

# TENTATIVE PROGRAMME SCHEDULE

## 2<sup>nd</sup> International Conference on Healthcare and Allied Sciences

*Focal Theme: Transformation towards Sustainable  
Healthcare*

**Place: Grand Blue Wave Hotel, Shah Alam, Malaysia**

**Date: 26<sup>th</sup> and 27<sup>th</sup> September 2018**

*Organized by: Lincoln University College, Malaysia*

### PROGRAMME SCHEDULE

| 26 <sup>th</sup> September 2018 (Wednesday) |  |
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| 08:00-09:00                                 |  |
| 09:00-10:00                                 |  |

**10:00-10:30**

**10:30-13:00**

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| 1 | <p><b>Indonesian Nursing Students' Roles in Providing Care During Disasters</b><br/> Sri Hindriyastuti<br/> <i>Cendekia Utama Kudus Health Collage, School of Nursing, Indonesia</i></p>                                                                           |
| 2 | <p><b>Correlation between Pain Level and Physiological Indicator in Patient with Mechanical Ventilator</b><br/> Arsyawina<br/> <i>Health Polytechnic Kemenkes of Kalimantan Timur, Samarinda, Indonesia</i></p>                                                    |
| 3 | <p><b>Integral Interaction in Promoting Nurses and Clients Well-Being</b><br/> Phoebe Lynn B. Calungsod<br/> <i>College of Nursing, Visayas State University, Philippines</i></p>                                                                                  |
| 4 | <p><b>Older People's Spiritual Journey: A Narrative Inquiry</b><br/> Mae-Lanie O. Poblete,<br/> <i>Mindanao State University, Iligan Institute of Technology College of Nursing, Philippines</i></p>                                                               |
| 5 | <p><b>Analysis of Length of Stay (LOS) in Patient Nursing Care with PCNL Intervention Based on Quality</b><br/> Paulus Subiyanto,<br/> <i>Stikes Panti Rapih Yogyakarta, Indonesia</i><br/> Yos Subono,<br/> <i>Panti Rapih Hospital Yogyakarta, Indonesia</i></p> |
| 6 | <p><b>The Effect of Logo Therapy and Benson Relaxation on Cervical Cancer Patients Anxiety</b><br/> Atun Raudotul Ma'rifah; Martyarini Budi Setyowati; RirinIsma Sundari,<br/> <i>Stikes Harapan Bangsa Purwokerto, Indonesia</i></p>                              |
| 7 | <p><b>Analysis of Maternal and Perinatal Labor Complications with Mother Who Have Gestational Diab</b><br/> Desi Sarli; Husni,<br/> <i>Midwifery of Alifah Academy Padang, Indonesia</i></p>                                                                       |

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| 8  | <b>A Cross-country systematic literature review on Young Adults' knowledge and awareness on HIV/AIDS</b><br>Gil Anthony Abano<br><i>Faculty of Education, Eastern Visayas State University, Ormoc City Campus, Philippines</i>                              |
| 9  | <b>Knowledge and Attitude Towards Pulmonary Tuberculosis among Health Sciences Students'</b><br>Fatimah Sham<br><i>Universiti Teknologi MARA, Malaysia</i>                                                                                                  |
| 10 | <b>Interpersonal Communication Patterns of Health Education Lecturers in Guiding Practical Clinical</b><br>Novriyanti Achyar; Mellati Mandasari; Khairudin<br><i>Padang State University, Indonesia</i>                                                     |
| 11 | <b>The Experience of Parents who Have Children with Thalassemia Major in POPTI Bandung</b><br>Nabilla Mediani; Blacius Dedi; Liliek Fauziah<br><i>Sekolah Tinggi Ilmu Kesehatan Immanuel Bandung, Indonesia</i>                                             |
| 12 | <b>The Relationship of Physical Activity With The Incidence of Stroke in Central Bogor Residents</b><br>Yusnabeti; Sutanto Priyo Hastono<br><i>Department of Biostatistics and Population, Faculty of Public Health, University of Indonesia, Indonesia</i> |

10:30-13:00

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| 1 | <b>Environmental Health Society and Community in Kecamatan Kuranji Kota Padang in Order Toward</b><br>Mitayani,<br><i>Stikes Mercubaktijaya Padang, Indonesia</i> |
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|   | Zulmardi<br><i>Muhammadiyah University Sumatera Barat, Indonesia</i>                                                                                                                                                                                                                                                                                                                                                        |
| 2 | <b>A Description of Knowledge and Practice of Menstrual Hygiene Among Santri In Islamic Boarding Bantul, Yogyakarta, Indonesia</b><br>Alfi Nurfita Chasanah; Eria Riski Artanti<br><i>Nursing program, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta</i><br>Purwanta' Sri Mulyani<br><i>Department of Mental Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia</i> |
| 3 | <b>A Study of Medication Adherence Among Patient Type II Diabetes Mellitus in Pejabat Kesihatan D</b><br>Marzuki Bin Muhammad<br><i>Faculty of Medicine, Lincoln University College, Malaysia</i>                                                                                                                                                                                                                           |
| 4 | <b>Lived Experiences of Female Badjao who Entered Early Marriage: A Phenomenological Study</b><br>Llana A. Almira; Duchess Raevena A. Gimena; Arreane T. Tumanda; Abdullah Junior S. Mangarun<br><i>College of Nursing, Mindanao State University-Iligan Institute of Technology, Philippines</i>                                                                                                                           |
| 5 | <b>To Compare the Cognitive Ability of Preclinical Medical Students at Different Times of The Working Eveningness Status</b><br>Cheong Vi Vian; Nur Safinah Binti Abdul Rashid Gan; Ong Tjun Yee; Jaeverinna Ann Anak Henry Barry<br>Ahmad Naqiyuddin Hishamudin; Madhumita Sen; Kavitha Mohandas<br><i>Faculty of Medicine, MAHSA University, Malaysia</i>                                                                 |
| 6 | <b>Relationship between Blood Transfusion Sleep Disorders in Children with Thalassemia Patients in I</b><br>Yuliani Ayu; Diana Aris<br><i>Poltekkes Kemenkes, Jurusan Keperawatan Tasikmalaya, Indonesia</i>                                                                                                                                                                                                                |
| 7 | <b>The Increase of Oxytocin Hormone Level on Postpartum Mothers Intervened with Oketani Massage</b><br>Machmudah; Nikmatul Khayati; Sri Widodo; Elsi Dwi Hapsari; Fitri Haryanti<br><i>Faculty of Nursing and Health Sciences, Universitas Muhammadiyah Semarang, Indonesia</i>                                                                                                                                             |
| 8 | <b>A Comparison of Family Needs and Received Care as Perceived by Family Members of Traumatic I</b><br>Ali Hamzah                                                                                                                                                                                                                                                                                                           |

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|    | <p><i>Nursing Department of Bandung Health Polytechnic, Indonesia</i><br/> <i>Khemaradee Masingboon' Supaporn Duengpaeng</i><br/> <i>Adult Nursing Department, Faculty of Nursing, Burapha University, Chonburi, Thailand</i></p>                                                                                                                                                                                                                                |
| 9  | <p><b>The Relationship between Body Image and Eating Pattern with Physical Activity of Teenage Girl at</b><br/> <i>Paula Octavia Abriana; Ria Angelina; Lidya Natalia</i><br/> <i>Stikes Immanuel Bandung, Indonesia</i></p>                                                                                                                                                                                                                                     |
| 10 | <p><b>The Influence of Giving Honey on the Score Decreasing of Pain as the Result of Intravenous Blood T</b><br/> <b>Hospital Cirebon City</b><br/> <i>Ayu Yuliani S</i><br/> <i>Tasikmalaya Health Polytechnic, Ministry of Health, Indonesia</i><br/> <i>Yeni Rustina; Nur Agustini</i><br/> <i>University of Indonesia, Ministry of Health, Indonesia</i></p>                                                                                                 |
| 11 | <p><b>The Influence of Assertive Training on the Assessment of Self-Assertiveness of Early Adolescent Fe</b><br/> <b>Bandung</b><br/> <i>Desi Sundari Utami</i><br/> <i>Prodi D III Keperawatan Poltekes TNI AU Ciumbuleuit Bandung, Indonesia</i><br/> <i>Suryani</i><br/> <i>Fakultas Keperawatan Unpad Bandung Indonesia, Indonesia</i><br/> <i>Nunung Nurjanah</i><br/> <i>Prodi S2 Keperawatan Stikes Jendral Achmad Yani Cimahi Bandung, Indonesia</i></p> |
| 12 | <p><b>Employee knowledge relations and the role of the supervisor against Unsafe Behavior in Company I</b><br/> <i>Eldawati</i><br/> <i>Stikes Kharisma College, West Java Indonesia, Indonesia</i></p>                                                                                                                                                                                                                                                          |
| 13 | <p><b>The Relationship Response Time of Acute Coronary Syndrome (ACS) and Status Alteration of Hea</b><br/> <b>Tk II Dr Soepraoen Malang Hospital</b><br/> <i>Rahmania Ambarika; Novita Ana Anggraini</i><br/> <i>Health Science Institute of Surya Mitra Husada Kediri, East Java, Indonesia</i></p>                                                                                                                                                            |

13:00-14:00

14:00-15:30

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|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <p><b>The Relationship of Attitude, Subjective Norms and Perceive Behavior Control and Implementation Care Unit, Dr. Dradjat Prawiranegara Hospital, Serang</b><br/>Asra<br/><i>Stikes Faletahan Serang, Indonesia</i><br/>Helwiyah Ropi; Aan Nuraeni<br/><i>Nursing Faculty of Padjadjaran University, Bandung, Indonesia</i></p> |
| 2 | <p><b>The Relationship Between Stress Level and Coping Mechanism for the First Year Nursing Students of (Poltekes Tni Au) Against The Regulation of One-Year Dormitory Quarantine, Health Polytechnic of</b><br/>Nenden Lesmana Wati<br/><i>Health Polytechnic of the Indonesian Air Force Bandung, Indonesia</i></p>              |
| 3 | <p><b>Factors Associated with Parent's Perceptions on The Cancer Pain in Children at Cipto Mangunkusum</b><br/>Dina Novenda Sari; Dewi Hayati; TatiMulyati<br/><i>RSUPN Dr. Cipto Mangunkusumo, Indonesia</i></p>                                                                                                                  |
| 4 | <p><b>The Effect of Spiritual Nursing Care on Preoperative Patients' Anxiety Level in the Inpatient Ward of</b><br/><b>Bandung</b><br/>Yulida S; Yosep Rohyadi; Hotma Rumahorbo<br/><i>Bandung Health Polytechnic, Ministry of Health, Indonesia</i></p>                                                                           |

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| 5 | <p><b>Effect of Discharge Planning on Medication Adherence and Understanding Danger Signs of Pneumonia at General Hospital Karawang</b><br/> Dwi Sulistyono Cahyaningsih; Nani Nurhaeni; Fajar Tri W<br/> <i>Stikes Karisma Karawang, Indonesia</i></p>                                                                                                                                                                                                                                         |
| 6 | <p><b>The Influence of Guidelines for Swallowing Drugs of Tuberculosis Patients on Observer Tasks in Tarsila</b><br/> Nina Pamela Sari<br/> <i>Faculty of Health Science, Muhammadiyah Tasikmalaya University, Tasikmalaya City, West Java, Indonesia</i></p>                                                                                                                                                                                                                                   |
| 7 | <p><b>Effect of Counseling and Mentoring on Health Workers on Success in Giving Exclusive Breast Milk in</b><br/> Binarni Suhertusi; Fatmi Nirmala Sari<br/> <i>Midwifery of Alifah Academy Padang, Indonesia</i></p>                                                                                                                                                                                                                                                                           |
| 8 | <p><b>The Relationship of Early Breastfeeding Initiation with Postpartum Maternal Prolactin Levels</b><br/> Arfianingsih Dwi Putri<br/> <i>Alifah Midwifery Academy, Indonesia</i></p>                                                                                                                                                                                                                                                                                                          |
| 9 | <p><b>Differences in Hormone Levels of Cortisol and Interleukin 5 After Asthma Exercise on Allergic Status</b><br/> Rahmaya Nova Handayani<br/> <i>Department of Medical Physiology, Faculty of Medicine of Indonesia University, Jakarta, Indonesia</i><br/> Yunus F<br/> <i>Department of Pulmonology and Respiratory Medical, Faculty of Medicine of Indonesia University, Jakarta</i><br/> Rengganis; Ilyas<br/> <i>Faculty of Medicine of Indonesia University, Jakarta, Indonesia</i></p> |

14:00-15:30



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| 1 | <p><b>Effect of Engineering Restructuring Techniques Smoking Frequency at XI Grade of SMA Pasundan</b><br/> Oop Ropei; Anggiani Nur Intan<br/> <i>School of Health Science Jenderal Achmad Yani Cimahi, Indonesia</i></p>                                                          |
| 2 | <p><b>Effect of Education on Inter Dialytic Weight Gain (IDWG) in Patients Undergoing Hemodialysis in</b><br/> Rosdiana Ida; Cahyati Yanti<br/> <i>Tasikmalaya Health Polytechnics, Ministry of Health Republic of Indonesia, Indonesia</i></p>                                    |
| 3 | <p><b>Correlation Between Anemia Incidence in Pregnancy and the Characteristics of Pregnant Women in</b><br/> Rusmita Eli; Maryani Yani<br/> <i>Poltekes TNI AU, Indonesia</i></p>                                                                                                 |
| 4 | <p><b>Influence of Structured ROM Exercise and Progressive Muscle Relaxation (PMR) Exercise on the F</b><br/> <b>Hospital of Tasikmalaya</b><br/> Cahyati Yanti; Rosdiana Ida<br/> <i>Tasikmalaya Health Polytechnics, Ministry of Health Republic of Indonesia, Indonesia</i></p> |
| 5 | <p><b>Sputum Conversion Rate to Monitor Outcome Treatment Pulmonary Tuberculosis Pejabat Kesihat</b><br/> Shamsol Bin Lot<br/> <i>Lincoln University College, Malaysia</i></p>                                                                                                     |
| 6 | <p><b>Risks of Compassion Fatigue among Emergency Healthcare Workers</b><br/> Rames Prasath Mahatam Rai<br/> <i>Department of Medical Assistant, Lincoln University College, Malaysia</i></p>                                                                                      |
| 7 | <p><b>Are the rare diseases really rare in the population?? An in depth scenario</b><br/> Tapash Rudra<br/> <i>Lincoln University College, Malaysia</i></p>                                                                                                                        |

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| 8  | <p><b>Monodispersed Silver Nanoparticles from Rhizopus stolonifer and Its Salutary Applications</b><br/>         Afreen Banu; Mohammad Gousuddin,<br/> <i>Lincoln University College, Malaysia</i></p>                                                                                                                          |
| 9  | <p><b>Progress Towards and Challenges in Biological Big Data</b><br/>         Manisha Sritharan<br/> <i>Faculty of Engineering and Life Sciences, Universiti Selangor, Malaysia</i><br/>         Farhat A. Avin<br/> <i>Lincoln University College, Malaysia</i></p>                                                            |
| 10 | <p><b>The Proteolytic Activity of Papain (Carica Papaya)</b><br/>         Sophianita. T. Aminy; Dian Mardhiyah<br/> <i>Department of Public Health, Faculty of Medicine University of YARSI, Indonesia</i><br/>         Harliansyah<br/> <i>Department Biochemistry, Faculty of Medicine University of YARSI, Indonesia</i></p> |

15:30-16:00

16:00-17:00

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| 1 | <p><b>Effect of the Simulatation of Basic Life Support (BLS) to Improve the Skills among Students of Nurs</b><br/>         Novita Ana Anggraini; Rahmania Ambarika<br/> <i>Health Science Institute of Surya Mitra Husada Kediri, East Java, Indonesia</i></p> |
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| 2 | <p><b>Effects of Storytelling to Learning Motivation on School-Aged Street Children in Sahabat Anak Jalan</b><br/> Rina Fera Dwianti<br/> <i>Akademi Keperawatan RS Efarina Purwakarta, Indonesia</i></p>                                                                                     |
| 3 | <p><b>Assessment of Level of Knowledge, Attitude and Practice in Promoting Healthcare Among Health CL</b><br/> Zulhelimie Bin Abdul Hamid; Farzana Yasmin<br/> <i>Lincoln University College, Malaysia</i></p>                                                                                |
| 4 | <p><b>The Relationship of Nurses Caring Behaviors to the Anxiety Levels in Patients Pre Operative Surger</b><br/> <b>Surgery Men and Women at the Hospital of Dr. M. Djamil of Padang</b><br/> Asmawati; Yuanita Ananda<br/> <i>Stikes Alifah Padang, Jln. Khatib Sulaiman, Indonesia</i></p> |
| 5 | <p><b>Risk Factors for Malnutrition of Children Under Five Years Old on the Area of Nanggalo Public Hea</b><br/> Yani Maidelwita<br/> <i>STIKes Mercubaktijaya Padang, Indonesia</i></p>                                                                                                      |
| 6 | <p><b>Relations Nursing Service Quality Satisfaction Level of Patient in Room Interne Inpatient Hospital D</b><br/> Yuanita Ananda<br/> <i>Stikes Alifah Padang, Indonesia</i></p>                                                                                                            |
| 7 | <p><b>The Impact of the Job Happiness on the Job Performance on the Oil and Gas Industry in UAE</b><br/> Waleed Al-Ali, Ali Ameen; Osama Issac; Mohammed Nusari; Ibrhim Alrajawi<br/> <i>Lincoln University College, Malaysia</i></p>                                                         |

16:00-17:00

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| 1 | <b>Characteristics of Hypertensive Patients In Regency Sukabumi</b><br>Hendri Hadiyanto<br><i>Muhammadiyah University Sukabumi, Indonesia</i>                                                                                                                                                                                                     |
| 2 | <b>The Effect of Vitamin C and E the Activity of Glutathione Peroxidase Enzyme on Male Wistar Strain</b><br>Titin Ifayanti<br><i>Alifah Midwifery Academy, Indonesia</i>                                                                                                                                                                          |
| 3 | <b>The Influence of Progressive Muscle Relaxation on Insomnia in the Elderly in the Health Center of K</b><br>Diana Arianti; Milya Novera<br><i>STIKes Alifah Padang, Indonesia</i>                                                                                                                                                               |
| 4 | <b>Docking of tumor suppressor gene (p53) with Garcinone E</b><br>Sherman Ryner Suhaibun; Asita Elengoe<br><i>Lincoln University College, Malaysia</i>                                                                                                                                                                                            |
| 5 | <b>Decoding Parkinson's Associated Health Messages in Malaysian Social Media Pages</b><br>M. S. Bexci<br><i>Lincoln University College, Malaysia</i>                                                                                                                                                                                              |
| 6 | <b>Antibacterial Activities of Crude Methanolic Extracts of Phoenix dactylifera and Moringa oleifera</b><br>Idris Adewale Ahmed; Maryam Abimbola Mikail<br><i>Lincoln University College, Malaysia</i><br>Al-Shwyeh Hussah Abdullah<br><i>Department of Biology, College of Science, Imam Abdul Rahman Bin Faisal University, Dammam, Saudi A</i> |
| 7 | <b>Increased Malondialdehyde Levels on Saliva Women Cigarette Smokers</b><br>Mardhiyah D; Aminy ST; Fadlurrahman AR; Harliansyah<br><i>Public Health Department Faculty of Medicine, YARSI University, Center of Jakarta, Indonesia</i>                                                                                                           |
| 8 | <b>Interaction Description between Parents and Children with Delayed Speech in Hermina Bekasi Hosp</b><br>Anna Luthfiana<br><i>Department of Neurology, Faculty of Medicine, Yarsi University, Indonesia</i>                                                                                                                                      |

26<sup>th</sup> September 2018 (Wednesd

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| Nur Rahmadina<br><i>Faculty of Medicine, Yarsi University, Indonesia</i> |
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27<sup>th</sup> September 2018 (Thursda  
**Venue : Dewan Rebana I**

**08:30-10:00**

**10:00-10:30**

**10:30-11:30**



**11:30-13:00**



13:00-14:30

14:00-14:30

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| 1 | <p><b>Surfactant Effect in Detergent Formulation: A Review</b><br/> Siti Amira Othman<br/> <i>Faculty of Applied Sciences and Technology, Universiti Tun Hussein, Malaysia</i></p>                                                                                |
| 2 | <p><b>Integral Interaction: A concept analysis using the Pragmatic Utility Approach</b><br/> Phoebe Lynn B. Calungsod<br/> <i>College of Nursing, Visayas State University, Philippines</i></p>                                                                   |
| 3 | <p><b>Knowledge and Attitude Towards Pulmonary Tuberculosis Among Health Sciences Student</b><br/> Fatimah S; Norhafizatul Akma S; Huwaida AH; Norafida MZ; Siti Zanariah Z<br/> <i>Faculty of Health Sciences Universiti Teknologi MARA (UiTM), Malaysia</i></p> |

**14:30- 15:30**

15:30-16:30

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| 1 | <p><b>Ameliorative Effects of Epalrestat Treatment on Cognitive Deficits in Diabetic Rats</b><br/> Sanjay Mishra<br/> <i>KLE Academy of Higher Education and Research (KLE University), India</i><br/> Shruti Jaiswal; S. S. Torgal<br/> <i>Department of Pharmacology, J. N. Medical College, India</i></p>                                                                                                                                                   |
| 2 | <p><b>Personal Hygiene and Incidence of Infectious Disease among Santri in Islamic Boarding School</b><br/> Eria Riski Artanti; Alfi Nurfiti Chasanah<br/> <i>Nursing program, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Indonesia</i><br/> Sri Mulyani; Purwanta<br/> <i>Department of Mental Health and Community Nursing, School of Nursing, Faculty of Medicine, Public Health, Universitas Gadjah Mada, Indonesia</i></p> |
| 3 | <p><b>Biodiversified Alkaliphilic Actinomycetes as Efficient Phosphate Solubilizers Isolated from Soil of L</b><br/> Amit Kulkarni<br/> <i>Department of Microbiology, Nutan Mahavidyalaya, Selu Dist. Parbhani, India</i><br/> P.S Wakte<br/> <i>Department of Microbiology, D.S.M. College Parbhani Maharashtra, India</i></p>                                                                                                                               |
| 4 | <p><b>Knowledge, Attitude and Practice on Blood Donation among University students: a Systematic Review</b><br/> Janet Alexis A. De Los Santos<br/> <i>Department of Nursing, Visayas State University, Philippines</i><br/> Carmen N. Firmo<br/> <i>Department of Nursing, University of the Philippines Manila School of Health Sciences, Philippines</i></p>                                                                                                |

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| 5  | <p><b>Blood Glucose Levels of Prediabetic Employees</b><br/> Rusana; Ida Ariani<br/> <i>Stikes Al-Irsyad Al-Islamiyyah Cilacap, Indonesia</i></p>                                                                                                                                                                                              |
| 6  | <p><b>Effect of Rose Aromatherapy on Decreasing Pain Scale in Postoperative Patients in Care Rooms at</b><br/> Melti Suriya; Zuriati<br/> <i>Stikes Alifah Padang, Indonesia</i></p>                                                                                                                                                           |
| 7  | <p><b>Heel Pain and its Physiotherapy Treatment</b><br/> Ravi Kumar Katta<br/> <i>Department of Physiotherapy, Lincoln University College, Malaysia</i></p>                                                                                                                                                                                    |
| 8  | <p><b>Factors Associated with the Lesion of Cervix Pre-Cancer in Women Who do Early Detection Using</b><br/> <b>Padang Pasir</b><br/> Faridah BD; Helpi Nelwatri; Imelda, DIV<br/> <i>Midwifery Department in Poltekkes Kemenkes Padang, Indonesia</i></p>                                                                                     |
| 9  | <p><b>Health Seeking Behavior in Adults and Elderly in Pangkalan Village, Teluk Naga District, Banten P</b><br/> Mardhiyah D; Husen AA<br/> <i>Faculty of Medicine, YARSI University, Indonesia</i><br/> Purwaningrum A; Parlangga FM; Rosseaty M; Puspita RM<br/> <i>YARSI University, Universitas YARSI Center of Jakarta, Indonesia</i></p> |
| 10 | <p><b>The Effect of Autogenic Training Toward Anxiety level on Drug Users in Probolinggo's Penitentiary</b><br/> In AiniIsnawati; Rizka Yunita<br/> <i>Hafshawaty Institute of Health Sciences Zainul Hasan Boarding School Probolinggo, Indonesia</i></p>                                                                                     |

16:30-17:00

17:00

**Please visit : <https://ichas2018.lincoln.edu.my/>**

**N.B : The programme is based on the participation of confirmed speakers, subject to be rescheduled**

# RELATIONSHIP BETWEEN BLOOD TRANSFUSION AND SLEEP DISORDERS IN CHILDREN WITH *THALASSEMIA* IN RSUD '45 KUNINGAN

Ayu Yuliani<sup>1</sup>, Aris Diana<sup>2</sup>

1. Lecturer at Tasikmalaya Nursing Department of Tasikmalaya Health Polytechnic
2. A college student at Tasikmalaya Nursing Department of Tasikmalaya Health Polytechnic

## Abstract

Thalassemia is a blood disorder disease caused by genetic factors and causes the protein in red blood cells, called hemoglobin, to not function normally, with this condition the child is most likely to have problems, including sleep disorders. Sleep disorders are a collection of conditions characterized by disturbances in the amount, quality, or timing of sleep in an individual. One of the methods used to screen for sleep disorders is using the SDSC ( *Sleep Disturbances Scale for Children* ). The purpose of this study was to determine the relationship between blood transfusion and sleep disorders in children with *thalassemia*. This study uses a *quasi-experimental* design with a pre-post-test design in one group (*One group pre-post-test design*). The research sample was 40 respondents using the *total sampling method*, univariate analysis in the form of frequency distribution, and bivariate analysis in the form of *paired sample t-test*. The results showed that there was a significant relationship between the pre-blood transfusion sleep disturbance scale (20%) and the post-blood transfusion sleep disturbance scale (0%) with a p-value of 0.000 and at-count of 4.687. Researchers suggest that parents of respondents understand the importance of blood transfusion for children with *thalassemia*.

Keywords: *thalassemia*, blood transfusion, sleep disorders

## Preliminary

*Thalassemia* is a group of inherited hematologic disorders due to defects in the synthesis of one or more globin chains. Alpha *thalassemia* is caused by a lack or absence of alpha-globin chain synthesis and beta-*thalassemia* is caused by a lack or absence of beta-globin chain synthesis. The imbalance of the globin chains causes hemolysis<sup>1</sup>. Carriers of both alpha and beta-*thalassemia* are *asymptomatic and do not require therapy*. Patients with beta-*thalassemia* major are at risk of dying from cardiac complications due to iron overload<sup>1</sup>, usually, patients with *thalassemia* require

supportive therapy to maintain their condition. Supportive therapy is carried out to maintain adequate Hb levels to prevent bone marrow expansion and bone deformities and to provide sufficient erythrocytes to support normal growth and activity. One of the supportive therapies for *thalassemia patients* is blood transfusion, which is the basis of the medical management of *thalassemia*<sup>2,3</sup>.

Thalassemia cases in Indonesia, thalassemia is the most common genetic disorder. At the *thalassemia center*, Department of Pediatrics (IKA) Faculty of Medicine, University of Indonesia (FKUI) Cipto Mangunkusumo Hospital (RSCM) until the end of 2008 there were 1,455 patients registered consisting of 50% *-B thalassemia*, 48.2% *-B/Hb thalassemia -E* and 1.8% of patients with *thalassemia -A*. It is estimated that every year in Indonesia 2,500 children are born with *thalassemia* (Aji et al, 2009).

This blood disorder causes red blood cells (hemoglobin) to quickly disintegrate so that the lifespan of blood cells becomes shorter and the body lacks blood. For example, if the red blood cells in healthy people can last up to 120 days, in people with thalassemia the red blood cells only last 20-30 days. This disease appears with symptoms including anemia, pallor, difficulty sleeping, weakness, and no appetite. Other complications that can occur in children with thalassemia are swelling of the liver and thinning of the bone marrow<sup>4</sup>. Swelling of the liver and due to severe and prolonged anemia, heart failure is common. Repeated blood transfusions in the hemolysis process (rupture of the hemolysis membrane) cause iron levels in the blood to be very high, so that it is stored in various body tissues such as the liver, spleen, skin, heart, etc. This can result in impaired function of the device (homochromatic)<sup>5</sup>.

Based on the World Health Organization (WHO) 1993, 4.5% of the total world population is a disease carrier (heterozygous form), which is no less than 250 million people in the world. Of this number, 80-90 million are carriers of thalassemia traits and the rest are carriers of thalassemia traits, other types of carriers of variant hemoglobin traits such as HbE, HbS, HBO, and others<sup>6</sup>. Now carriers of thalassemia traits reach 7% of the total world population, about 300,000-500,000 babies are born with this disorder. Research by Tarasiuk et al, (2003) stated that children and adolescents with thalassemia have sleep function disorders caused by *Periodic Limb Movements*<sup>4</sup>. In addition, the results of research by Roohangiz et al, (2010) in patients with thalassemia

major found the presence of Restless Legs Syndrome. The incidence of Restless Legs Syndrome is not related to ferritin in levels and iron levels in the body of children with <sup>7</sup>.  
thalassemia

## **Research Methodology**

This study used a *quasi-experimental* design with a pre-posttest design in one group (*One group pre-post-test design*). to know the relationship between blood transfusions and sleep disorders in children with *thalassemia* in the pediatric care room at 45 Kuningan Hospital. The research sample is the object under study and is considered to represent the entire population (Notoatmodjo, 2010). The sample size in this study amounted to 40 children with the criteria of all children with *thalassemia* being treated at RSUD 45 Kuningan and parents allowing their children to be respondents. The instrument used was the SDSC (*Sleep Disturbances Scale Children*) questionnaire consisting of 26 questions about the quality of children's sleep and the format for assessing pulse, temperature, respiratory rate before and after blood transfusion, and blood products used during the study. Previously, the researchers conducted an *Interrater Observer Reliability* test so that the observer's and observer's assessments were the same. In the results of the *Interrater Observer Reliability test* between the researcher and the research assistant, it was found that the Kappa value was 1.0 (Kappa value > 0.8), it was stated that the researcher and research assistant had the same Interrater test value so that the ability between the researcher and research assistant was the same.

## **Results**

The results of this study used univariate analysis that described the characteristics of the respondents including the age of the child and the sex of the child. Bivariate analysis was used to determine the relationship between blood transfusion and sleep disorders in children with *thalassemia* with the following results:



Table 1. Distribution of respondent characteristics based on respondent's age

| <b>Characteristics Respondents</b> | <b>of f</b> | <b>(%)</b> |
|------------------------------------|-------------|------------|
| <b>Respondent Age</b>              |             |            |
| Under 3 years (1-3 years)          | 10          | 25%        |
| Preschool (4-5 years)              | 5           | 12.5%      |
| Children (6-12 years)              | 22          | 55%        |
| Teenagers (13-18 years)            | 3           | 7.5%       |
| Total                              | 40          | 100%       |

Based on table 1, it is found that the distribution of respondents' characteristics by age is mostly at the age of children (6-12 years) which is 55%.

Table 2. Distribution of respondent characteristics by gender

| <b>Characteristics Respondents</b> | <b>of f</b> | <b>(%)</b> |
|------------------------------------|-------------|------------|
| <b>Respondent's Gender</b>         |             |            |
| Man                                | 24          | 60%        |
| Woman                              | 16          | 40%        |
| Total                              | 40          | 100%       |

Based on table 2, it is found that the distribution of respondents' characteristics by gender is mostly male, namely 60%, and female is 40%.

Table 3. Distribution of pulse measurement results between Pre and Post Blood Transfusion

| <b>Pulse Measurement Results</b> | <b>Pre Blood Transfusion</b> |            | <b>Post Blood Transfusion</b> |            |
|----------------------------------|------------------------------|------------|-------------------------------|------------|
|                                  | <b>f</b>                     | <b>(%)</b> | <b>f</b>                      | <b>(%)</b> |
| Tachycardia                      | 1                            | 2.5%       | 2                             | 5%         |
| Normal                           | 37                           | 92.5%      | 38                            | 95%        |
| Bradycardia                      | 2                            | 5%         | 0                             | 0%         |
| Total                            | 40                           | 100%       | 40                            | 100%       |

Based on table 3 the distribution of pulse measurement results between pre and post-blood transfusions, it was found that before blood transfusion those who had 2.5%

tachycardia were normal. 92.5%, 5% bradycardia. As for the time after the blood transfusion, he experienced 5% tachycardia, 95% normal, and 0% bradycardia.

Table 4. Distribution of temperature measurement results between Pre and Post Blood Transfusion

| Temperature Measurement Results | Pre Blood Transfusion |      | Post Blood Transfusion |       |
|---------------------------------|-----------------------|------|------------------------|-------|
|                                 | f                     | (%)  | f                      | (%)   |
| Hypothermia                     | 28                    | 70%  | 19                     | 47.5% |
| Normal                          | 12                    | 30%  | 19                     | 47.5% |
| Hyperthermia                    | 0                     | 0%   | 2                      | 5%    |
| Total                           | 40                    | 100% | 40                     | 100%  |

Based on table 4 the distribution of temperature measurement results between Pre and Post Blood Transfusion, it was found that before blood transfusion, those who had 70% hypothermia were normal. 30%, hyperthermia 0%. Meanwhile, after blood transfusion, 47.5% hypothermia, 47.5% normal, and 5% hyperthermia were performed.

Table 5. Distribution of respiratory measurement results between Pre and Post Blood Transfusion

| Breathing Results | Pre Blood Transfusion |      | Post Blood Transfusion |      |
|-------------------|-----------------------|------|------------------------|------|
|                   | f                     | (%)  | f                      | (%)  |
| Tachypnea         | 4                     | 10%  | 4                      | 10%  |
| Normal            | 34                    | 85%  | 36                     | 90%  |
| Bradypnea         | 2                     | 5%   | 0                      | 0%   |
| Total             | 40                    | 100% | 40                     | 100% |

Based on table 5 the distribution of pulse measurement results between Pre and Post Blood Transfusion, it was found that before blood transfusion those who had 10% tachypnea were normal. 85%, bradypnea 5%. As for the time after the blood transfusion, he had 10% tachypnea, 90% normal, and 0% bradypnea.

Table 6. Distribution of Use of Blood Products for Blood Transfusion

| Blood Products               | Pre Blood Transfusion |      |
|------------------------------|-----------------------|------|
|                              | f                     | (%)  |
| <i>Whole Blood (WB)</i>      | 0                     | 0%   |
| <i>Packed Red Cell (PRC)</i> | 40                    | 100% |
| Total                        | 40                    | 100% |

Based on table 6 the use of blood products used for blood transfusions, all respondents use *Packed Red Cell (PRC)* as many as 40 people (100%) or it can be said that all respondents use PRC

Table 7. Distribution of sleep disturbances between Pre and Post Blood Transfusion

| Sleep Disorders Scale | Pre Blood Transfusion |       | Post Blood Transfusion |       |
|-----------------------|-----------------------|-------|------------------------|-------|
|                       | f                     | (%)   | f                      | (%)   |
| No sleep disturbance  | 15                    | 37.5% | 25                     | 62.5% |
| <i>Borderline</i>     | 17                    | 42.5% | 15                     | 37.5% |
| Sleep disturbance     | 8                     | 20%   | 0                      | 0%    |
| Total                 | 40                    | 100%  | 40                     | 100%  |

Based on table 7 the distribution of sleep disturbances between pre and post-blood transfusions, it was found that before blood transfusions, 37.5% had no sleep disturbances, 42.5 % borderline, and 20% had sleep disturbances. Meanwhile, after blood transfusion, 62.5% had no sleep disturbances, 37.5 % borderline, and 0% sleep disturbances.

The results of a bivariate analysis to determine the relationship between blood transfusions with sleep disorders in children with *thalassemia*. Testing this hypothesis is done by looking at the difference in the scale of sleep disturbances before and after blood transfusion. The difference in the average difference can be seen from the test as follows:

Table 8. T-Test Results of Pre and Post Blood Transfusion Sleep Disorders

| Sleep Disorders Scale Comparison |  |                  |       | t value | df | p-Value |
|----------------------------------|--|------------------|-------|---------|----|---------|
| Pre Blood Transfusion            |  | Transfusion-Post | Blood | 4,867   | 39 | 0.000   |

Statistical testing resulted in an at-value of 4.867 with a  $p$ -value (significance) of 0.000. The value of the t-table for testing with a value of  $\alpha = 0.05$  and degrees of freedom  $Df = 39$  is 1.684, so it can be seen that  $t\text{-count} > t\text{-table}$  ( $4.867 > 1.684$ ) or  $p\text{-value} < (0.000 < 0.05)$ , then the hypothesis of a relationship between blood transfusion and sleep disorders in children with *thalassemia* in RSUD 45 Kuningan is acceptable so that it can be seen that there is a significant relationship between the Pre-Sleep Disorder Scale Blood transfusion with sleep disturbance scale Post blood transfusion and it can be concluded that the sleep of children with *thalassemia* is better when after blood transfusion.

## discussion

The results of the research on the relationship between blood transfusions and sleep disorders in children with *thalassemia patients* at the 45 Kuningan Hospital found that most children with *thalassemia* were aged children (6-12 years) as many as 22 children or with a percentage of 55%. Clinical symptoms of *thalassemia* have been seen at the age of 2 years, but patients with *Thalassemia* only started treatment at the age of 4-6 years because it was getting paler, resulting in the sufferer requiring periodic transfusions.<sup>8</sup> The results of the research conducted by the researcher are supported by his research by Lazwana T (2014) which states that the proportion of *thalassemia sufferers* who are treated at H. Adam Malik Hospital Medan Untuk Medan To perform transfusion is the most in the age group 15 years as many as 95 people (84%).

The results of the study based on gender found that the highest percentage occurred in men as many as 24 people (60%) compared to 16 women (40%). *T thalassemia* is a

genetic disease caused by a single autosomal recessive allele factor, not a genetic disease caused by an allele factor linked to sex/sex chromosomes, which states that based on gender, 51.6% of *thalassemia sufferers* are male and 48, 4% are female. The number of male patients is more than that of female patients <sup>5</sup>.

The results obtained from measurements of pulse, temperature, and respiration showed that most of the respondents experienced slight changes in pulse, temperature, and respiration after blood transfusion but were still within normal limits. This is probably the result of blood transfusions that have been done to maintain hemoglobin levels. Hemoglobin carries 97% of the oxygen that has diffused to the tissues' therefore the oxygen needs in the body can be met so that there is an increase in metabolism in the body which increases pulse, temperature, and respiration to meet the body's needs.

The results of the observation of the use of blood products used for blood transfusions, all respondents used PRC ( *Packed Red Cell* ). The use of PRC is caused by *thalassemia patients* experiencing abnormalities or deficiency of the hemoglobin chain. This abnormality causes damage to red blood cells in blood vessels so that the lifespan of erythrocytes is short (less than 120 <sup>days</sup>. Kebutuhan arah pada satu pasien dengan pasien yang lain berbeda tergantung pada hemoglobin pra transfusi yang diperiksa saat akan menjalani transfusi darah. Transfusi darah diberikan pada pasien dengan kadar Hb  $\leq 10$  g/dL) · Giving blood in the form of PRC 3 ml/kg BW for every increase in Hb 1 g/dL (Permono B, 2006). Children with *thalassemia* do blood transfusions to maintain hemoglobin levels so that anemia does not occur, one PRC bag (150-300 ml) consists of 100-200 ml erythrocytes. This blood product is used in conditions that require the addition of red blood cells only <sup>10</sup>.

The results of the research that have been conducted showed that children with *thalassemia before Borderline* blood transfusion were 17 people (42.5%), sleep disturbances were 8 (20%), whereas after *Borderline blood transfusion* 15 people (37.5%), had sleep disturbances. sleep 0 people (0%). It can be seen that there are children with *thalassemia* who experience sleep disturbances before performing blood transfusions. The results of the research conducted by Iqbal (2014) regarding the description of sleep disorders in children with *thalassemia* in the Central Installation of *Thalassemia and Hemophilia* RSUD dr. Zainoel Abidin Banda Aceh states that children

with *thalassemia* who have sleep disorders are 9.7%, *borderline* 35.5%, and not sleeping disorders 54.8%.

Children with *thalassemia* before doing blood transfusion look tired and tired. One of the causes of sleep disturbances is fatigue, fatigue also affects a person's sleep patterns. The more tired a person is the shorter the first REM (paradoxical) sleep period. The condition of *thalassemic* children who are tired due to a lack of hemoglobin in the blood may be the cause of sleep disturbances that occur before blood transfusions <sup>12</sup>.

The condition of a child with *thalassemia* who has undergone a blood transfusion using PRC is possible that the hemoglobin level in the blood can be fulfilled so that oxygen can be distributed to all parts of the body marked by pulse, temperature, breathing within normal limits, this situation supports the child to sleep better.

The results of the study that analyzed the bivariate variable between blood transfusion and sleep disorders in children with *thalassemia* found that there was a relationship between blood transfusions and sleep disorders in *thalassemic children* with a t-value of 4.867 with a *p*-value (significance) of 0.000, hence the hypothesis of a blood transfusion relationship. with sleep disorders in children with *thalassemia* at the 45 Kuningan Hospital is acceptable. The existence of a relationship between blood transfusion and sleep disorders in *thalassemic children* may be caused by the use of PRC blood products at the time of blood transfusion, slight changes in pulse, temperature, breathing within normal limits after blood transfusion so that children with *thalassemia* can not experience sleep disorders after performing a blood transfusion.

## **Conclusion**

*Thalassemia* is a group of inherited hematological disorders due to defects in the synthesis of one or more globin chains, usually, *thalassemia sufferers* require supportive therapy to maintain their condition. One of the supportive therapies for *thalassemia patients* is blood transfusion, which is the basis of the medical management of *thalassemia*. Blood transfusion is the process of transferring blood or blood-based products from one person to the circulatory system of another. The results of the study showed that children with *thalassemia* who did blood transfusions at RSUD 45 Kuningan were mostly aged 6-12 years, most were male, there was a slight change

in the measurement of pulse, temperature, respiration between before and after blood transfusion. Children who have not had blood transfusions have sleep disturbances so while children who have undergone blood transfusions sleep better, there is a relationship between blood transfusions and sleep disorders in children with *thalassemia*.

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