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Suja DOI:10.5958/0976-5506.2019.02487.2 sessment of Oral Health Status and comparative Evaluation of Different Methods of Oral Health Education in Children with Special Health care Needs A. Supriya, Rekha Shenoy, Praveen Jodalli, Laxminarayan Sonde, imran Pasha DOI:10.5958/0976-5608.2019.02488.4 Evaluation of the Baby Friendly Hospital initiative Programme in Two Hospitals Designated "Baby-Friendly" in Kirkuk dity, Irag Fakher Abobaker Ahmed Gli, Dale Spence, Linda Johnston, Finca Lynn, Richard Tubman, Ziad Mohammad Sadiq D0I:10.59580976-556.2019.02489.6 The Combinatory the Effect of Healthy Educational Programs with Kinect Simulation Device on Learning Some of Basketball Skills Mohammed Shihab Ahmed, Mayyadah Khalid Jash DOI:10.5958/0976-5505.2019.02490.2 The impact of Health Awareness campaigns to Quit Smoking (A case Study in Amman city) Rudaina Othman Yousif DOI:10.5958/0976-5506.2019.02491.4 Active Ocular Involvement in Iragi Patients with Behçet's Disease Yaser A.R. Nasser, Riyam Faihan Rashid, Dina Shakir Yasiry, Mohammed Hadi Munshed Al-Osami. Faio i. Gorial DOI:10.5958/0976-5506.2019.02492.6 Effect of Using Simulation (Electronic Media) in Learning of Some Basic Skills in Technical Gymnastic for 2<sup>nd</sup> Grade's Female Students Abeer All Hussein, Bashaer Hashim Abdul-Wahld, Nidhal Obald Harnzeh DOI:10.5958/0976-6506.2019.02493.8 Body image and Physical Perception of children with Precocious Puberty in Baghdad city Adraa Hussein Shawq, Eqbal Ghanim Ali DOI:10.5958/0976-5508.2019.02494.X Health Workers Roles as Healthy Model: concept and instrument Developing Agustina Arundina Triharja Tejoyuwono, Lely Lusmilasari, Toto Sudargo D01:10.5958/0976-5555.2019.02495.1 Assessment of Serum Glucose and its correlation with the Pregnancy Alaa Umran Musa DOI:10.5952/0978-5508.2019.02498.3 Building and Applying the Personal Values Measure for the Administrators of Sports clubs and clubs for People with Disabilities from the Point of View of the Players of Some Cames Amal Adulameer Tuama, Methaag Ghazi DOI:10.5958/0976-5506.2019.02497.5 Qualitative Study of Family Planning (KB) Village Program's implementation in East Java Province-Indonesia Annisa Uliya Rasylda, Iswari Harlastuti, Mardiyono, iffah Udiana, Kuntoro, Haryono Suyono, Sri Widati DOI:10.58580976-556 2019 02496 Z Model of Peer Intervention Assessment of Nutritional Educator in the Efforts to Change Behaviour in Decreasing Overweight in Integrated Islamic Elementary Schools at Makassar Anto J. Hadi, Veni Hadju, Surlah, Rahayu Indriasari, Toto Sudargo, Mappeaty Nycrong, Masni DOI:10.59520375-5535.2019.02495.9 Association between Maternal Iron and Vitamin D with Risky Development of Autistic children Ashraf M Osman, Hanan M Kamel, Emad A Abdel-Naem, Aliaa M Higazi, Noha Mahmoud Abdullah DOI:10.59520976-5501 2019 02500 2 Inciden e and Risk Factors of Hypocalcaemia in Post Thyroidectomy Patients in Tikrit Teaching Hospital Ayoub M. Zedan DOI:10.5958/0976-650 976-5506 2019 02501 4 The correlation between Knowledge and Experience of Nurses toward Triage Decision Making at Lombok Nusa Tenggara Barat Balg Fitrihan Rukmana, Ahsan, Kuswantoro Rusca Putra DOI:10.5958/0976-5506.2019.02502.6 Detection of mecA Gene in Methicillin-Resistant. Staphylococcus hemolyticus isolated from Blood cultures of Neonates in Baghdad Buthelina Mahamed Taha, Nadheema Hammood Hussein, Khetam H. Rasool, Sara Ali Jasem Maliki, Jumaah Dakel Husse DOI:10.5958/0378-5501.2019.02603.8 Oko Mama culture Betel Nut consuming Habit in Kupang District and its Effect toward Salivary Ph and Flow Rate Christina Ngadilah, N. Hari Basuki, T. Rika Subamiati DOI:10 595 76-5506 2019 02504 X Determination Safe Duration of Exposure to Benzene in Workers of Petrolium Processing industrial Laboratory in indonesia by Using Noael of White Mice (Rattus norvegicus) Ermita (snaeni Putri Susyanti, Abdul Rohim Tualeka, Pudji Rahmawati, Syamsiar S Russeng, Atjo Wahyu, Ahsan, Dewi Kartikasan DOI:10.5958/0976-5506.2019.02505.1 Assessment the Relevance of Dental Aesthetic index, Smile and Desire for Orthodontic Treatment among Iragi Teenagers Esraa S. Jasim, Zainab M. Kadhom, Noor F.K. Al Khawaja D0I:10.5958/0976-5508.2019.02508.3 Aerobic and Facultative Anaerobic Bacteria in Tonsils of Different Ages with Recurrent Tonsilitis

Gulbahar F. Karim, Siham Sh. AL-Salihi, Qanat Mahmood Atya, Kasim Sakran Abass DOI:10.5958/0976-5506.2019.02607.5 Estimation of Heritability for Reproductive Traits and Newborn Mortality in Iraci Buffaloes through the Relationship of Dams with Daughters Hamza M. AL-Khuzai, Makki K. H. AL-Dulaimi, Zaid E. H. Zainl DOI:10.5958/0976-5506.2019.02608.7 Effect of Thyroid Hormone Abnormalities on Hemoglobin A1c in Hemodialysis Patients Taking Erythropoletin Hanan L. Al-Omary, Zainab M. Alawad, Burag Husseini DOI:10.5958/0976-6506.2019.02509.9 Efficacy of the Health Promotion Model-Based Intervention in Enhancing the Health Responsibility of Middle School Female Student: A Randomized controlled Trial Hiba Abdul-Wahid Dawood, Afifa Ridah Aziz D0I:10.5958/0976-5506.2019.02510.5 Detection of Rotavirus Genotypes with conventional PcR in a Group of iragi children with Acute Viral Gastroenteritis Hiba Sabah Jasim DOI:10.5958/0976-5506.2019.02511.7 Effect of Adding Medicinal Plant Extracts to The Broiler Diets on Productive Performance Huda Q. Al-Himdany, Fadhil R. Abbas, Ahmed A. Aliaw DOI:10.5958/0976-5606.2019.02512.9 Structural Behavior Analysis of Building Environment Automation System in Pharmaceutical industries Jacky chin, Lin Shu-chiang, Satria Fadil Persada, Ilima Mufidah, Choesnul Jaqin D0I:10.5958/0976-5506.2019.02513.0 The impact of Radiation on Total Thrombocyte of Hospital Radiology Workers in Kupang Jannes Bastian Selly, Andreas Umbu Roga, Noorce christiani Berek, Luh Putu Rullaty, Jacob M. Ratu DOI:10.59580976-6505.2019.12514.2 Importance of collaborative intervention of Preconception Nutrition in Suppressing the Stunting case in East Nusa Tenggara, indonesia Jeffrey Jap, Sri Sumarmi, Nyoman Anita Damayanti D0(10.59520976-5505.2019.02515.4 Evaluation of Folic Acid content in the Pregnant Women Jinan Hussein Mutlag DOI:10.5958/0976-5500.2019.02510.6 isolation, Identification and Antibiotic Susceptibility Testing of Bacterial Pathogens causing Seminal Fluid infection in Human Males Admitted to the infertility centers in Najaf Province Jinan Mohammed Hussein, Anaam Jawad Alabbasy, Suhair Abdulkareem Al-Rammahi, Ahmed Abdulridha Ameen Shlash DOI:10.5958/0976-5506.2019.02517.8 Conjecture of TSP concentration and PM.10 through Measurement Dust Fall (Study of Dust Dispersion from Special Roads for coal Transport). Junaldi, Rahmawati, Muhammad Pahruddin, Agnes T Diana Nerawati DDI:10.5958/0975-5506.2019.02518.x Development of cardiovascular complications in Polycythemia Vera Patients Influenced by Increased Blood Viscosity V. B. Kaliberdenko, E. S. Kuznelsov, K. Shanmugaraj, B. Keerthanaa, J. M. Al-Nsour, O. Yu. Poleshchuk DOI:10.595210370-5505 2019.02519.1 Determination of Safe concentration of Benzene Exposure in Workers in a Laboratory of Oil Processing industry in Indonesia Kharina Almira Djalali, Abdul Rohim Tualeka, Pudji Rahmawati, Syamsiar S Russeng, Aljo Wahyu, Ahsan, Dewi Kartikasari DOI:10.5958/0976-5506.2019.02520.8 Saponin Maintaining and Dose Determining in carica Papaya Leaf cookies as a Breast Milk Booster (galactogogue) Krisdiana Wilayanti, Hertanto W. Subagio, Martha irene Kartasurya, Sri Achadi Nugraheni DOI:10.59 5506 2019 02521 X Factors Related to competence in Prehospital care Ns. Kristianto Dwi Nugroho, Dr Setyawati Soeharto, Yulian Wiji Utami DOI:10.5958/0976-5595 2019.02522 1 Empowerment of coastal communities Through Systems Approach in the Field of Environmental Health in Kendarl city, Southeast Sulawesi Province, indonesia La Dupai, Nani Yuniar, Ruslan Majid, Arum Dian Pratiwi, Syawal Kamuluddin Saptaputra, Rahman D01:0.5958/0976-5501.2019.02523.3 Study the Level of interlukin-2 During and after Treatment in Soutum of iraol Patients with Pulmonary Tuberculosis Liga K. A. Alzubaidi, Nisreen Sherif Alyasiri, Luma yousif Mehdl DOI-10.5 976-5506 2019 02524 5 Warm Footbath Minimize Ostheo-arthritis Joint Pain on the Elderly in Surabaya's Public Health center Muhamad Ibnu Ha<mark>s</mark>an, Elida Ulifiana, Deni Yasmara DOI:10.5958/0976-5506.2019.02525.7 An Epidemiological Study on common Types of Tuberculosis in Al-Najaf city Murtadha M. Hameed, Alaa S. Alattabi, Hassan M. Abolmaali D0I:10.5958/0976-5508.2019.02528.9 The Effect of Ammuntuli Bila Tianang Na Beja-Beja Model on Knowledge, Motivation, and Attitude of Pregnant Women's Health Services in Jenegonto District, indonesia Mustamin, Ridwan Amiruddin, Sukri Palutturi, Stang, Risnah D0I:10.5958/0976-5506.2019.02527.0 A Study on New Frontier of integrative Medicine on Social Media with Special Reference to chennal city N. Manivannan, G. Mythill DOI 10.5958/0976-5506 2019 02528 2 Implementation of Nutrition Education to Knowledge, Behaviour, and Performance of Junior High School children Nanik Suhartatik, Sri Handayani, Agatha Jumiati DOI:10.5958/0976-5506.2019.02529.4 II-18-137G/c (rs187238) Gene Polymorphisms in Pulmonary Tuberculosis iraql Arab Patients Nawal Mohammed Utba DOI:10.5958/0976-5506.2019.02530.0 Risk Factors Related to Diabetes Mellitus Noor Diani, Dhian Rinin Lestari DOI:10.5958/0976-5506.2019.02631.2 Association of Hunting Behavlor and Malaria Incidence: A cross Sectional Study on Nuaulu Tribe community in Mesoendemic Area of Malaria Nur Baharia Marasabessy: Oedojo Soedirham, Yoes Prijatna Dachtan DOI:10.5958/0976-6606.2019.02632.4 ermination of Ammonia Gas Safe concentration in chicken Farm Workers in Lembak Village, South Sumatra indonesia Putri Arianto, Abdul Rohim Tualeka, Desheila Andarini, Pudij Rahmawati, Syamsiar S Russeng, Atjo Wahyu DOI:10.5958/0976-5506.2019.02533.6 Body image among Postnatal Primparous Women in Maternity Hospitals in Baghdad city Rafah Raad Abdul-Salam, Suhad Hikmat Khairi 5506 2019 01 Role of Adropin in Women with Polycystic Ovary Syndrome Rana Ali Hamdi, Hanan Naama Abas, Fatin Abdul Aziz Alsaeed D0I:10.5958/0976-5606.2019.02585.X The Alcoholic Extract of carrot (*Daucus carota L*). Seeds as Antioxidant in Male Albino Mice Treated with H<sub>2</sub>O<sub>2</sub> Roaa M. Al-Saadi, Sabah A.R. Al-Obaidi, Waleed H. Yousif DOI:10.5958/0976-5505 2019 02536.1 The Ethanolic Extract of Alwa Fruits inhibits Nephrotoxicity and Deterioration of Some Biood Biochemical Properties induced by Gentamicin in Male Rats Saher Mahmood Jwad, Wildan Kamal Noor, Bushra Abbas ALzubaldi DOI:10.5958/0976-5506 2019 0 Correlated Levels of Anti-Inflammatory Interleukins (IL-4 and IL-10) with Alleroic conjunctivitis (Ac) in Iraoi Patients

···· /2 Nihad Khalawe Tektook, Osamah Jihad Abdul Qader DOI:10.5958/0075-5505 2019.02538.5 costal cartilage Graft combination with V-Y composite chondromucosal Advancement Flap for correction Unilateral cleft Lip Nasal Deformity Ali Adwal Ali, Yasir Naif Qassim DOI:10.5958/0976-5508.2019.02539.7 Assessment of Barriers to implement Nursing Processes Tameem Thamir Mayouf, Ahmed Zuhair Abd Al-Qader, Mohammed Tarig Ali DOI:10.5958/0976-5506.2019.02540.3 The Effect of Life Skill Education on Cigarette Control in Adolescents Umar Daeng Palallo, Muhammad Syafar, Ridwan Amiruddin, Indar, Ahmad Yanl DOI 10 56520075 5505 2019 02541 5 Effectiveness of an Educational Program on Women's Knowledge about Family Planning at Primary Health care centers in Al-Diwanyah Governorate Sajida Khamees Abdullah, Wissam Jabbar Kasim, Falima H. Abbas, Eqbal GH. Ma'ala D0:10.5958/0976-5505 2019.02542.7 Effects of Supplementation of Thymus Vulgaris and Zingiber Officinal Powder on Reproductive Performance of Ageing Broiler Breeder Male Sameerah Hussein Amen, Rashid Hassan Hamid Al-Dalawi, A. K. shancon D0I:10.5958/0975-5505.2019.02543.9 Effects of Personality Type on Burnout in Korean Clinical Nurses: Focus on Personality Type D Song Hye-Suk, Lim So-Hee DOI:10.5958/0976-5508.2019.02544.0 Correlation of Maternal Education with Parenting and child Nutritional Status Sukmawati, Sirajuddin DOI:10.5958/0976-5506.2019.02645.2 Effectiveness of an Educational Program on Emergency Nurse's Knowledge and Practice about Advance cardiac Life Support at Emergency Medicine Department in Baghdad city Tallib Kalifa Hassan Al-Temimi, Hussain Hadi Atiya DOI:10.5958/0976-5505.2019.02545.4 The impact of chess Games towards comfortableness of cognitive Mind on Elderly Wildan Agung Wahyu Laksono, Joni Haryanto, Khoridatul Bahiyah D0110.5958/0975-5505.2019.02547.6 Lighting and Noise Levels in the Neonatal Intensive care Unit (NicU) F. Sri Susilaningsih, Siti Yuyun Rahayu Fitri, Al Mardhiyah, Ermiati, Yanti Hermayanti D0I:10.5958/0976-5505.2019.02548.8 chological Treatment for Major Depressive Disorder: Effectiveness of Cognitive Behavioural Therapy Jirushlan Dorasamy DOI:10.5958/0976-5506.2019.02549.X Value of Understanding Personality and Proactive coping for University Students Jirushlan Dorasamy DOI:10 5958/0976-5506 2019 02650 Effectiveness of an Education Program on Nurse-midwives' Practices Related to Postpartum Hemorrhage at Delivery Room of Matemity Hospitals in Bachdad city Azhar Hussein Ali, Ezedeen F. Bahaaldei DOI:10.5958/0976-5508.2019.02551.8 Effects of Pain, Disability, Social Support and Stress on Depression of community-dwelling Elders Hee Kyung Kim DOI:10.5958/0976-5506.2019.02552.X Psychological Analysis of customary Law as the Solrit for indigenous People of Bengkulu city indonesia Rangga Jayanuarto, Khudzaifah Dimyati, Absori Absori, Natangsa Surbakti, Fitriani Nur Damayanti DOI:10.5958/0976-6506 2019 02653 1 Com Silk Based Ethosomal Gel: A New Treatment for Periodontitis in Diabetic Albino Rats a Prelimenary Study I. E. Riewpassa, YR Kim, A. N. A. Tenrifili, J. S. Untung, N. S. Djamałudin, MH Achmad DOI:10.5958/0976-5500.2019.02554.3 Immunological Effect of Capparissplnosa Extract and iraqi Dates Vinegar in White Mice Infected with Pseudomonas Aeurogenosa Asif Hasan Abultazaq, Mayada Abdullah Shehan, Najeeb Mohammed Hussein, Mohammed. A. Hamad D0I:10.5958/0976-5505.2019.02555.5 The Correlation between Interleukin-1 A and Bone Destruction on chronic Suppurative Otitis Media with cholesteatoma Muhammad Reza Mahardika, Artono DOI:10.5958/0976-5506 2019 02656 7 Effect of Alcoholic Extract of *Opuntia Ficus Indica* on Semen Quality of Awassi Rams after Different Cooling Periods Abd AL-Kareem Abd AL-Reda Hobi, Ahmed Mahdi Abbas AL-Helal DOI:10.5958/0376-5505.2019.02557.9 Motivation in Health Behaviour: Role of Autonomous and controlled Motivation Adeline Y. L. Tam, Rohaizat Baharun, Zuraidah Sulaiman DOI:10.5958/0976-5506.2019.02558.0 The Effectiveness of Aluminum Potassium Sulfate Micro-Particles Addition into Soft Denture Lining Material on Candida Albicans Adherence All Mohad, Abdalbseet A Fatalla DOI:10.5958/0976-5506.2019.02559.2 Nurse Feelings When Become a Member of code Blue Team at Wava Husada Hospital Kepanjen, Malang Annisa Rahmania, Indah Winami, Septi Dewi Rachmawa DOI:10.5958/0976-5506 2019 02660 9 Determination of CXCL12 Serum Levels in Breast cancer Women Arkan H. Frayyeh, Ehab D. Saliman, Alice K. Melconian DOI:10.5958/0976-5500.2019/02661.0 lationship of Gestational Age, Eolic Acid intake and Haemoglobin Level of Third-Trimester Pregnancy with infant Birth Weight in Ende Regency, East Nusa Tenggara Province, indonesia Asmulyati Saleh, Harsono Salimo, Endang Sutisna Sulaeman DOI:10.5958/0976-5506.2019.02562.2 Effect of Lactobacillus on the Small intestinal Mucosa Measurement of Healthy Broilers chicken Under Heat Stress condition Balgees H. Ali DOI:10.5958/0975-5505.2019.0 Bacterial contaminants Associated with Poultry Feeds Bushra Mohammad Kadhim, Haifa Nori Mate DOI:10.5958/0976-5508.2019.02564.6 An Exploratory Study on the Roles of Bhutanese Primary Health care Managers in Responding to childhood Obesity. Chimi Wangmo, Phudit Tejativaddhana, Mary Cruickshank, David Briggs D0t10.59580976-5505 2019 02565 8 Determination of Safe Benzene concentration at Kebon Jeruk Toll Gate Keeper Jakarta indonesia Danang Setia Budi, Abdul Rohim Tualeka, Pudji Rahmawati, Syamsiar S Russeng, Bambang Wispriyono DOI:10.5958/0976-5506 2019 02666 X Analysis of Patient Safety culture and Work Team in Educating the Effect of Leadership Style on Patients Safety Performance Dike Widyakti Sawiina Maharani, Margono Setiawan, Dodi Wirawan Irawanto, Mintarti Rahayo D0I:10.5958/0976-5508.2019.02567.1 Matemal Death Model Decreases the Expression of BDNF in Rattus Nonveolcus Newborns' cerebrum and cerebellum Duhita Dyah Apsari, Hermanto Tri Joewono, Widjiati DOI:10.5958/0976-5506.2019.02588.3

Linid Accumulation Product: A Simple and Heaful Surrorate Marker for Olycemic control in Women with Type 9 Diabetee Malitus

Ekhlas Khalid Hameed, Noor Saadi Hassan, Zina Hassan Abdulqahar 001-10.5 LEEDE ODIO The Safe concentration Determination for Public Health Problems Due to Inhalation of Air containing Hydrogen Sulfide Around Industrial Area of Medan Indonesia Erlinda Rasikhah Hadi Salma, Abdul Rohim Tualeka, Pudii Rahmawati, Svamsiar S Russeng, Atio Wahvu DOI:10.5958/0976-5506.2019.02570.1 Biscult Enriched with Billh Fish (Mystacoleucus-padangensis) increases cognitive in Experimental Rat Fivi Melva Diana, Rimbawan Rimbawan, Evy Damayanthi, Mira Dewi, Vetnizah Juniantito, Nur indrawaty Lipoeto D0I:10.5958/0976-5565.2019.02511.3 Determination of Safe Duration of Exposure to Benzene at Public Gas Stations Around Diponeporo University Semarany, indonesia Genduk Lintang Rusmawarda, Abdul Rohtm Tualeka, Dimas Triyadi, Pudji Rahmawati, Syamslar S Russeng, Atjo Wahyu, Ahsan D01:10.59580975-5052019.02572.5 Bacterial Uropathogens Isolated from Alkaline Urine and their Susceptibility to Antimicrobial Agents Ghofran Fiasal, Abbas A. Al-Dullarni, Alf M. Jaafar, Abdulrazak SH. Hasan DOI:10.595200276-5505.2019.02573.7 Aerobic and Anaerobic Bacteria in Tonsils of Different Ages with Recurrent Tonsillitis Gulbahar F. Karim, Siham Sh. AL-Salihi, Qanat Mahmood Atya, Kasim Sakran Abass DOI:10.5958/0976-5508.2019.02574.9 Efficacy of the Health Belief Model in Enhancing the Oral Health of Female Middle School Students Halah Kamal Ismael, Aysin Kamal Mohammed Noori DOI:10.5958/0976-5506.2019.02575.0 The Effect of Selection on Some of the Basic Determinants of Learning Some of the Basic Skills of Football Hamild Abdul Shaheed Hadi, Hayder Jaber Mousa, All Hameed All, Hayder Naji Habash Alshai DOI:10.5958/0076-5595.2019.02576.2 The Method of Learning in Order to be Able to Follow the cognitive Method (independence Versus Dependence on the cognitive Field) and its impact on Some Basic Skills in the Fencing of Students Hamid Abdul Shaheed Hadi, Ali Mahdi Ali Almadhloom, Zaid Sami Yasir, Hayder Naji Habash Alshawi The Development of Nursing intervention Based on indonesian Nursing intervention Standard on infarction Stroke in Hospital Hani Riska Arlyanti, Nursalam Nursalam, Slamet Riyadi Yuwono DOI:10.09630076-6505.0019.02573.6 Relationship between Mental Workload and Fatigue of Motorcycle Rider among East Java Student Y Hendrati, S. Martini, K.S. Lestari DOI:10.5958/0976-6506.2019.02679.8 Single Nucleotide Polymorphisms in IL-10-1082 AlG Gene and Association with HoMV infection in Abortion Hiba A. Hatem Mayvada F. Darweesh DOI:10.5 58/0976-5506 2019 02580 4 Molecular Study of Echinococcus Granulosus in Misan Province. South of iraq Hussain A. Mhouse Alsaady, Hussein Ali Naeem Al-Quzweeni D0:10.5958/0976-5508.2019.02681.6 The Human Arthropathy infammatory and immune Herd Plots Ibrahim M S Shnawa, Baha H H Alamic D0I:10.5958/0976-5506.2019.02582.8 Congenital Lobar Emphysema-A case Series for 2 Years Ibrahim Shuker Mahmood, Fawzi Salih Shihab, Ahmad Mahmood Mohammed D0110.55550077-5550 2019 02593 X The carotid intima-Media Thickness in Workers with High and Low Exposure to Air Pollution Isabella Lalenoh, Muhammad Aminuddin DOI:10.5958/0976-5506.2019.02584.1 Using Species-Specific Polymerase Chain Reaction Technique for Detection of Cows, Buffallos, Seeps and Goats Milk and cheeses in Basra city Jalal Yaseen Mustafa DOI:10.5958/0976-5500.2019.02585.3 The Effectiveness of Chelating Property of Chilosan Nanoparticles on Dentin Jamal A. Abu Al-timan, Husseln F. Al-Huwaizi, Hayder H. Abed DOI:10.59590975-5595.2019.02585.5 The collaboration of Health Workers in Providing Integrated Antenatal care at Oepol Health center. In East Nusa Tenggara. Indonesia Jeffrey Jap, Stefanus Supriyanio, Nyoman Anta Damayanti DOI:10.5958/0078-5505.2019.02587.7 The Role of Zinc Sulfate in Reducing Levels of TNF-σ, IL-1β and IL-6 in Multi Basiler Leprosy Patients Joko Kurnianto, Moh. Sulchan, Kabulrakhman, WS Hertanto, HS Suharyo, Prasetyrowati DOI:10.5958/0976-5506.2019.02588.9 The Status of Her2 Expression in a Group of iraqi Women with cervical carcinoma Kawakeb N Abdulla, Basim M. Khashman, Saba Jassim Alheshimi, Ameer A. Oudah DOI:10.5958/0976-5506.2019.02589.0 The immunohistochemical Evaluation of BRcA2 Expression with HPV infection in a Group of iragi Women with cervical carcinoma Kawakeb N Abdulla, Basim M. Khashman, Saba Jassim Alheshimi DOI:10.5958/0975-6506.2019.02690.7 Prognosis Within 24 Hours Using Nursing Early Warning Scoring System (Newss) Method On Left Heart Failure Patients At Mitra Delima Hospital, Malang Lukuk Nur Aini, Lilik Supriati, Titin Andri Wihastuff D0:10.5958/0976-5505.2019.02591.9 <u>Descrictive Magoing of Needs among Diabetes Mellitus Patients</u> Made Kumla Widlastuti Glri, Adnyana Putra, i Made Kusuma Wijaya, Komang Hendra Setlawan, NI Putu Dewi Sri Wahyuni DOI:10.5958/0976-5506.2019.02692.0 Evaluation of Malaria Surveillance Based on Attribute in Health Office of East Sumba District Margaretha Domingga, Atik choirul Hidajah DOI:10.5958/0976-5508.2019.02593.2 Low Level Laser Therapy on Postoperative Trismus and Swelling after Surgical Removal of Impacted Lower Third Molar Marwah Safaa Ali, Sahar Shakir Al-Adili DOI:10.5958/0076-5506.2019.02694.4 Role of Betatrophin and Irisin on Diabetes Mellitus Type 1 Management (Experimental Study) Maysaa J. Majeed, Zainab A. Razak Al-Sharifi, Shifaa Jameel ibrahim DOI:10.5958/0976-6505 2019.02595 6 Correlation between LDL, HDL, LDL/HDL, Ratio and Preeclampsia incidence at RSUD Pamekasan, indonesia Mazdalina Rahmawandari Nurhani, Kusworini, Bambang Rahardjo DOI:10.555203275-5535.2019.02695.8 Evaluation of the Antibacterial Activity of Iraqi Garlic Derivatives to Escherichia coli Minen Al-Kafajy DOI:10.5958/0976-5506.2019.02597.X Effect of Using Zirconia and Metallic Bar Attachment Overdentures on the Supporting Structures of Mandibular Edentulous Ridge Area (Randomized control Trial) Mohamed Z. Debis, Amr I. Badr, Emad M. Agamy, Gehan F. Mohame D0I:10.5958/0976-5500.2019.02598.1 The Construction, Effectiveness and Reliability of Mental Health inventory among Students in Malaysia Mohammad Aziz Shah Mohamed Arip, Ainiyusnita Abdul Rahim, Umah Devi Muthu Panjasaram, Anne christina Amaladass 00(10.95980976-6505.2019.02689.3

Effect of Immersion Time In 2.5%. Sargassumpolycystum Effervescent Granule Denture Cleansing Agent on the Stability Acrylic Resin Plate Colour, Mohammad Dharma Utama, Harun Achmad, Ikhrlahni, Adytha M.I.R. Andi, F. Anissa DOI:10.5952/0076-5505.2019.02600.7 Assessment of Vascular Endothelial Growth Factor in the iraqi Patients with Ovarian cancer and its correlation with Angiogenesis Mohammed Sharem Mahbool, Abdul Hussein Razzaq Ali, Jabbar Fadeel Mahdi Alaflooge D0I:10.5958/0378-5508.2019.02001.9 The Usage of Low Level Laser Therapy Bio Stimulation and Bone Grafting in Accelerating the Healing of chronic intra-Osseous Defects: Vivo Study Muhammed Abouel Seoud, Medhat Katala, Mouchira Salah El Din, Magdy Ali, Adel AboelFattouh DOI:10.5958/0976-6505.2019.02602.0 The Effect of Polyamide Micro-Particles Addition on Some Mechanical Properties of Heat cured Poly Methyl Methacrylate Denture Base Material aq R. Mohammed DOI:10.59 Effects of the Use of Self-Directed Video on Knowledge of Malang city's Volunteer communities in conducting cPR Actions Apriyani, Retty Ratnawati, Ika Setyo Rini DOI:10.5958/0976-5508.2019.02604.4 Determination of Reference of concentration (REc) from Hydrogen Sulfide (H2S) Exposure in the community Based on Weight in industrial Area in Medan indone Citra Dewl Puspasar, Abdul Rohim Tualeka, Pudil Rahmawat, Svamslar S, Russen, Atio Wahy, Ahsa DOI:10 595 76-5506 2019 02605 6 Sexual Risk Behaviour of Men Who Have Sex with Men (MSM) in an Urban Society of West Sumatera Province of indonesia HardIsman Dasman, Firda Firdawatt, Yaniri Maputra, itma Nuria Suirleni, Faiz Nur Hanu DOI 10 5959/0376-5508 2019 02608 8 An Exploration of Health Beliefs Related to Fluid-Restricted in Patients Undergoing Hemodialysis Plinda Ran, Marcalam, Minuk Office Konductor P Inda Rian, Nursalam, Ninuk Dian Kumiawa DOI:10.5958/0976-6506.2019.02607.X Determination of Dosage Reference (RID) of Mercury Based on NOAEL and characteristics of Workers in the Area of Unilicensed Gold Mining (PETI) Maluku Province Indonesia Vaninda Eka Pridianata, Abdul Rohim Tualeka, Bacrudin Lain, Pudif Rahmawati, Syamsiar S Russeng, Agio Wahyu, Ahsan DOI:10.59 506 2019 02608 1 Using of Blended Learning in improving collaboration Skill of Nursing Students Musrifatul Uliyah, Luthfiyah Nuriaela, Mustali, Abdul Aziz Alimul Hidaya DOI:10.5958/0976-5506.2019.02609.3 Maternal and Fetal Determinants of Stillbirth among Women Who Attending Maternity Departments of Basra central Hospitals Nadeem R Shiaa, Saljad S. Issa, Bd AL Kareem H Subber DOI:10.5958/0976-5506.2019.02610.X Spiritual-Based Family care Models to improvement Family Health with Leprosy at Jombang Regency of East Java indonesia Nasrudin, Ah Yusuf, Rachmat Hargono, Tjipto Suwand Determining Mercury Safe concentration in Shells in the Unlicensed Gold Mining Area of Kayeli Village, Buru Regency, Maluku Province, indonesia Nesya Eka Ramadhani, Abdul Rohim Tualeka, Bacrudin Lain, Pudji Rahmawati, Syamslar S Russeng, Atjo Wahyu, Absan DOI:10.5958/0975-6506.2019.02612.3 Synapsin-i Expression in the Rattus nonvegicus Pup's Brain from Rat's Maternal Death Model Nur Maziyah Hurin'in, Hermanto Tri Joewono, Widjiati DOI:10.5958/0976-5505.2019.02613.5 Toluene Safe concentration for Toll Gate Keepers at Kebon Jeruk, Jakarta indonesia Nur Vita Widlaningrum, Abdul Rohim Tualeka, Pudji Rahmawati, Syamsiar S Russeng, Aljo Wahyu DOI:10.5958/0970-5500 2019 02614.7 The Effect of Fermentation of Oyster Mushrooms on Millet Grain of Healthy Japanese Quail Diets on Some Productive and Physiological Traits Ola H. Abdul Ameer, Yasser J. Jameel, Mahdi A. Ali DOI:10.5950/0976-5506.2019.02615.9 Effect of Acylation. Estenfication and Deamidation on Functional Properties of camel Milk caseins Qausar Hamed ALKalsy, Jasim M. S. Al-Saadi D0110.5953/0076-5505.2019.02616.0 mplementation Program of child Under 5 Years' Growth and Development Problems in Bangkalan, Madura Qumia Andayani, Toetik Koesbardiati, Windhu Pumomo DOI:10.5958/0976-5508 2019.02817.2 Effect of Exercises Using Devices to Develop Some of the Motor Qualities and Offensive Basketball Skills Rasha Talib Dhevab, Omar Saad Ahmed 6-5505 2019 02618 4 Implementation of Speech Therapy and Social Stories increasing Social interaction in children with Autism Retno Twistlandayani, Khoiroh Umah, Dede Nasrullah DOI:10.5559/0976-5505.2019.02619.6 Determination of Safe Sulfur Dioxide (SO<sub>2</sub>) concentration among Street Vendors of Ampera Bus Station, Palembang, Indonesia Rizgy Kartika Sari, Abdul Rohim Tualeka, Pudji Rahmawati, Syamsiar S Russeng, Atjo Wahyu DOI:10.5958/0976-5506.2019.02620.2 ce of Training Handover based SBAR communication for improving Patients Safety The Influen Rovmond H. Simamora, Achmad Fathi DOI:10.5958/0976-5506.2019.02755.4 Effects of Nijella Sativa Oil on Biochemical Parameters of White Male Rats Exposed to Diazinon Rusul M. Alhilo, Hussain J. Kadhim, Mohammed T. Abbas DOI:10.595 0976-5506 2019 02621 4 Role of Serum Activin A and Granulocyte Macrophage-colony Stimulating Factor in the Prediction of Pregnancy Outcome in PCOS and Non-PCOS Women Following ICSI Saad S. Al-Dujally, Nagham T. Shukry DOI:10.5958/0976-5506.2019.02622.6 Influence of Perception about their Partners and Marital Status on Prevention of HIV ADS Transmission among Papuan Women in Sorong dity Sariana Pangaribuan, Chatarina Umbul Wahyuni, Hari Basuki, Ari Probandari DDI:to 59580976-5506 2019 02623 8 Using Random Amplified Polymorphic DNA (RAPD) Eingerprinting Technique to Analyze Genetic Variation in Staphylococcus Aureus Isolated from Different Sources in Babylon Province Hospitals Shalma R. Bancon, Zahraa Kamli Kadhim, Zahid S. Aziz, Zahraa Isam Jameel, Ruqaya M.J. EWadh DOI:10 5958/0976-5506 2019 02624 X Effect of Using Distal Extension Bar on the Posterior Ridge Area in implant Supported Mandibular Overdentures Sherif M. Abdel Hamid, Ahmed G. Hamzawi, Emad M. Agamy, Gehan F. Mohamed DOI:10.5958/0976-6506.2019.02625.1 Salivary and Seral Sex Hormones in Relation with Periodontal Problems Sulafa Khair Al-Deen Banoosh DOI:10.5958/0976-5506.2019.02626.5 Effectiveness of Soursop Leaf Extracts on Decreasing Blood Sugar for Type-2 Diabetes Mellitus Patients Ta'adi, Mardi Hartono, Sunarto, Choiroel Anwa DOI:10.5958/0978-5508.2019.02827.5 Effectiveness of Mini Long Protocol in Patients with Previous IVF Failure Due to Poor Response Thuraya Hussamuldeen Abdull, Sumaya Taher Sayhood, Alaa Mohammad AlKhawaz D0I:10.5952/0376-5505.2019.02023.7 mination of Reference of concentracion (Rfc) Sulfur Dioxide (SO2) Based on NOAEL SO2 in White Rats and the Body Weight and Height of indonesian Exposed to SO2 Wanda Widya Wisesa, Abdul Rohim Tualeka, Rois Solichin, Pudji Rahmawati, Syamsiar 5 Russeng, Atjo Wahyu, Ahsan DOI-10 5958/0976-5506 2019 02629 (

	for Preemptive Administration of intravenous infusion of Netopam Versus Paracetamol in Providing Postoperative Analgesia for Patients Undergoing Anterior and Posterio
	rs Under Spinal Anesthesia mad Ali Akhazraji, Sahar Swadi Raheem, Qatar Al-Nada Adhan Abood 2019 10800 5
	ysfunction on control of Diabetes Mellitus
Zahraa Abdukaali A DOI: <u>10.5958/0976-5508</u>	V-Mudhafar, israa Nihad Ahmed, Mohammed Sami Turki, Safaa Ali Khudhalr 1 2019 12831 7 -
Study the Effect of Zainab R. Zghair DOI:10.5958/0975-5508	Cladosporium Spp. on Some Internal Organs of Experimental Animats
	on of White Portland Cement on the Physical Properties of MTA Fillapex laged M. Negm, Magdy M. Ali, Lamia I. Ahmed 1.2019/02033 0
Student in Volleyba	rdh, Amer Husseln All, Zaman Torld Hashim
Risk Factors of Rot	avirus infection among children Hospitalised with Acute Diarrhoea in Sabah, Malaysia Borneo ng, Mohammad Saffree Jeffree, Syed Sharizman Syed Abdul Rahim, Firdaus Hayati, Khamisah Awang Lukman, Mohd Yusofibrahim, Kamrudin Ahmed
	Contraceptive Use among Reproductive-Age Women in East Java, indonesia ah Herowati, Kuntoro, Arlef Wilbowo san's uses e
	ge for Weight control Behavior among collegians <i>ha, Arkan Bahiol Naji</i> 2019 12617 8
	ildth of Un-Erupted canines and Premolars in Basrah Population: A cross Sectional Study anen A. Alnamel, Ralfid M. Albadr 12019 02033 X
	iors Associated with the Relapse History of clients with Schizophrenia at an Outpatient Polyclinic nu, Ao, Yusuf, K Rizki Fitryasari Patra 12019 12619 12
	lity in Euthanasia Problem Ima Putra, Huldanl, Bayu Indra Sukmana, Fauzlah, Harun Achmad 2019 17840 8
	riata Extract on the Expression of Tumor Necrosis Factor-α (TNF-α) in Rat Experience Periodontitis im, Hasanuddin Thahir, Harun Achmad 12019/02641.x
	eaf Extract ( <i>Moringa Otelfera</i> ) on increasing the Number of Osteololas as a Marker of Bone Remodeling Hasanuddin Thahir, Muchammad Hatta, Harun Achmad, Melyanii Sari 12019 02042 1
	on among Kindergarlen children in Relation to Salivary soluble Cluster of Differentiation 14 and Tool Like Receptor 2 (comparative study) ver, Ahlam Taha Mohammed, Batool Hassan Al-Ghurabl s 2019 10543 3
	erum and Seminal Gamma Glutamyi transferase. (GGT) on Sperm Parameter in Infertile Patients 1-1 Nageeb, Muhammed Bagir M-R. Fakhrlidin 1 2019 19844 5
Staphylococcus Au	Tutlek Purwanti, Isnaeni
	Sleep Quality Factors in Overweight Adolescents in a Developing country Ilfiana, Setho Hadisuyatmana 12019 02846.9
Carbon Emission D Bangun Tri Saputro Doi:10.5958/0976-5506	
	rain Gym and Memory Games Therapy for Improving cognitive Function in Elderly People with Dementia dho, Elida Uifiana, Setho Hadi Suyatmana consussas c
	of Reading Short Stories Activites and Retelling the Story on Elderly cognitive impairment ari, Hanik Endang Nihayati, Elida Ulitana, Rista Fauziningtyas 2010/2010/2010
	nakonan Games to Impede Dementia in Elders Joni Haryanto, Rista Fauziningtyas 12019 12850.0
	nethacin and Ambon Banana Stem Extract ( <i>Musa paradisiaca var. sanientum</i> ) on ileum Histopathology of indomethacin-induced Rats ( <i>Ratus novergicus)</i> lek Rachmawati, Romziah Sidik 12019 10651 2
	er/a tenel/a with immersion Various concentration of Formaldehyde in Inducing Protective immunity after challenge Test by Featuring Macroscopic and Microscopic caecum Iani, Muchammad Yunus, chairul Anwar Nidom 12019/02652.4
	mune Resource improvement through Brucella abortus Outer Membrane Protein and Whole Brucella abortus S19 Vaccinations on White Pulp Diameter of Lepus nigricaliti syah, Chairul Anwar, Imam Mustofa 12012 02053.6
	9. <u>Moringa Leave. (<i>Moringa oleilera</i>) to Male Broller Feed</u> 1 Muis, Kadek Rachmawati, Mohammad Anam Al Arif 1 2019 102654 8
	in on Wistar Rats' Testicle's Exposed to Lethal Insecticide oka, Kusnoto, Thomas Valentinus Widiyatno 12012 12055 x
	malin in Atenuation of Pathogenicity in <i>Elmerta Tenella</i> at the caecum of Broiler chicken <i>ichammad Yunus, Dadik Rahardjo</i> 12019 02656.1
	ince on Several cattle Breeds Wi, Setiawan Koesdarto, Nenny Hanjani 2019 02657.3
	atients Satisfaction on Pharmaceutical Services in Community Health Center (PUSKESMAS)–South Surabaya Area / Nyoman Wijaya, Catur Dian Setiawan, Gesnita Nugrahen/ : 2019 02658 5
	r Extremity Massage with Lavender Essential Oil on Decreasing Blood Pressure in Elderly with Hypertension in UPTD Griva Werdha Surabaya

Fine Motor Skill and cognition Development in children with Autism Using Finger Painting Method Okgi Tiara, Ah Yusuf, Rr. Dian Tristiana D0:10.5958/0026 ccore core The Effectiveness of Alternoon Sunbath in Improving Elderly Sleep Quality Zaenal Abidin, Harmayetty, Deni Yasma DOI:10.5958/0976-5506.2019.02661.5 Family Burden and cooling in Family caregivers of Patients with Schizophrenia Winda Kusuma wardani, Ah. Yusuf, Lailatun Ni'mah DOI:10.05650076-5505.2019.02062.7 Antibacterial Activities of Extract n-Butanoi-Methanoi (1: 1) Filtrat of the Fermentation Results of Streptomyces sp. B10 Against Mycobacterium tuberculosis H37Rv: An Experimental Study Seota Devi Adetva Putri, Isnaeni, M. Faris Adrianto DOI:10.5958/0976-5506.2019.02663.9 The correlation between Goat Maintenance Management to the incidence of Gastrointestinal Parasite infections Zahrotul Humlyyah, Nunuk Dyah Retno Lastutl, Llanny Nangol DOI:10.5959/0976-5506.2019.02664.0 Histopathology of Esophagus and crop of Pigeon (Columbia IIvia) infected by Trichomonas gallinae Aprilia Eva Widiawati, Muchamad Yunus, Thomas V Widijatno DOI:10.5958/0976-5508.2019.02085.2 The Effectiveness of Back Exercise for the Reduction of Low Back Pain Prevalence on the Emergency Room Nurses Dinda Nur Fajri Hidayati Bunga, Harmayetty, Candra Panji Asmoro D0:10.5958/0975-5506.2019 (2666.4 The Effect of Breeding Management on the Prevalence and Trematode infection Degree in calves Haris Setlawan, Kusnoto, Mas'ud Hariadi DOI:10.5958/0976-5506.2019.02667.6 The Effectiveness of Cymodon dactylon Leaf Extract as Hepatoprotector in Liver Damage of Hyperglycemic Mus musculus Ade Mahendra Putra, Retno Sri Wahjuni, Rahaju Ernawati DOI:10.5958/0976-5506.2019.02668.8 The Relationship between the Forms of Social Interactions and the Life Quality of the Elderly Muthmainnah, Elida Ulfiana, Setho Hadisuyatmana DOI:10.5958/0976-5506.2019.02669.X Educational Game Methods of Attaching images to Silde calendar towards School-Age children's Knowledge and Attitudes on choosing Healthy Snacks Adzan Fachrurrozi, Tiyas Kusumaningrum, Praba Diyan Rachmawatt DOI:10.5958/0976-5506 2019 02670 6 The correlation between Dementia Severity and caregiver Burden Level in community Eryin Sulistyani, Joni Haryanto, Makhfudli DOI:10.5958/0370-5501.2019.02071.8 An Exploratory Study in the indonesian Archipelago: Are There Influenza B Virus (B-Victoria Sub-Type) in the Bat's Respiratory Organs? Muhammad Anas Wildanu Rahman, Chairul Anwar Nidom, Setva Budhi DOI:10.5958/0976-5506.2019.02672.X Factors Influencing Publishing Scientific Papers among Iragi Medical Academic Yossra K Hanoon, Riyadh K Lafta DOI:10.5958/0976-5506.2019.02673.1 Effect of Eating Even or Odd Number of Dates, on Blood Glucose Level ssra K. Al-Robalaay, Maha A. Al-Nualini, Tawleeq F. R. AL-Auqbi 1:10 5550/0378-5505 2019 02674 3 DOI:10.59 Management of Slum Settings Through the Private city Program (Kotaku) Towards a city of Health, Makassar Indonesia Haslinah Ahmad, Indar, Sukri Palluturi, Suriah, Ahmad Yani DOI:10.5958/0976-5506.2019.02675.5 Prosthodontics Rehabilitation of a Surgically Repaired Cleft Palate Patient with Tooth Supported Telescopic Over Denture Prosthesis: Case Study Privanka Debta, Anurao Dani, Fakir Mohan Debta, Santosh Kumar Swain, Somalee Mahapatra DOI:10.595 05 2019 Achondroplasia in an Eleven-Year-Old Male Child Satya Ranjan Misra DOI:10.5958/0976-5506 2019 02677 9 An Introduction to Preventive Orthodontics Snigdha Pattanaik, Swati Patnaik DOI:10.5958/0976-5506.2019.02678.0 Minimal Invasive Surgical Approach for Treatment of Excessive Glopival Display: A Case Recort Gatha Mohanty, Abhaya Chandra Das, Anurag Satpathy, Saurav Panda, Rinkee Mohanty DOI:10.5958/0976 5506 2019 02679 2 Unusual Presentation of Dentigerous Cysts Arising from Complex and Compound Octontomas Shubhangi Pareek, Swagatika Panda, Subrat Padhlary, Sreepreeti Champatyray, Neeta Mohanty DOI:10.5958/0976-5506.2019.02752.9 Surgical Clinical Crown Lengthening: A Prerequisite for Crown Placement in Fractured Teeth Abhaya Chandra Das, Saurav Panda, Manoj Kumar, Saumya Kanta Mohanty DOI:10.5958/0976-5506.2019.02680.9 Immediate Placement of Implants in Fresh Maxillary Anterior Tooth Region: 18 Months Follow Up: A Case Report Monika Samal, Sreeprada Dash, Gunjan Srivastava, Sitansu Sekhar Das, Bodhisatta Mukherjee DOI:10.5958/0976-5506.2019.02681.0 Recurrent Respiratory Papillomatosis: A Comprehensive Review Santosh Kumar Swain, Priyanka Debta, Smrutipragnya Samal, Jatindra Nath Mohanty, Fakir Mohan Debta, Anurag Dani DOI:10.5958/0976-5506.2019.02682.2 Laterally Pedicled Flap and Connective Tissue Graft for Management of Orthodontically inflicted Gingival Recession-A Case Report Saurav Panda, Sital Panda, Anurag Satpathy, Abhaya Chandra Das DOI:10.5958/0976-6606.2019.02683.4 Life Threatening Involvement of Bilateral Total Maxilla by a Large Radicular Cyst: A Rare Case Report Harsh Mohan Pathak, Sobhan Mishra, Neeta Mohanty, Sanchari Sinha Roy, Satchidananda Mehe DOI:10.5958/0976-5506.2019.02684 Medical Tourism: Prospects and Challenges Shakti Rath, Naushaba Akhtar, Sangram Panda DOI:10 5958/0975-5506 2019 02685 8 Multiple Major Aphthous Ulcers: An Uncommon Presentation Satya Ranjan Misra DOI:10.5958/0976-6508.2019.02686.X Antiplaque Efficacy of a Dentifrice Containing Low Concentration of Chlorhexidine: A Randomized Controlled Clinical Trial Adrita Purkayasitha, Rinkee Mohanty, Anurag Satpathy, Rashmita Nayak, Rajdeep Beura, Utkalika Das DOI:10.5958/0976-5505.2019.02887.1 Temporomandibular Joint Disorders: Etiological Factors, Diagnosis and Treatment K.L. Sushmita DOI:10.5958/0976-5506.2019.02688.3 Potentially Malignant Oral Lesions: A Clinical Perspective Suryasnata Nayak, Shashirekha Govind, Amit Jer DOI:10.5959/0975-5506.2019.02689.5

Prosthetic Rehabilitation of Ocular Defect: A Case Report M. Krishna, Abhijita Mohapatra, Gopal Krishna Choudhury DOI:10.5958/0976-5500 2019 02090.1

Accelerated Orthodontics: A Boost to Orthodontic Treatment Ananya Panda D0i:t0.59580976-5506.2019.02691.3

Diagnostic Features of Oral Ulcers: An Overview Suvranita Jena, Rupsa Das D0(:10.5958/0976-5805.2019.02692.5

Conventional Over Denture-A Successful Clinical Protocol to Treat Edentulous State: A Case Report Sangram Panda, Gopal Krishna Choudhury, Sumita Mishra DOI:10.59580976-5505.2019.02093.7

Modified Coronally Advanced Flap Procedure Using Orthodontic Buttons: A Case Report Saurav Panda, Sital Panda, Abhaya Chandra Das, Rinkee Mohanty D01:10.5958/0976-5505 2019 02694 9

Pindborg Tumor: A Report of Two Cases Basanta Kumar Choudhury, Shayari Niyogi, Pinali Das D0:10.59580975-5508.2019.02695.0

Hypohidrotic Ectodermal Dysplasia in a Young Male Patient Satya Ranjan Misra DOI:10.5552/0076.5550 2019 02005 2

Management of Mandibular Resorbed Ridges by Combining Two Impression Techniques: A Literature Review and Case Report Sreeprada Dash, Gurjan Shriastava, Gopal Krishna Choudhury, Debashish Sahoo, Monika Samal D011055800765050210; 20207.1

Evolution of the Begg's Appliance Snigdha Pattanaik D0:10.9558/0976-5506.2019.02698.6

Glycolic Acid Peel for Ginglival De-Plgmentation: A Case Report Rashmita Nayak, Sheetal Acharya, Anurag Salpathy, Rohina Shamim, Pratiti Datta, Bikash Kar D0I:10.095810975-6501.2019.02009.8

Laser Assisted Frenotomy with Coronally Positioned Flap for The Treatment of Isolated Mandibular Ginglyal Recession Abhaya Chandra Das, Saurav Panda, Sauraya Kanta Mohanty, Nitai Debnath D01:10.59580976-5505 2019 02700.1

Endoscopic Treatment of Sinonasal Ossifying Elbroma: A Case Report Santosh Kumar Swain, Priyanka Debia, Smirufipragnya Samai, Jatindra Nath Mohanty, Fakir Mohan Debia, Anurag Dan/ Dorto 6seasorr-6sob core score.

Management of Medical Emergencies in Dental Office Ananya Oujwoswini DOI:10.5058/0976-5608.2019.02702.5

A Rare Case Report of Recurrent Basal Cell Adenoma Involving Minor Salivary Giand of Hard Palate Harsh Mohan Palhak, Santosh Kumar Subudhi, Salya Painaik, Swagalika Panda, Kalyan Sundar Pal Doi10.565600745600.2019.02703.7

The Relationship between Nutrition and Oral Health: A Review Sourav Chandra Bidysasgar Bal, Sukhvinder Singh Oberoi, Radha Prasanna Dalai, Avneet Oberoi Doi:10.5562047-5565.019 (2014)

Reproductive Health for Adolescents with Intellectual Disabilities: The Implementation of a Psychoeducation Module for Special Education Teachers in Bandung City, Indonesia Sela Fasya, Ev Martha, Had Pratomo, Frieda Mangunsong Dontosseaversesses and services and a service service and a service service

Cost Effectiveness of Interventions Using the TB Dots Strategy in Public Healthcare and Private Hospitals in Depok, West Java, Indonesia Fikrotul Ulya, Hasbullah Thabrany, Mardiati Nadjib, Purnawan Junadi DOI:10.59580976-5500 2019 02706 2

Determinants of Nurse Quality Service In Jakarta Private Hospital Bernadetha Nadeak, Sasmoko D0(10.59580976-596.2019.02707.4

Analysis of Clinical Pathway Implementation on Pneumonia Case in PMI Bogor Hospital Musliyah Syahrawani Elsa, Alik Nurwahyuni Donto seseoorsesso soro soroa e

Effects of Servant Leadership and Training Programs on Servant motivation of Hospital Medical Personnel Bernadetha Nadeak, Sasmoko DOI:10.59580976-5565.2019.02709.8

The Role of Environmental Leadership and Personality on VBN Model / Made Putrawan, Lisa Dwi Ningtyas DOI:10.5958/0976-5506.2019.02710.4

Environment and Commitment, Locus of Control and Intention to Act Erlan Fatria, I Made Putrawan, Guspri Devi Artanti DOI:10.55500376-5508.2019.02711.6

The Psychometrics Evaluation of Administrative Staff's Job Satisfaction Verna Aisya Rahma, Lokman Mohd Tahir, Narina A. Samah, Sanitah Mohd Yusof, Rohaya Talib, Noor Azean Atan DOI:10.595800976-5505.2019.02712.8

Reliability of Sullivan Emotional Intelligence Scale for Children in Malaysian Context Using Rasch Measurement Model Nor Alzai Akmal Binti Rohalzad, Siti Nazilah Binti Mat Ali, Azilna Binti Mohd Kosnin, Ageel Khan, Norfishah Mat Rabi, Norwaliza Binti Abdul Wahab DOI:10.5958/0975-5505.2019.02113.X

Online Trust: Examining Identity on Health Related Tourism Websites in Southeast Asia Mohammad All Mosfehrlär, Noor Alreen Ibrahim, C. Sandaran Donto 5580037-6505 2019 02174 1

Coping Strategies and Challenges among International Married Postgraduate Students in Universiti Teknologi Malaysia Narjes Rahmani Movahed, Mahani Mokhtar, Zainudin Hassan DOI:10.5968/0976-5508.2019.02716.3

Improving Spatial Visualization Skills in Educational Settings Marissa Omar, Dayana Farzeeha Ali, Johari Surit, Mahani Mokhtar, Nurul Farhana Jumaat, Norazrena Abu Samah, Zaklah Mohamad Ashari Donto 595809745505 019 92716 5

Enhancing Training for Multicultural Counseling Efficiency According to the School Counselors Perspective Toward Clients Psychological Health Komarul Md Shah, Ageel Khan, Rozita Jayos Docis 0568000712.2

Does Psychological Empowerment Mediates the Relationship between Leader-Member Exchange and Organisational Citizenship Behaviour among Nurses? Junaidah Yusof, Siti Aisyah Panatili, Azizah Rajab, Norakmar Nordin D0:10.5952/0276-5502.2019.02718.9

Social Support, Optimism, Parental Self-efficacy and Wellbeing in Mothers of Children with Autism Spectrum Disorder Farhan Sarwar, Siti Aisyah Panatik, Azizah Rajab, Norakmar Nordin. DOI:10.5958/0976-5505.2019.02719.0

Employee Performance of Private Hospital Non-Medical Services Bernadetha Nadeak, Sasmoko DDI:10.55520076-5506.2019.02720.7

Perceived Effects of KOACI.COM Health Campaign Targeting Mother-Child with HIV/AIDS in Cote d'Ivoire Hasmah Zanuddin, Ousmane Koffi Abdoulaye DOI:10.5958/0976-5506.2019.02721.9 Do Demographics Matter? A Study on Administrative Staff's Satisfaction Level Towards their High Education Institutions Lokman Mohd Tahir, Narina A. Samah, Sanitah Mohd Yusof, Mohd Fadzli Ali, Noor Azean Atan, M. Al-Muzammil Yassin D01:10.99580976-5505 2019 102722 0 Benefits of Breast Milk for Health Care Analysis from the Islamic Perspective Normadiah Daud, Hamizah Ismail, Siti Roshaidal Mohd Ariffin, Rahimah Emborg, Nadhirah Nordin, Ado Abdu Bichl DOI:10.5958/0976-5506.2019.02723.2 The Importance of Menu Variety Experience for Public Health Sustainability at Higher Education Institution Sarimah Ismail, Normah Kadir, Arif Kamisan Pusiran, Irina Safitri Zen, Ageel Khan DOI:10.5958/0976-5506.2019.02724.4 Spectrofluorimetric Method for the Determination of Rhodamine B in Syrup Asmiyenti Djaliasrin Djalii, Bondan Bagus Wijaksono, Pri Iswati Utami D0:10.5958/0976-5505 2019 02725.6 Heavy Change of Acceptor Contraception Body in Depo Medroxy Progesterone Acetat (DMPA) Susanti, Annisa Nurul Chusna DOI:10.5958/0975-5506 2019 02753.0 The Overview of Malaysia HIV Counselling Structure Nur'ain Balqis Haladin, Noor Aireen Ibrahim, Azizah Rajab, Yasmin Hanafi Zaid DOI:10.5958/0976-5506.2019.02726.8 A Systematic Review of Learning Application for Students with Dyslexia Kee Jiar Yeo, Wai Wai Lim DOI:10.5958/0976-5506.2019.02727.X Diagnostic Outcomes of Pancytopenia after Bone Marrow Examination in Lady Reading Hospital, Peshawar Huma Riaz, Munawar Ali Shah, Taj Ali Khattak DOI:10.5958/0976-5506 2019 02728 1 Perceived Causes of Infertility: Accounts of Infertile Individuals in Kwara South, Nigeria S (welumor Oluwakerni, Shariffah Suraya Syed Jamaludin, K Babatunde Seun D01:10.59580976-5505 2019 02729.3 The Correlation Between Education and Occupation with the ANC (Antenatal Care) Visit at Nagaswidak Health Care Center Palembang Resy Asmalia, Asmarani Makmun DOI:10.5958/0976-5508.2019.02730.X nctioning System in Regulatory Enforcement of Medicine in Malaysia Nurul Havati Bohari, Abdul Samad Abdul Ghani DOI:10.5958/0976-5506.2019.02731.1 Eating Disorder, Body Fat Percentage, and Physical Activity Among Sarawak Female National Athletes Patricia Pawa Pitil, Wan Juliana Emelh Wahed DOI:10.6958/0976-5506.2019.0273 Improvement of Anide Brachial Index (ABI) Using Foot Bath Therapy at a Temperature af 40°C in Patients with Diabetes Mellitus Nur Isnaini, Bekti Nurpri Setiyar DOI:10.5958/0976-5606.2019.02733.5 The Theoretical Model of the Influence of Extraversion Personality and Optimism on Subjective Well-Being by Coping as a Mediator Nur'aeni, Asmadi Alsa, Anizar Rahayu DOI:10.5958/0976-5506.2019.02734.7 Social Skills for Student Social Anxiety Disorder (SAD) in Elementary School S. Srivanto, Tri Na'imah, Yudha Febrianta, Indri Murniawaty DOI:10.5958/0976-5506.2019.02735.9 Therapeutic Intervention of Respiratory Tract Cases in Children Umi Solikhah, Siti Nurjannah, Supriyadi DOI:10.5958/0976-5508.2019.02738.0 Mortality Rate and Gonotropic Cycle Serotipe Denv-2 Transovarial Transmission through Intratoracal Isna Hikmawali, Hendo Walijono, Martini, Soehanyo Hadisaputro, Edi Darmana, Kisdjamiatun Retna Muslika Djati, Sugeng Juwono Mardihusodo D01105959097-6606 2019 02131 2 Validating the Measurement Model of Problem Solving. Strategies and Marital Communication Styles among Secondary School Teachers in Nigeria Fasasi Lukman, Ageel Khan, Adibah Abdul Latif, Ado Abdu Bichi DOI:10.59580975-5505 2019 02736.4 Validation of Anxiety, Life Satisfaction and Social Media Addiction Scales using Rasch Measurement Approach Ramatu Muhammad Malwada, Ageel Khan, Adibah Abdul Latif DOI:10 5958/0976-5506 2019 02739 6 Psychological Happiness and Meaning of Life among Students of King Khalid University Saudi Arabia Ziyad Al-Tarawneh, Nashaat Baloumy, Rahimah Embong, Roslan Ab Rahman, Ado Abdu Bichi DOI:10.5958/0976-5506.2019.02740.2 The influence of Larvitraps Modification as the Monitoring of Aedes Aegypti Larvae Existence at the Area of Rajabasa Indah Health Center Technical Implementation Unit Ayu Rizky, Khoidar Amirus, Agung Aji Perdana DOI:10.5958/0976-5508 2019 02741.4 A New Risk Calculation Method for Tuberculosis. (TB) based on Decision Tree and Artificial Neural Network Monisha Ghosh Srabanti, Eko Supriyanto, Muhammad Nabil Mohd Warid DOI:10.5958/0976-5506.2019.02742.6 Safety Critical Element Methodology in an Oil and Gas Company Fernando WH Deddy, Zulkifli Djunaidi, Mila Tejamaya DOI:10.5958/0976-5508.2019.02743.8 inkage Model of Brand Equity and Word of Mouth Toward Purchase Intention in Surgery Speciality Hospital Ropanasuri Padang, Indonesia Nurmaines Adhyka, Ratni Prima Lita, Rima Semiarty DOI:10.5958/0976-5506 2019 02744.X Effect of Repetitive Transcranial Magnetic Stimulation on Cortical and Motor Outcomes Post Stroke: A Randomized Controlled Trial Mohammed S. El-Tamawy, Moshera H. Darwish, Saly H. Elkholy, Engy Badreldin S. Moustala DOI:10.59590978-6506.2019.02745.1 Correlation Study of Functional Performance between Diabetic and Non-Diabetic Patients with Knee Osteoarthritis Abla M Hamed, Mohamed H. Aboeleinen, Hala A. Abdelgawad, Shimaa N. Aboelazm DOI:10.5959/0370-5508\_2019.02740.3 Implementation of Enhanced Recovery after Surgery for Endometrial Carcinoma: A Non-Randomized Controlled Trial Ahmad Sameer Sanad, Essam El-Gindi, Reham R El-Kinateeb, Ahmed M Abdl-Ghany, AmrNady Abdehazik, Ahmed Bakr Mousa, AhmedShoukry Haliz DOI:10.5958/0976-5506.2019.02747.5 Can Plasma Cystatin C Predict Clinical Outcomes in Hospitalized Patients with Acute Decompensated Heart Failure? Amir Mostafa, Karim Said, Walid Ammar, Ahmed Elsayed Eltawil, Magdy Abdel Hamid DOI:10.5958/0976 5505 2019 02 Effect of Dexamethasone on Marbofloxacin Residues in Rabbit Tissues Using HPLC Gamal A. Shams, Hosny A. Ibrahim, Ashraf S. Darwish, Hend A. Mahmouo DOI:10.5958/0975-5505 2019.02749.9

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# Histopathology of Esophagus and Crop of Pigeon (*Columbia livia*) Infected by *Trichomonas gallinae*

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## ABSTRACT

**Background:** *Trichomonas gallinae* is a protozoa that causes trichomoniasis which is common found in pigeons and it attacks the digestive tract of pigeons. Proper examination can be done to differentiatefrom healthy pigeons.

**Purpose:** to observe the changes in histopathological images of the esophagus and the crop of pigeons (*Columba livia*) that infected with *Trichomonas gallinae*.

**Method:** Observations were carried out on 20 pigeons with symptoms of presence*Trichomonas gallinae*. Swab examination in the esophagus with the Natif Test and Giemsa Staining. Esophagus and cropwas collected through necropsy in the upper digestive tract. Then histopathological examination was performed with Hematoxylin Eosin (HE) staining. Data was analyzed descriptively.

**Result:** Histopathological features of pigeons (*Columba livia*) infected with *Trichomonas gallinae* were different from healthy pigeons. Pigeons infected with protozoa *Trichomonas gallinae* showed changes of the esophagus in the form of erosion and cell necrosis in stratified non-keranitized epithelium (mucosa) and infiltration of inflammatory cells in the mucosa layer and sub esophageal mucosa. In addition, changes in the crop were cell necrosis in the mucosa layer, infiltration of inflammatory cells in the submucosa layer, and congestion in the sub mucosal cavity.

**Conclusion:** There werehistopathological changes in the esophagus and crop of pigeonsthat infected with *Trichomonas gallinae*.

Keywords: Histopathology, Esophagus, Crop, Trichomonas gallinae, pigeon.

## Introduction

Pigeon (*Columba livia*) is one type of fowl with a well known species in the Columbidae family.It is one of the fauna diversity in Indonesia which has a high diversity of phenotypes, both qualitative and quantitative characteristics.<sup>1</sup> Pigeons are also farmed for their meat as a source of animal protein. The problem is poor maintenance management causes pigeons become susceptible to disease.<sup>2</sup> One of parasitic infection that can attack a pigeon is*Trichomonas sp..*<sup>3</sup> *Trichomonas* 

**Corresponding Author:** Muchamad Yunus Faculty of Veterinary Medicine, Universitas Airlangga,Surabaya Email: muchammadyunusfkhunair@yahoo.com *gallinae* is a flagela protozoa that causes trichomoniasis in pigeons.<sup>4</sup> *Trichomonas gallinae* is most commonly found in pigeons and has been reported to infect 67.3% of pigeons species.<sup>5</sup> Trichomoniasis causes high mortality in young pigeons and affect the pigeons mortality with a percentage of 77.5% in one subpopulation.<sup>6,7</sup> *Trichomonas gallinae* attack the digestive tract of pigeons, mostly found in the oral cavity, pharynx, esophagus, and crop of adult pigeon as carriers of the disease.<sup>8</sup>

*Trichomonas gallinae* infection has a pathognomonic clinical signs. The identification can be done from taking samples of lesion in the mouth both nichrotic and fluid lesion. Transmission can occur through milk fromparent and child of pigeons, as well as through contaminated food and beverages. This infection can spread between

#### Method

species such as bird and eagle, then considered risk for human health. Species that infect birds and domestic mammals have been identified in human clinical samples. Several phylogenetic analyzes have identified trichomonas derived from animals as taxa of closed relatives of two species of humans.<sup>9</sup> This confirms that efforts to detect disease in pigeons are an important to improve an animal health while distinguishing infected pigeons from healthy pigeons. To reduce the risk of zoonosis more effectively from industrial food animal production, the application of biosecurity must be in harmony with the interest of public health.<sup>10</sup> Surveillance of diseases, as well as in transmission model for poultry and zoonotic diseases are the main things.<sup>11</sup> In addition, the most important is rapid detection and diagnosis.<sup>12</sup>

Observation of symptom is part of the framework of detection and diagnosis. Pigeons infected with T. gallinae will have clinical symptoms namely weight loss, weakness, depression with lesion in the upper gastrointestinal tract. <sup>3</sup> Infection Trichomonas gallinae causes ulceration in the crop, esophagus and proventriculus. Microscopic examination of pigeons infected with Trichomonas gallinae will show an infiltration of heterophil and eosinophil cells in the mucosal layer and submucosal lamina propria.13 Parasitic infection Trichomonas gallinae can cause infected birds have clinical symptoms that similar to avian fowl pox, deficiency of vitamin A, poultry (fowl diptheria), capillariasis, candidiasis and asppergillosis, namely the presence of necrotic lesions or lesions in the esophagus. Trichomonas gallinae infection can be established by identification of the T. gallinae parasite in the esophageal swab examination. The method to determine the presence of Trichomonas gallinae is by examining the esophagus swab. Esophageal swab is conducted by the negative method to detect the movement of the parasitic Trichomonas gallina flagella. Giemsa staining is used for morphological identification of Trichomonas gallinae.<sup>5</sup>

In the course of this disease, the difference from other diseases that have similar clinical symptoms can be used as guidelines for management according to the disease found. The information about certain organs changes in pigeon will open up the opportunities for the virus schemespreading. This study aimed to determine the histopathology of the esophagus and crop in pigeons infected with *Trichomonas gallinae*. This study was an an observational study. Laboratory examination were conducted at the Parasitology Laboratory, Department of Veterinary Parasitology, Faculty of Veterinary Medicine, UniversitasAirlangga, Surabaya Indonesia for 20 weeks. The preparation of esophageal and crop histopathological preparations was conducted in the Department of Veterinary Pathology, Faculty of Veterinary Medicine, UniversitasAirlangga, Surabaya Indonesia. This study used replacement, reduction and refinement. Animals were modified in research procedures in such a way that to reduce pain and stress in experimental animals, and considered to the 5 principles of freedom in animal prosperity.

A total of 20 pigeons (*Columba livia*), both male and female contributing to the sample with the criteria have clinical symptoms of *Trichomonas gallinae* infection. The symptoms were depression, weight loss, hair standing like cold and gloomy color, when standing curled up, there were lesions with wet and sticky exudates in the oral cavity, especially in acute diseases and in chronic infections there are hard exudations.

Sample examination wascarried out in several stages. The first step was a swab examination in the esophagus through Natif tests and Giemsa staining when the pigeons were still alive. The samples were positive if found Trichomonas parasites, proven by the movement of flagellars from *Trichomonas gallinae* with a 100-400 times magnification microscope. Pigeons with a lesion in the esophagus were positively infected with *Trichomonas gallinae*. Esophagus and cropcolleceting was done through necropsy in the upper digestive tract, then were given formalin 10%. Afterthat making histopathological preparations with Hematoxylin Eosin (HE) staining for microscopic examination. Data of changes in esophagus histopathological histories and crop was analyzed descriptively.

### Result

Total of 20 pigeons (*Columba livia*) with clinical symptoms of *Trichomonas gallinae* infection were positively infected with *Trichomonas gallinae*. Histopathological changes in the esophagus and crop will be seen as a decrease in blood flow (congestion), irreversible tissue necrosis, partial loss mucosa (erosion), and cells with a defensive reaction as a response to injury in the form of a vascular reaction to infection (inflammatory cells). Changes in oral lesions and esophagus swab results that showed infection with *Trichomonas gallinae* are shown in figure 1.



(A) (B) Figure 1: Lesions in the oral cavity (A), esophagus infected with *Trichomonas gallinae* (B).

The result of the esophagus swabexamination with the natif method was obtained by the movement of flagella from the parasite *Trichomonas gallinae*. Protozoan was detected from the motility or movement of flagella and in Giemsa staining will leave a bluish color up to purple. The movement of flagella *Trichomonas gallinae* was found in all samples of pigeons' esophagus.

Based on the results of examination and microscopic observations carried out there was ahistopathological change in the esophagus of pigeons infected with *Trichomonas gallinae*. These changes

in histopathological features included erosions of cell mucosa necrosis due to *Trichomonas gallinae* infection. Description of histopathological changes in the esophagus of pigeons (*Columba livia*) infected with *Trichomonas gallinae* which h erosion and cell necrosies can be seen in figure 2.

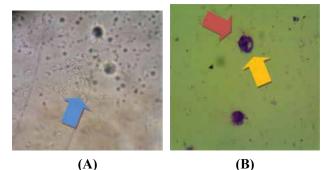


Figure 2: Tropozoite Trichomonas gallinae. A: Independent swab check (400x) without staining. B: Swab checks using Giemsa coloring (1,000x).

Other damage that occurs due to *Trichomonas* gallinae infection was the infiltration of inflammatory cells in the mucosal and sub mucosal layers of the esophagus of the pigeons which cause thickening of the esophageal mucous layer. Histopathological images of the esophageal layer undergoing inflammatory cell infiltration can be seen in figure 3.

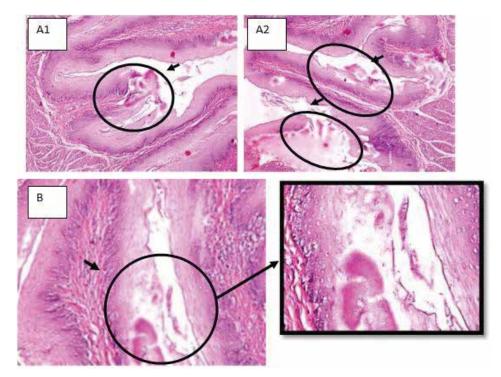


Figure 3: Hitopathological features from the esophagus of naturally infected pigeons *Trichomonas gallinae* has erosion and necrosis of cells in the mucosa (H.E coloring; 100x magnification (A1 and A2) and 200x magnification (B); Nikon microscope H600L; camera of DS Fi megapixel). (): Erosion and cell necrosis.

The results of examination and microscopic observation showed there were histopathological feature changes in the cropofpigeons with *Trichomonas gallinae* infection. These changes included cell necrosis in the mucosal layer, infiltration of inflammatory cells in the sub-mucosal layer, and there are tendons in the sub-mucosal layer. Histopathology of cell necrosis in the mucosal lining of the crop of pigeons (*Columba livia*) infected with *Trichomonasgallinae* can be seen in figure 4. Histopathology in the sub-mucosal layer experiencing inflammatory cell infiltration can be seen in figure 5. Congestion in the sub-mucosal layer can be seen in figure 6.

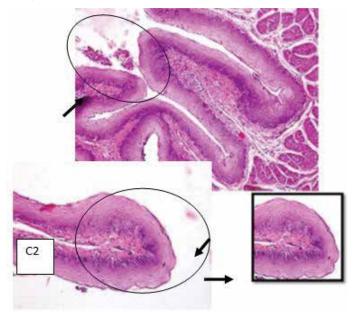


Figure 4: Histopathological picture of pigeon esophagus which has inflammatory cell infiltration due to Trichomonas gallinae infection (H.E staining; 100x magnification (C1) and 200x magnification (C2); Nikon H600L microscope; Camera DS Fi megapixels).

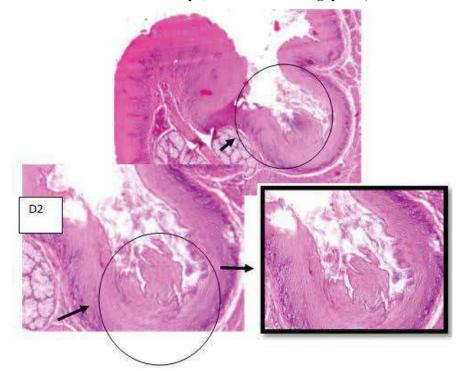


Figure 5: Histopathological features of the crop of pigeons infected with *Trichomonas gallinae*. Visible cell necrosis in the mucosal layer. (H.E coloring; 100x magnification (D1) and 200x magnification (D2); Nikon H600L microscope; camera of DS Fi megapixel).

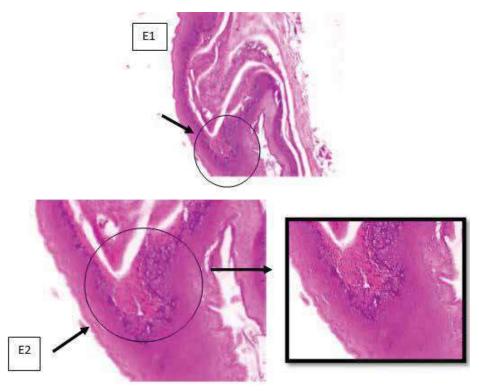


Figure 6: Histopathological features of the crop of pigeons infected with *Trichomonas gallinae*. There is an infiltration of inflammatory cells in the sub mucosal layer. (H.E coloring; 100x magnification (E1) and 200x magnification (E2); Nikon H600L microscope; camera of DS Fi megapixel).

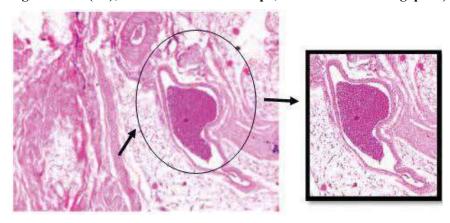


Figure 7: Visible presence of congestion in the sub-mucosal layer of the bird's nest due to *Trichomonas gallinae* infection. (H.E coloring; 100x magnification); Nikon H600L microscope; camera of DS Fi megapixel).

## Discussion

Based on the results of esophagus swab examination of 20 samples of pigeons (*Columba livia*) suspected of being infected with *Trichomonas gallinae* by showing clinical symptoms of depression, weight loss, feathers stands like feeling cold and gloomy color, when standingcurled up, yellow necrotic lesions were seen in the esophagus and crop, and a greenish liquid in the oral cavity.<sup>8</sup> Histopathological changes were supported by the results of a research report that pigeons infected with *Trichomonas gallinae* will experience infiltration of inflammatory cells in the mucosal layer and esophagus mucosa. <sup>13</sup> In the crop of pigeons infected with *Trichomona gallinae* showed histopathological changes of necrosis in the mucous layer and inflammatory cell infiltration in the sub layer mucosal.

Basically, *Trichomonas gallinae* infects the upper digestive tract of pigeons.<sup>14</sup> All positive samples of *T. gallinae* detected by microscopic examination were also detected as positive by the PCR test. Most of the samples

identified negatively by microscopic examination were detected as positive *T. gallinae* by PCR testing and confirmed in sequence. Positive samples of *T. gallinae* collected will provide relevant data for studying the ecology and genetic structure of the population of *Trichomonas gallinae* and for disease prevention and control.<sup>15</sup> The degree of change and virulence of pathological strains was low to high heterogeneity of *T. gallinae* causes trichomoniasis. <sup>16</sup> Infiltration of the trachea and lungs is associated with a severe inflammatory response to the surrounding tissue.<sup>17</sup>

Cytopathological analysis revealed many pyriform protozoa, compatible with Trichomonas gallinae. Protozoa are not proven histopathologically in lesions after staining the sample with Hematoxylin and Eosin staining or Gomori Methenamine Silver (GMS).<sup>18</sup> Histopathological changes in the esophagus of pigeons undergoing erosion and necrosis occur in the mucosal esophagus layer of pigeons. Erosion is the erosion or partial release of the mucosal epithelium. This occurs because of a traumatic reaction to Trichomonas gallinae infection. <sup>19</sup> Changing histopathological of crop that undergoes cell necrosis in the mucosal layer. Changes in infiltration of inflammatory cells in the sub mucosal layer of the crop. The severity of lesions that occur as a result of Trichomonas gallinae infection in the upper digestive tract varies from mild mucosal inflammation to sub-mucosal inflammation.<sup>20</sup>

However, the virulence of *Tricomonas gallinae* depends on other factors such as exposure to previous pathogens (protective immunity) and individual immunocompetence. Factors such as age, concurrent disease, genetic heterogeneity, geographical variation, habitat differences, abundance of means of transmission and availability of food.<sup>16,21</sup> In addition, livestock should pay attention to the management of sanitary cages and feed to break the chain of distribution. Further studies regarding the degree of infection in esophageal histopathological changes and caches infected with Trichomonas gallinae need to be done as a step towards better diagnosis.

## Conclusion

There were histopathological changes in the esophagus and crop of pigeons with infection of *Trichomonas gallinae*.

**Ethical Clearance:** This research has gone through ethical tests and permits from Faculty of Veterinary Universitas Airlangga

**Conflict of Interest:** The author reports no conflict of interest of this work.

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# REFERENCE

- Hamid A. Pola Tingkah Laku Makan Burung Merpati (Columba livia) Jantan Yang Dipelihara Secara Intensif. Universitas Negeri Gorontalo; 2015.
- Dove, A., O.Z. Rojs, A.V. Rataj, Hibrovsek VUK and MD. Health Status of Freeliving Pigeons (Columba livia domestica) in the City of Ljubljana. Acta Vet Hung. 2004;52(2):219–26.
- Bunbury, N., C.G. Jones, A.G. Greenwood and DJB. Epydemology and Conservation of Trichomas gallinae infection in the endangerd Mauritian Pink Pigeon. Biol Conserv. 2008;141:153–61.
- Priosoeryanto, B.P., Ratih, D., Harlina, F., Tiuria, R., Estuningsih, S. W, W., dan Huminto H. Patologi Trichomoniasis pada Burung Merpati (Columba livia) diPeternakan Cianjur Jawa Barat. JMed Vet Indones. 2005;9(1):1–5.
- Begum N, Mamun M, Rahman S, Bari A. Epidemiology and pathology of *Trichomonas* gallinae in the common pigeon (*Columba livia*). J Bangladesh Agric Univ. 2010;6(2):301–6.
- Swinnerton KJ dkk. The ecology and concervation of the Pink Pigeon Columba mayeri in Mauritius. University of Kent, Canterbury, UK, 194 pp.; 2005.
- Bunbury N, Jones CG, Greenwood AG, Bell DJ. Trichomonas Gallinae in Mauritian Columbids: Implications for an Endangered Endemic. J Wildl Dis [Internet]. 2007;43(3):399–407. Available from: http://www.jwildlifedis.org/ doi/10.7589/0090-3558-43.3.399
- Taylor, M.A., R.L. Coop and RLW. Veterinary Parasitology. Third Edit. Australia: Blackwell Publishing; 2007. 44, 46, 460-461, 508-509, 655-656, 673, 535-555., p.

- Maritz JM, Land KM, Carlton JM, Hirt RP. What is the importance of zoonotic trichomonads for human? Trends Parasitol. 2014;30(7):333–41.
- Leibler JH1, Otte J, Roland-Holst D, Pfeiffer DU, Soares Magalhaes R, Rushton J, Graham JP SE. Industrial food animal production and global health risks: exploring the ecosystems and economics of avian influenza. Ecohealth. 2009;6(1):58–70.
- Fiebig L1, Smieszek T, Saurina J, Hattendorf J ZJ. Contacts between poultry farms, their spatial dimension and their relevance for avian influenza preparedness. Geospat Heal. 2009;4(1):79–95.
- 12. Jake Astill, Rozita A. Dara, Evan D. G. Fraser, and Shayan Sharif. Detecting and Predicting Emerging Disease in Poultry With the Implementation of New Technologies and Big Data: A Focus on Avian Influenza Virus. Front Vet Sci. 2018;5:263.
- Fenzi. Tingkat infeksi Trichomoniasis pada burung merpati (Columba livia) di Pasar Satwa dan Tanaman Hias Dongkelan. Universitas Gajah Mada; 2013.
- Oryan A, Rakhshandehroo E, Kamali SA, Taebi pour MJ. Histopathological changes in the upper digestive tract of pigeons infected with Hadjelia truncata. J Parasit Dis [Internet]. 2016;40(3):881– 4. Available from: http://dx.doi.org/10.1007/ s12639-014-0597-1
- Qiu S Ben, Lv MN, He X, Weng YB, Zou SS, Wang XQ, et al. PCR identification and phylogenetic analysis of trichomonas gallinae from domestic

pigeons in Guangzhou, China. Korean J Parasitol. 2017;55(3):333–6.

- Borji H, Razmi GH, Movassaghi AH, Moghadas E, Azad M. Prevalence and pathological lesion of trichomonas gallinae in pigeons of Iran. J Vet Parasitol. 2011;25(2):103–6.
- 17. Stoute AST, Charlton BR, Bickford AA, Bland MC, Stoute ST, Charlton ABR, et al. Respiratory Tract Trichomoniasis in Breeder Squab Candidates in Northern California Published by : American Association of Avian Pathologists Linked references are available on JSTOR for this article : Case Report ? Respiratory Tract Trichomoniasis in Bre. Avian Dis. 2019;53(1):139–42.
- Arenales A, Almeida ACO, Prado LF, Garcia S, Rui Luvizotto MC. Cytopathology in the diagnosis of oral trichomoniasis in a rock pigeon (Columba livia). Brazilian J Vet Pathol. 2014;7(2):98–9.
- Al-Sadi HI, Hamodi AZ. Prevalence and pathology of trichomoniasis in free - living urban pigeons in the city of Mosul, Iraq. Vet World. 2011;4(1):12–4.
- Amin, Azizah., Bilic, Ivana., Liebhart, Dieter., and Hess M. Trichomonad of Pigeon-Review. Clinic for Poultry and Fish Medicine, Department for Farm Animals and Veterinary Public Health. 2013.
- Nematollahi A, Ebrahimi M, Ahmadi A, Himan M. Prevalence of Haemoproteus columbae and Trichomonas gallinae in pigeons (Columba domestica) in Isfahan, Iran. J Parasit Dis. 2012;36(1):141–2.