: banana, coffee, migraine





RELATIONSHIP OF NUTRITIONAL STATUS, INCIDENCE OF SOIL-TRANSMITTED HELMINT INFECTION AND CHEMOPROPHYLAXIS ALBENDAZOLE IN SALENA, PALU

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ABSTRACT

Background

Soil-transmitted helminth (STH) infections remain a burden of public health in developing countries. A single or mixed STH infection rarely causes death, but can affect nutritional status, growth, cognitive development and human health, especially in children. This study aimed to determine the relation of nutritional status of STH-infected and uninfected children after administration of mass chemoprophylaxis albendazole.

Methods

This was an observational analytic with a cross sectional design. The total population were 33 childrens that got routinely chemoprophylaxis albendazole. Nutritional status was determined by body mass index. The feces of subject were examined to determine the worm infection using Kato Katz Methods. Relationship between incidence of worm infection with nutritional status was analyze with Chi-Square analyis statistic

Results

All of the subject consumed albendazole routine twice a year. From 33 samples examined 31 positive samples of helminthiasis were obtained. The types of STH that infect included a combination of *A. lumbricoides* and *T. trichiura* (67.8%), while for the combination *A. lumbricoides*, *T. trichiura* and Hookworm (16.1%). 2 subjects was overweight, 24 subject was normoweight, and 7 subjects were underweight. The data statistic showed there was no relationship between incidence of STH infection and nutritional status ($p=0.12$)

Conclusion The prevalence of STH infection six months after the administration of chemoprophylaxis Albendazole in Salena was very high at 93.9%. No significant relationship between incidence of STH infection and nutritional status

Keywords Helminthiasis, Nutritional Status, Chemoprophylaxis, Albendazole Salena





OBESITY AND INFLAMMATION

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ABSTRACT

Introduction:

The increase in obesity in the modern era and its strong correlation with insulin resistance and type 2 diabetes mellitus increase awareness of obesity. Adipose tissue plays an important endocrine role through various bioactive molecules.

Methods:

This is a literature review. Various references were collected from online database including reports, journals. The journals were mostly from the scholarly journals. The articles were screened according to the research objectives. The keywords used are obesity, Inflammation and adipose tissue.

Result:

The role of adipose tissue is not only as energy storage but also plays a role in endocrine and immunological functions. There is an important role for immune cells in the physiological dysfunction associated with obesity and the metabolic syndrome. Metabolic disorders lead to activation of immune processes in tissues such as adipose tissue, liver, pancreas and blood vessels.

Conclusion:

Adipose tissue plays an immunological function associated with obesity and metabolic syndrome.

Keyword: Obesity, inflammation, Adipose tissue





A STUDY ON EFFECT OF ORAL ADMINISTRATION *Moringa oleifera* ON CHOLESTEROL IN STREPTOZOTOCIN-INDUCED DIABETIC RATS (*Rattus norvegicus*)

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ABSTRACT

Background

An increase in total cholesterol in diabetes mellitus conditions can increase the risk of atherosclerosis. Study about this condition is necessary and needed animal model. It is known that diabetic rats models can use streptozotocin to induce the hyperglycaemic condition. *Moringa* leaf extract showed its ability to reduce blood total cholesterol levels in hypercholesterolemic mice. The purpose of this study was to evaluate cholesterol levels in diabetic rats model induced with streptozotocin (STZ) and effect of *M. oleifera* on the rats.

Methods

This study used streptozotocin-injected intraperitoneally Wistar rat as a diabetic rat model. They were categorized into six groups (1) normal; (2) untreated diabetic rats; (3) diabetic rats treated with metformin; (4) diabetic rats treated with 50 mg/kg BW *M. oleifera* extract; (5) diabetic rats treated with 100 mg/kg BW *M. oleifera* extract (6) diabetic rats treated with 200 mg/kg BW *M. oleifera* extract. The *M. oleifera* extract was administrated orally, and the treatment lasted for 28 days. Total cholesterol serum were measured with ELISA and GOD-PAP methods, respectively. Statistical analysis used Two-way ANOVA.

Results

There was no change in total cholesterol levels in diabetic rats after STZ injection. The highest total cholesterol levels after injection was shown in positive control groups, 74,91 mg/dL. Total cholesterol levels on the day-28 after administration of *Moringa* leaf extract did not show a significant decrease. The Two-Way Anova test showed that there was no significant difference in total cholesterol levels after the treatment with P-value 0,134 ($p > 0,05$).

Conclusions

Streptozotocin alone cannot increase the level of total cholesterol. Effect of *M. oleifera* extract did not show any significant difference between normal, control, and treatment groups.

Keywords: *Moringa oleifera*, total cholesterol, streptozotocin, diabetes mellitus





RELATIONSHIP BETWEEN BODY MASS INDEX AND RISK OF HEART DISEASE AND STROKE

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ABSTRACT

Background

Non-communicable diseases (NCDs) are one of the health problems that are of national and global concern at this time. The epidemiological transition is associated with the urban lifestyle associated with the risk of hypertension such as stress, obesity (overweight), lack of exercise, smoking, alcohol, and eating foods high in fat content. Lifestyle changes such as changes in diet that switch to ready-to-eat foods that contain lots of fat, protein and high salt but low in dietary fiber, have consequences as one of the factors for the development of degenerative diseases such as hypertension. In Indonesia, there is a change in diet, which leads to fast food and preserved foods, which are high in salt, saturated fat, and low in fiber, starting to spread, especially in big cities in Indonesia. This study wanted to find the relationship between body mass index and coronary heart disease risk and stroke risk.

Methods

This research method is a cross-sectional descriptive analytical observational study, by selecting samples that are willing to be research respondents. The sample was selected by the method of time limitation.

Results

The results showed that there was no significant relationship between body mass index and the risk of coronary heart disease and the risk of stroke ($p>0.05$).

Conclusions

There is no significant difference in the results of measuring body mass index on the risk of coronary heart disease and the risk of stroke.

Keywords: body mass index, risk of coronary heart disease, risk of stroke.





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The 2nd

Nutrition Resilience During Covid-19 Pandemic

**29 November
30 2021**

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