

ROOM 1

Moderator

1. Shafira

2. Adiba

No.	No. PAPER	Judul	Nama	Afiliasi	Bidang
1	151	THE INFLUENCE OF THIRD PARTY FUNDS (DPK), CAPITAL ADEQUACY RATIO (CAR), AND NON-PERFORMING FINANCING (NPF) ON MUDHARABAH FINANCING AT ISLAMIC COMMERCIAL BANKS IN INDONESIA FOR THE PERIOD 2018-2020. MUDHARABAH FINANCING AT ISLAMIC COMMERCIAL BANKS IN INDONESIA FOR THE PERIOD 2018-2020	Dina Anggraeni Susesti, S.E., M.SA	Mohammad Ghofirin, S.Pd., M.Pd	Accounting
2	103	Control System Design for Quadcopter UAV based SMC-RBFNN with External Disturbance	Delima Palwa Sari	Institut Teknologi Sepuluh Nopember	Applied Computer Modeling and Simulation
3	149	Analyzing Twitter Users' Sentiments on the Surge of Fuel Oil Prices in Indonesia using the K-Nearest Neighbor Algorithm	Rizqi Putri Nourma Budiarti	Universitas Nahdlatul Ulama Surabaya	Applied Computer Modeling and Simulation
4	150	Revolutionizing Occupational Health and Safety (OHS) Education: Embracing Immersive Technologies and WebXR	Rizqi Putri Nourma Budiarti	Universitas Nahdlatul Ulama Surabaya	Applied Computer Modeling and Simulation
5	31	The impacts of the Japanese finance and insurance industry in the national economy: 1985-2005	Ubaidillah Zuhdi	1Universitas Nahdlatul Ulama Surabaya	Applied Economics
6	43	Economic valuation of food crop agricultural activities in Bleberan village, Playen sub-district, Gunungkidul district in 2022	Muhammad Miftahurridlo	Department of Magister Geography, Gadjah Mada University	Applied Economics
7	72	Strategy of Syariah Investment Using Integration Model Ichimoku Kinko- Hyo and Fuzzy Time Series (Case Study: Jakarta Islamic Index 2017 - 2022)	Agus Fachrur Rozy, Solimun, Ni Wayan Surya Wardhani	University of Brawijaya	Applied Economics
8	82	Enhancing Digital Transformation through Digital Innovation in the Context of Economic Advancement in the Era of Economic Society 5.0	Ari Wibowo	Secretariat General of the Ministry of Finance of the Republic of Indonesia	Applied Economics
9		Artificial Intelligence Based Application to Improve HIV Patient Interaction	Salamun	Universitas Abdurrah	Artificial Intelligent
10	108	The Utilization Of Whey Cheese Fermented With Kefir Grains As An Antibacterial Solid Bar Soap	Solikh Ana Estikomah	Department of Pharmacy, faculty of health Science, Universitas Darussalam Gontor ,Indonesia	Applied Microbiology
11	19	Inflammation in Pregnant Mice Induced by Lipopolysaccharide Suppresses Increase in IL-6 But Still Increases Hepcidin and Decreases Serum Iron	Gilang Nugraha	Universitas Airlangga	Biomedical Science and technology
12	53	The Effects of Giving Brotowali Ethanol (Tinospora Crispa L.) Extract as an Antioxidant on Blood Glucose Level, HBA1C, and MDA Wistar Rat Induced by Streptozotocin	Ratna Sofaria Munir	Universitas Nahdlatul Ulama Surabaya	Biomedical Science and technology
13	80	Overview of Fingerprint Patterns in The Family	Mustika Chasanatusy Syarifah	Department of Forensic Medicine and Medicolegal, Faculty of Medicine, Universitas Nahdlatul Ulama Surabaya	Biomedical Science and technology
14	101	Acute and Sub Acute Toxicity Analysis of a Combination Bitter, Ginger, Turmeric Extract In Mice	Dr. dr. Handayani, M. Kes.	Universitas Nahdlatul Ulama Surabaya	Biomedical Science and technology
15	98	Green Synthesis of Silver Nanoparticles with Shallot Extract as Reducing Agent	Fadli, Revi Muharam	Institut Teknologi Bandung	Biomolecular and Biotechnology
16	5	WECNN-PDP: Weighted ensemble convolutional neural networks models to improve the plant disease prediction	Deni Sutaji	Universitas Muhammadiyah Gresik; Gazi University	Computer Science
17	58	The Influence of Capital Land Area and Labor on Business Success in Rice Farmers in Semampirejo Village	selfi fitria sari	Department of Management, Faculty of Business Economics and Digital Technology, Universitas Nahdlatul Ulama Surabaya, Indonesia	Econometrics
18	12	How stock valuation and dividend policy affect stock prices: an empirical study of food and beverage sector in Indonesia	Firly Irhamni	Universitas Nahdlatul Ulama Surabaya	Financial Markets

19	28	Environmental, Corporate Social Responsibility, Governance and Sales Growth Effects on Financial Performance	Niken Savitri Primasari	Universitas Nahdlatul Ulama Surabaya	Financial Markets
20	60	Constructing Portfolio Optimization: Markowitz Approach and Skewness and Kurtosis Analysis in Indonesia Non-Cyclical Industry Portfolio	Firly Irhamni	Universtias Nahdlatul Ulama Surabaya	Financial Markets
21	147	THE INFLUENCE OF PSYCHORELIGIOUS THERAPY ON THE LEVEL OF ANXIETY IN CRITICAL PATIENTS IN THE ICU ROOM RSI SURABAYA	Sulistiyorini	Nahdlatul Ulama University Surabaya	Halal Research, Islamic Approach and Other Spiritual Health and Medicine
22	34	Transformative Implementation of Android-Based Point of Sale System at Shafira's Buffet Stall	Rizqi Putri Nourma Budiarti	Universitas Nahdlatul Ulama Surabaya	Information Systems
23		Case Study On Exploration Of Pediatric Cardiopulmonary Resuscitation Among Involved Team Members In Pediatric Intensive Care Unit Institut Jantung Negara	FARAH SYAZWANI BINTI HILMY ZAKI	Universiti Teknologi MARA, Malaysia	

ROOM 2

Moderator

1. Nabila

2. Silvi

No.	No. PAPER	Judul	Nama	Afiliasi	Bidang
1	7	Progressive muscle relaxation on family anxiety with hypertension	Rusdianingseh	Universitas Nahdlatul Ulama Surabaya	Community Health and Prevention
2	13	Patients' Perceptions Of The Success Of Conventional Thalassemia Treatment: A Qualitative Investigation	WAN ISMAHANISA ISMAIL1	Universiti Teknologi MARA, Cawangan Pulau Pinang , Malaysia	Community Health and Prevention
3	25	Effective Early Detection of Myopia in Elementary School-Age Children "Myopia Detective"	Itmam Milataka	Sekolah Tinggi Ilmu Kesehatan Kuningan	Community Health and Prevention
4	41	The Effect of Family Centered Nursing-Based Empowerment on the Level of Family Independence in Stunting Prevention in Toddlers in the Working Area of the Simomulyo Health Center in Surabaya	Siti Nurjanah	Department of Nursing, Faculty Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, East Java, Indonesia	Community Health and Prevention
5	49	Gastritis and its relationship with daily eating in adolescents at boarding schools	Warda Elmaida Rusdi	Universitas Nahdlatul Ulama Surabaya	Community Health and Prevention
6	54	An Overview of anxiety, depression and blood pressure in ischemic stroke survivors post Spiritual Intervention Mindfulness Combination Breathing exercise	Eppy Setiyowati	Universitas Nahdlatul Ulama Surabaya	Community Health and Prevention
7	63	The Dominat Factors Associated with Quality of Life in Hypertension Patients In the elderly	Evy Aristawati	Universitas Nahdlatul Ulama Surabaya, Universitas Jember Kampus Pasuruan	Community Health and Prevention
8	83	Psychological Conditions, Social Support and Immunity of People Living with HIV/AIDS (PLWHA): Comparative Study between Indonesia and Timor Leste	Esty Puji Rahayu	Universitas Nahdlatul Ulama Surabaya	Community Health and Prevention
9	104	THE SUCCESS LEVEL OF OCCUPATIONAL HEALTH POST OF FISHERMEN IN SITUBONDO REGENCY	Reny Indrayani	Faculty of Public Health, University of Jember	Community Health and Prevention
10	111	AN INTROSPECTIVE SURVEY OF MODERN ISLAMIC BOARDING SCHOOL TO INCREASE HEALTH AWARENESS OF ISLAMIC BOARDING SCHOOLS IN SURABAYA	Maki Zamzam	Universitas Nahdlatul Ulama Surabaya	Community Health and Prevention
11	112	THE PRACTICE OF THE HADITH "AL-TAHURU SYATRU AL-IMAN" ON CLEAN AND HEALTHY LIFE BEHAVIOR IN STUDENTS OF MADRASAH ALIYAH, MUAWANAH	Siti Maimunah	Universitas Nahdlatul Ulama Surabaya	Community Health and Prevention
12	115	DEVELOPMENT OF A SPIRITUAL-BASED SELF-MOTIVATION REGULATION MODEL FOR STUDENTS' SELF-CARE IN THE ABILITY TO KEEP CLEANLINESS	khamida	Universitas Nahdlatul Ulama Surabaya	Community Health and Prevention
13	118	Effectiveness of empathic love therapy (ELT) and expressive writing therapy (EWT) on depression level, anxiety level and stress level in adolescents with HIV	Erika Martining Wardani	Universitas Nahdlatul Ulama Surabaya	Community Health and Prevention
14	119	Exploring the Psychological Factor and Physiological Symptoms of Students' School Anxiety in Boarding Program	Nur Hidayah, Mila Yunita	Universitas Negeri Malang	Community Health and Prevention
15	126	The Effect of Mindfulness Meditation Based on Spiritual Care with Rose Aromatherapy on Stress and Blood Pressure in Type 2 Diabetes Mellitus (DM) Patients	Siti Nur Hasina	Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, 60243 Surabaya, East Java, Indonesia	Community Health and Prevention
16	152	Education on Hand Hygiene with the Donkey Bridge to increase Knowledge and Attitudes of High School Students in Ponorogo	on line	Magister of hospital administration UMY	Community Health and Prevention
17	3	The Relationship Between IgG and IgM Anti-SARS-CoV-2 Antibody Levels With Severity of Disease in Adult COVID-19 Patients in Bengkulu City in 2020	Debie Rizqoh	University of Bengkulu	COVID-19 and Other Infectious Disease
18	15	The Relationship between the Degrees of Clinical Manifestations and IgG Antibodies When a Confirmed COVID-19 Patient Recovered at the M. Yunus Hospital and The Harapan and Doa Hospital of Bengkulu City in 2020	Debie Rizqoh	University of Bengkulu	COVID-19 and Other Infectious Disease
19	48	ANALYSIS OF SOCIAL DEMOGRAPHY, BEHAVIORAL HYGIENE, BREAST MILK, AND NUTRITIONAL STATUS IN CHILDREN WITH DIARRHEA IN SURABAYA CITY	Firdaus	Universitas Nahdlatul Ulama Surabaya	Early Childhood Education
20	39	Analysis Of Macro And Micro Nutrition On Leukocyte Profiles, Liver Profiles And Kidney Profiles In The Surabaya Plussize Community	Andreas Putro Ragil Santoso	1Department of Medical Laboratory Technology, Faculty of Health, Universitas Nahdlatul Ulama Surabaya, Surabaya, Indonesia 2Departement of Nutrition, Faculty of Health, Universitas Nahdlatul Ulama Surabaya, Surabaya, Indonesia	Food Nutrition, Microbiome and Human Health
21	81	Fat Intake, Natrium Intake, and Sleep Duration Strongly Associated with Pre-Metabolic Syndrome in Adolescents (Study in High School Students)	Farah Nuriannisa	Department of Nutrition, Faculty of Health, Universitas Nahdlatul Ulama Surabaya, Indonesia	Food Nutrition, Microbiome and Human Health
22	138	Differences In Fermentation Duration and Sucrose Addition to pH, Tannin Content, and Alcohol Content of Persimmon (Diospyros kaki L.) Kombucha	Regita Shalsabillah Dhita Alam	Universitas Nahdlatul Ulama Surabaya	Food Nutrition, Microbiome and Human Health
23		Relationship of TSH and FT3 levels to the incidence of Hashimoto's thyroiditis in Autoimmune patients with reactive ANA test	Rahayu Anggraini	Universitas Nahdlatul Ulama Surabaya	

ROOM 3

Moderator

Yusria
Imam

No.	No. PAPER	Judul	Nama	Afiliasi	Bidang
1	48	ANALYSIS OF SOCIAL DEMOGRAPHY, BEHAVIORAL HYGIENE, BREAST MILK, AND NUTRITIONAL STATUS IN CHILDREN WITH DIARRHEA IN SURABAYA CITY	Firdaus	Universitas Nahdlatul Ulama Surabaya	Early Childhood Education
2	26	THE CONVENTION OF REGULAR TREATMENT WITH SPHETIC CONVERSION During INTENSIVE TUBERCULOSIS TREATMENT AT PUSKESMAS BANYU URIP SURABAYA	Chilyatiz Zahroh	Universitas Nahdlatul Ulama Surabaya	Health Care Management and Safety
3	36	Negative Self – Care Behaviours Among Diabetic Patients Bukittinggi, Indonesia	Ade Srywahyuni	Universitas Mohammad Natsir Bukittinggi	Health Care Management and Safety
4	42	The Influence of Service Differentiation on Sustainable Competitive Advantage of Private Hospital Outpatient Installations during the COVID Pandemic	Marselli Widya Lestari	Universitas Nahdlatul Ulama Surabaya	Health Care Management and Safety
5	65	Spiritual Diabetes Self-Management Health Coaching Terhadap Psychological Well-Being dan Self-Management Compliance Pada Pasien Diabetes Mellitus	Ratna Yunita Sari	Universitas Nahdlatul Ulama Surabaya	Health Care Management and Safety
6	74	FACTORS INFLUENCING THE APPLICATION OF THE CODE OF NURSING ETHICS IN INDONESIA	Yanis Kartini	Universitas Nahdlatul Ulama Surabaya	Health Care Management and Safety
7	78	Health Service Provider Factors Influencing Self-Management Behavior in Stroke Patients	Yurike Septianingrum	Doctoral of Nursing, Faculty of Nursing, Universitas Airlangga, Indonesia	Health Care Management and Safety
8	79	Application of Benson Relaxation Therapy Combined with Spiritual Therapy to Reduce Anxiety in Chronic Kidney Disease Patients Undergoing Hemodialysis	Abdul Muhith	Universitas Nahdlatul Ulama Surabaya	Health Care Management and Safety
9	113	Exploring Barriers of Diabetic Programs in Primary Health Cares in Bukittinggi 2023; Health worker's Perspective	Dona Amelia	Universitas Mohammad Natsir Bukittinggi	Health Care Management and Safety
10	124	Family And Peer Group Support With Self Care In Patients With Hemodialysis	Lono Wijayanti	1. Doctoral of Nursing, Faculty of Nursing, Universitas Airlangga, Indonesia 2. Department of Nursing, Faculty Of Nursing And Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia	Health Care Management and Safety
11	129	Urinary Incontinence and Risk of Falls Among Elderly Living in Nursing Homes	Norazlina Md Jazli	Universiti Teknologi MARA (UITM)	Health Care Management and Safety
12	131	Factors Affecting Family Readiness to Care for Stroke Patients After Discharged	Yurike Septianingrum	1Doctoral of Nursing, Faculty of Nursing, Universitas Airlangga, Indonesia 2Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia 3Inpatient Department, Universitas Airlangga Hospital, Indonesia	Health Care Management and Safety
13	135	Analysis of Factors Associated with the Implementation of Disaster Victim Triage by The Rapid Reaction Team in the Prehospital Area	Priyo Mukti Pribadi Winoto	1Department of Nursing, Faculty of Nursing And Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia 2Doctoral Program of Nursing, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia	Health Care Management and Safety
14	136	Stroke Self-Management Program Based on Health Behavior Theory on Self-Management Behavior and Subjective Well-Being of Post-Ischemic Stroke Patients	Imamatul Faizah	Universitas Nahdlatul Ulama Surabaya	Health Care Management and Safety
15	2	WALKING HAS AN EFFECT ON MOOD SWING IN THE ELDERLY POSYANDU, SURABAYA	Nur Aditya Ramdani	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
16	22	The Effectiveness of Non-Pharmacological Therapy (Murottal Al-Quran) on The Reduction of Pain Intensity in Post Sectio Caesaria Women	Emuliana Sulpat	Universitas Airlangga	Maternal and Child Health
17	23	Self-management effect on preeclampsia in pregnant women at RSI Jemursari	R. Khairiyatul Afiah	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
18	37	THE EFFECT OF SUPPORTIVE EDUCATION ABOUT GENTLE BIRTH WITH AUDIOVISUAL MEDIA ON READINESS TO CHILDBIRTH IN THIRD TRIMESTER PRIMIGRAVIDA MOTHERS	Fritria Dwi Anggraini	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
19	47	ANALYSIS OF CHARACTERISTICS, ACTIVITY OF POSTPARTUM MOTHERS AND SOCIAL SUPPORT IN EXCLUSIVE BREASTFEEDING AGAINST THE ONSET OF LACTATION	Fauziyatun Nisa'	Universitas nahdlatul Ulama Surabaya	Maternal and Child Health
20	73	ANALYSIS OF DETERMINANTS OF INFERTILITY IN WOMEN AT ASHA IVF CLINIC PHC SURABAYA HOSPITAL	Yati Isnaini Safitri	Department of Midwifery, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, 60237 Surabaya, East Java, Indonesia	Maternal and Child Health
21	84	The Role Of Cadres In Implementing Stimulation Programs And Early Intervention For Child Development	Uke Maharani Dewi	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
22	87	Effect of Health Education and Monitoring of Iron Supplementation on Knowledge, Hemoglobin Levels and Incidence of Dysmenorrhea in Adolescents	Lailatul Khusnul Rizki	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
23		Effectiveness and Challenges of Drinking Water Treatment with Membrane Technology Systems for Rural School Communities: Knowledge Transfer Technology in Lundu and Mulu, Sarawak.	Myzairah Hamdzah	Universiti Teknologi Malaysia	Environmental Health

ROOM 4

Moderator

**Arsy
Nadhiro**

No.	No. PAPER	Judul	Nama	Afiliasi	Bidang
1	88	The Effect of Acupressure Points L14 and SP 6 on Pain Intensity in the First Stage Labor	Nur Masruroh	universitas nahdlatul ulama surabaya	Maternal and Child Health
2	90	Differences Motor Development of Babies Passing Exclusive Breastfeeding Who Are Given Home MP ASI and Instant MP ASI	Hinda Novianti	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
3	91	The effectiveness of the Family Empowerment Model on the implementation of Triple Elimination in pregnant women	Ika Mardiyanti	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
4	93	The model of assisting postpartum and breastfeeding mothers on the health status of mothers and children through digitalization of the kia book	RIZKI AMALIA	UNIVERSITAS NAHDLATUL ULAMA SURABAYA	Maternal and Child Health
5	97	THE EFFECT OF SELF LEADERSHIP ON BREASTFEEDING WITH INTENTION MEDIATION	Fauziyatun Nisa'	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
6	99	COMBINATION OF MUSIC THERAPY AND PARENTAL HOLDING REDUCES IMMUNIZATION PAIN SCALE IN INFANTS	Wesiana Heris Santy	Universitas nahdlatul Ulama Surabaya	Maternal and Child Health
7	117	Relations with Premarital Sexual Behavior of Young Women	Ririn Harini	University of Muhammadiyah Malang	Maternal and Child Health
8	121	EFFECTIVENESS OF FAMILY CENTERED CARE IMPLEMENTATION TO CHANGES IN CHILD FEEDING PRACTICES	Annif Munjidah	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
9	122	PSYCHOLOGICAL PROBLEMS AND POSTPARTUM COITUS TIMELINE FOR DYSpareunia	Yunik Windarti	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
10	123	ANALYSIS OF FACTORS INFLUENCING ANEMIA IN PREGNANT WOMEN IN SURABAYA	Faridah Umamah	Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia	Maternal and Child Health
11	127	THE EFFECTIVENESS OF BIRTHING BALL GYMNASTICS ON PRIMIGRAVIDA MATERNITY GESTATIONAL AGE	Nanik Handayani	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
12	128	Oxytocin Hormone Levels On The Breastfeeding Process	Uliyatul Laili,	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
13	132	The Effect of the Thousand Days of Life Movement on Attitudes, Behaviors and Levels of Independence in Actions to Prevent Stunting	Nurul Kamariyah	Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia	Maternal and Child Health
14	142	Determinants Of Mental Health Based on Oxytocin Levels	Uliyatul Laili,	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
15	143	THE EFFECTIVENESS OF AL-QUR'AN MUROTAL THERAPY AND CHILDBIRTH ASSISTANCE WITH ANXIETY LEVELS OF CHILDBIRTH MOTHERS	Nur Zuwariah, SST., M. Kes.	Department of Midwifery, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, 60237 Surabaya, East Java, Indonesia	Maternal and Child Health
16	144	Relationship Between Body Mass Index (BMI) with Incidence of Infertility in Women	RATNA ARIESTA DWI ANDRIANI	UNIVERSITAS NAHDLATUL ULAMA SURABAYA	Maternal and Child Health
17	146	EFFECTIVENESS OF EFFLEURAGE MASSAGE AND PRENATAL GENTLE YOGA IN THIRD TRIMESTER PREGNANT WOMEN WITH LOW BACK PAIN	Yasi Anggasari	Universitas Nahdlatul Ulama Surabaya	Maternal and Child Health
18	67	Correlation Smoking Habits To Carboxyhemoglobin (COHb) Levels Using UV-Vis Spectrophotometry Method	Ersalina Nidianti	Department of Medical Laboratory Technology, Faculty of Health, Universitas Nahdlatul Ulama Surabaya, Indonesia	Medical Laboratory Technology
19	125	Combination Eucalyptus, Peppermint, and Lavender Ameliorates Serum Lipid Peroxidation and Endogenous Antioxidant Enzymes On Allergic Asthma Model	Devvana Dyah Wulandari	Universitas Nahdlatul Ulama Surabaya	Medical Laboratory Technology
20	27	The Impact of Mindful Parenting, Parental Mediation in children Internet Addiction: A Cross-Sectional Study	Nur Hidaayah	Universitas Nahdlatul Ulama Surabaya	Mental Health and Neuroscience
21	32	AN ALTERNATIVE MODEL OF MINDFUL PARENTING FOR PARENTING CHILDREN WITH SPECIAL NEEDS PRE-SCHOOL	Machmudah	Universitas Negeri Padang	Mental Health and Neuroscience
22	46	RATIONAL EMOTIVE BEHAVIOR THERAPY INTERVENTION PROGRAM FOR THE DEVELOPMENT OF EARLY CHILD EMOTIONAL LITERACY	Machmudah	Universitas Nahdlatul Ulama Surabaya	Mental Health and Neuroscience

ROOM 5

Moderator Alexa
Niken

No.	No. PAPER	Judul	Nama	Afiliasi	Bidang
1	52	Exploring Gender-Based Body Shaming Among High School Students: A Cross Sectional Study	Syiddatul Budury	Universitas Nahdlatul Ulama Surabaya	Mental Health and Neuroscience
2	77	The Effect of Emotional Freedom Technique on the Level of academic anxiety and Stress in nursing students	Andikawati Fitriasari	Department of nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Surabaya, 602310, Indonesia	Mental Health and Neuroscience
3	85	Smartphone Addiction Screening Application Development Based on Android : A Preliminary Study	Nety Mawarda Hatmanti	Universitas Nahdlatul Ulama Surabaya	Mental Health and Neuroscience
4	89	Characteristics Of Adolescents And Parenting Style Of Bullying Behavior	Rahmadanar Aditya Putri1	Universitas Nahdlatul Ulama Surabaya	Mental Health and Neuroscience
5	107	Mental Health of Indonesian Students in Taiwan: A Comparative Study of School-Age Students and Indonesian Migrant Workers	Fifi Khoiru Fitriyah	Universitas Nahdlatul Ulama Surabaya	Mental Health and Neuroscience
6	120	The Importance of Emotional Maturity for Pregnant Women in Responding to Anxiety in Facing Labor	Wasis Purwo Wibowo	Prodi Psikologi, FISIB, Universitas Trunojoyo Madura	Mental Health and Neuroscience
7	133	An Analysis Of The Factors Influencing The Sleep Quality Of Farmers In Indonesia: A Cross-Sectional Study	Nur Hidaayah	UNUSA	Mental Health and Neuroscience
8	154	The Utilization of a Study Planner as An Intervention to Address Procrastination Issues Among College Students	Nurfitriyani Fakhri	Psychology faculty, Universitas Negeri Makassar, Indonesia Department of Guidance and Counseling, Faculty of Education, Universitas Negeri Makassar, Indonesia Department of Early Childhood Education, Faculty of Education, Universitas Nahdlatul Ulama Surabaya, Indonesia	Mental Health and Neuroscience
9	96	Hydrotherapy with Herbs for Reducing Peripheral Neuropathy Pain in Diabetics	Iis Noventi	Universitas Nahdlatul Ulama Surabaya	Metabolic, Genetic, & Aging Disease
10	153	Comparison of Salicylic Acid Peel and Lactic Acid Peel in Acne Vulgaris	Winawati Eka Putri	1. Department of Dermatology and Venereology, Faculty of Medicine, Universitas Nahdlatul Ulama Surabaya, Indonesia 2. Department of Public Health, Faculty of Medicine, Universitas Nahdlatul Ulama Surabaya, Indonesia 3. Medical Doctor Study Program, Faculty of Medicine, Universitas Nahdlatul Ulama Surabaya, Indonesia	Metabolic, Genetic, & Aging Disease
11	116	Revolutionizing Education 4.0: Evaluating the Role of Robots in Learning Effectiveness	destie monikha austriya umbara	universitas pendidikan indonesia	Technology in Education
12	9	THE EFFECT OF COMPLEMENTARY ALTERNATIVE MEDICINE (CAM) AND INTAKE OF NUTRITION ON ANXIETY LEVELS AND QUALITY OF LIFE IN MSM WITH HIV	Erika Martining Wardani	Universitas Nahdlatul Ulama Surabaya	Traditional and Complementary Health
13	11	Experimental Study of Secondary Energy Losses in Smooth Pipes	Robby Yussac Tallar	Universitas Kristen Maranatha	Water Resource Managements
14	64	The Mindfulness Based on Spiritual Intervention on Psychological Well-Being and Blood Sugar Levels in Type 2 Diabetes Mellitus Patients.	Riska Rohmawati	Universitas Nahdlatul Ulama Surabaya	Traditional and Complementary Health
15	92	EFFECT OF SEFT INTERVENTION (SPIRITUAL EMOTIONAL FREEDOM TECHNIQUE) AND INHALATION OF LEMON (CYTRUS) AROMATHERAPY FOR REDUCTION OF DYSMENORRHEA PAIN	Siska Nurul Abidah	Department of Midwifery, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, 60237 Surabaya, East Java, Indonesia	Traditional and Complementary Health
16	105	Acidification of Palm Oil Mill Effluent with Green Waste Vinegar Enhances Carboxydrotrophic Activity During Anaerobic Digestion	Khairunnisa Abdul Halim	Department of Water and Environmental Engineering, Faculty of Civil Engineering, Universiti Teknologi Malaysia (UTM), 81310 UTM Johor Bharu, Johor Malaysia.	Water Resource Managements
17	145	The effectiveness of TENS (Transcutaneous Electrical Nerve Stimulation) with semi-Fowler's and Sims position against dysmenorrhea in adolescents	Esty Puji Rahayu	Universitas Nahdlatul Ulama Surabaya	Traditional and Complementary Health
18	69	An Enterprise Architecture Planning for Tour and Travel Company using TOGAF ADM	Anung Style Bukhori	Universitas Nahdlatul Ulama Surabaya	Information Systems
19	95	Enhancing Self-Efficacy and Self-Management for COVID-19 Patients through e-Comm Application: Family Support and Medical Team Collaboration in Home Isolation within Family Clusters	Rizqi Putri Nourma Budiarti	Universitas Nahdlatul Ulama Surabaya	Information Systems
20	71	Reflection Of Maqoshit Sharia On The Concept Of Ancient Agriculture For A Sustainable Green Economy	Cory Vidiati	Universitas Islam Bunga Bangsa Cirebon	Islamic Business
21	141	Nutritional Care in Pediatric Nephrotic Syndrome Patients at Dr. Mohamad Saleh Probolinggo Regional Public Hospital	Dhuha Itsnanisa Adi	University of Jember	Food Nutrition, Microbiome and Human Health
22	45	The Impact of Leverage, Profitability and Sustainability Index on The Return of Stock? Empirical study of Non-Primary Consumer Goods in Indonesia	Firly Irhami	Universitas Nahdlatul Ulama Surabaya	Sustainable Development Goals (SDGs)

ROOM 6

Moderator

Nisa
Husnia

No.	No. PAPER	Judul	Nama	Afiliasi	Bidang
1	1	How to Find Gap Analysis in Undergraduate User Satisfaction Through a Tracer Study	Paramitha Nerisafitra	Universitas Negeri Surabaya	Education Management
2	56	SEM EMPOWERMENT MODELS IN THE NON-FORMAL EDUCATION : THE EMPOWERMENT OF THE POOR SOCIETY IN CRIME-PRONE CITIES IN THE PANDEMIC ERA	Sony Zulfikasari	Universitas Negeri Semarang	Education Management
3	94	Navigating Digital Leadership of Pesantren : A Case Study in Pesantren in Lombok	Mashur	Universitas Islam Internasional Indonesia (UIII)	Education Management
4	114	The Efficacy of Utilizing a Study Planner as A Means to Mitigate Procrastination Tendencies Among College Students	Nurfitriany Fakhri	Universitas Negeri Makassar	Educational Psychology
5	10	Environmental health risk assessment in supporting the achievement of the 6th sustainable development goal (clean water and decent sanitation)	Globila Nurika	Department of Public Health, Faculty of Public Health, University of Jember, Indonesia	Environmental Health & Protection
6	40	The Importance of Mental Health Aspects in the Design of the Independent Curriculum for Autistic Migrant Students: An Evaluation Study	Fifi Khoirul Fitriyah	Universitas Nahdlatul Ulama Surabaya	Environmental Health & Protection
7	50	Different duration of 1800 mhz mobile phone exposure produce oxidative stress on the brain and the adrenal gland of male wistar rats	Irmawan Farindra	Universitas Nahdlatul Ulama Surabaya	Environmental Health & Protection
8	55	Identification and quantification microplastic in water and sediment collected from samiran ditch irrigation	Marchel Putra Garfansa	Department of Agrotechnology, Faculty of Agriculture, Universitas Islam Madura, 699317 Pamekasan, East Java, Indonesia Faculty of Agriculture, Universitas Islam Madura, 699317 Pamekasan, East Java, Indonesia Department of Public Health, Universitas Nahdlatul Ulama Surabaya, 60237 Surabaya, Indonesia	Environmental Health & Protection
9	57	The toxicity of polyethylene, polypropylene and polystyrene microplastic to rice seedlings	Iswahyudi	1. Department of Agriculture Science, University of Muhammadiyah Malang, 65144 Malang, East Java, Indonesia 2. Department of Agrotechnology, Faculty of Agriculture, Universitas Islam Madura, 699317 Pamekasan, East Java, Indonesia 3. Department of Public Health, Universitas Nahdlatul Ulama Surabaya, 60237 Surabaya, Indonesia	Environmental Health & Protection
10	66	Identification and quantification of microplastics in compost collected from local agricultural store	Iswahyudi	1Department of Agriculture Science, University of Muhammadiyah Malang, 65144 Malang, East Java, Indonesia 2Department of Agrotechnology, Faculty of Agriculture, Universitas Islam Madura, 699317 Pamekasan, East Java, Indonesia 3Department of Public Health, Universitas Nahdlatul Ulama Surabaya, 60237 Surabaya, Indonesia	Environmental Health & Protection
11	76	Eco-Theology; Habits and Lifestyle of Santri in Indonesian Islamic Boarding Schools	Muhammad Afwan Romdloni	Universitas Nahdlatul Ulama Surabaya	Environmental Health & Protection
12	137	Comprehensive public place sanitation evaluation based on the complete component in community-based total sanitation	Abdul Hakim Zakkiy Fasya	Department of Public Health, Faculty of Health, Universitas Nahdlatul Ulama Surabaya, Indonesia	Environmental Health & Protection
13	16	Concept mapping care plan in enhancing nursing students' academic achievement in clinical practices.	Rusnani Ab Latif	Faculty of Health Sciences, Universiti Teknologi MARA Cawangan Pulau Pinang, Campus Bertam,13200, Kepala Batas, Pulau Pinang, Malaysia.	Higher Education
14	17	The Effect Of Work Discipline, Work Ability, And Individual Characteristics On Work Performance In Plumpang Health Center Employees	Wan Azizatul Magfiroh	Department of Management, Faculty of Business Economics and Digital Technology, Universitas Nahdlatul Ulama Surabaya, Indonesia	Human Resource Management
15	18	The Effect of Workload, Compensation, and Job Satisfaction on Employee Performance with Motivation as an Intervening Variable at PT. Petrokopindo Cipta Selaras	Gesti Devi Candra Sari	Universitas Nahdlatul Ulama Surabaya	Human Resource Management
16	20	Exploring Conflict Management Strategies In Organizations: An In-Depth Case Study Approach	Moh. Saiful Hakiki	University of Nahdlatul Ulama Surabaya	Human Resource Management

17	148	The Influence of Perceived Organizational Support, Employee Engagement and Self Efficacy on Organizational Citizenship Behavior (Study at Tarik Sub-District Office Sidoarjo District)	Khudzhaifah Miftakhul Ummah	Department of Management, Faculty of Business Economics and Digital Technology, Universitas Nahdlatul Ulama Surabaya, Indonesia	Human Resource Management
18	30	Development of Electronic Portfolio Assessment Instruments to Improve Students' Creative Thinking Skills in Chemical Reaction Equations Materials	Triannsisa Rahmawati	1Department of Chemistry Education, Faculty of Mathematics and Natural Science Education, Universtias Pendidikan Indonesia, Indonesia	Innovation in Education
19	75	Exploration of Physics Concepts Based on Jember Local Potential "Lahbako Dance"	Rike Dwi Wulandari	University of Jember	Innovation in Education
20	102	Development of Nurse-led Self-Management Education Instruments for Type 2 Diabetes Mellitus Patients: Phase 1	Yurike Septianingrum	1Doctoral of Nursing, Faculty of Nursing, Universitas Airlangga, Indonesia 2Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia 3Department of Nursing Science Faculty of Medicine, University of Malaya, Malaysia	Innovation in Education
21	106	ISLAM INTEGRATED SCIENCE MODULE DEVELOPMENT FOR INTEGRATED SLAM I SCHOOL	Kardina Engelina Siregar	STIES Imam Asy Syafii Pekanbaru	Innovation in Education
22	110	Reconstructing Tahليلan and Shalawatan as Post-Traumatic Group Counseling Technique For Children Survivor of Semeru Eruption	Nur Hidayah, Nanda Alfian Kurniawan	Universitas Negeri Malang	Islamic Education
23		Implementation of Contractor Safety Management System (CSMS) PT. Waskita Karya on Rigid Pavement Subcontractor	Bella Angelica Kauno	Universitas Nahdlatul Ulama Surabaya	Health Care Management and Safety

ROOM 7

Moderator

Priyagung
Fiorent

No.	No. PAPER	Judul	Nama	Afiliasi	Bidang
1	14	Adsorption of Metaldehyde by Oil Palm Kernel Biochar and Rice Husk Biochar: A Comparative Study	Nur Salsabila Kamarudin	Universiti Malaysia Perlis (UniMAP)	Pollution Management
2	24	Effect of hydraulic retention time on biohydrogen effluent for simultaneous dissolved sulphide removal and biohythane production	Nur Fadhiana Mohd Sani	Faculty of Civil Engineering & Technology, Universiti Malaysia Perlis, 02600 Arau, Perlis, Malaysia	Pollution Management
3	59	COD and Nutrient Removal in Domestic Wastewater by Aerobic Granulation Process	Arina Azmina Binti Ahmad Zubir	Universiti Malaysia Perlis (UniMAP)	Pollution Management
4	29	"Sparking the Flame": Nurturing Indonesian Student Creativity through Contextual Artistry with Emotional Intelligence	Sri Hartatik	Universitas Negeri Surabaya dan Universitas Nahdlatul Ulama Surabaya	Primary Education
5	61	Virtual and Factual Space Mutualism in Society 5.0: Spatial Architecture Studies	Siti Safira Chairunisya Siregar	Malikussaleh University	Primary Education
6	62	The Influence of Society 5.0 on the Social Interaction Space of Unimal Architecture Students: A Study on the Personal Space of Architecture	Shania Ovili Anggreini	Malikussaleh University	Primary Education
7	70	Spatial Patterns Architecture on The Productive Society (Case Study: Public Space in Pujasera PIM, North Aceh)	Melly Andria	Malikussaleh University	Primary Education
8	109	The Integration of TOD Based on Society 5.0 in Loop Lhokseumawe City	Sukiandi Alfa Rizki	Malikussaleh University	Primary Education
9	134	IMPLEMENTATION OF CHILD FRIENDLY SCHOOLS IN SMA PGRI I SIDOARJO	M Shodiq ¹	Universitas Nahdlatul Ulama Surabaya	Primary Education
10	6	Relationship Between Nutrition Knowledge and Availability of Fruits and Vegetables at Home With Consumption of Fruits and Vegetables in Students of SMP Negeri 13 Surabaya	Novera Herdiani	Universitas Nahdlatul Ulama Surabaya	Public Health and Policy
11	8	The Role And Involvement Of Spiritual-Based Holistic Integrative Early Childhood Education On Stunting Prevention	sheryly jeniawaty	Department of Midwifery Health Polytechnic Ministry of Health Surabaya, Indonesia	Public Health and Policy
12	21	SS Safety Implementation and Worker Productivity at Expedition Services Companies (Study in JNE Express Operations Department)	Ana Islamiyah Syamila	Universitas Jember	Public Health and Policy
13	33	Social Competence Analysis of Midwives in Antenatal Care Services: A Cross-Sectional Study of Giving Fe Tablets in Primary Health Care	Agus Aan Adriansyah	Universitas Nahdlatul Ulama Surabaya	Public Health and Policy
14	35	The Effect of Gap Generation on Cultural Internalization in Creating Quality Work of Life in the Era of Society 5.0 in Hospitals	Agus Aan Adriansyah	Universitas Nahdlatul Ulama Surabaya	Public Health and Policy
15	38	Antenatal Care Mediates the Association between Unintended Pregnancy and Low Birth Weight among Millennials in Rural Indonesia: Husband Support Matters	Dedik Sulistiawan	School of Public Health, College of Public Health, Taipei Medical University, Taiwan	Public Health and Policy
16	44	Hustle Culture, Mental Health, and The Implication For Our Workforce	Wiwik Afridah	Universitas Nahdlatul Ulama Surabaya	Public Health and Policy
17	51	ACCEPTANCE ANALYSIS OF ELECTRONIC APPLICATION READY FOR MARRIAGE AND PREGNANCY (ELSIMIL) BASED ON THE TECHNOLOGY ACCEPTANCE MODEL (TAM)	Sofiyah	Department of Health, Faculty of Vocacy, Universitas Airlangga, Surabaya	Public Health and Policy
18	68	DEVELOPING SANTRI EMPOWERMENT TO IMPROVE HEALTH DEGREES AND REALIZE STUDENTS' INDEPENDENCE AT THE NU PUTRI ISLAMIC BOARDING SCHOOL, SURABAYA	Satriya Wijaya	Universitas Nahdlatul Ulama Surabaya	Public Health and Policy
19	86	Relationship between Psychological Conditions and Viral Load Results of People Living with HIV/AIDS (PLWHA)	Lailatul Khusnul Rizki	Universitas Nahdlatul Ulama Surabaya	Public Health and Policy
20	100	Corellation between Social Networks, Family Support, Health Worker Support, Health Education Through the Precede-Proced Model Approach to the Emotional Response of Diabetes Mellitus Patients at the Simo Mulyo Health Center in Surabaya	Umdatus Soleha	1,2,3Department of nursing, Faculty of nursing and midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia 4Student of master nursing program, Faculty of nursing, Universitas Airlangga, Indonesia	Public Health and Policy
21	139	THE ROLE OF DRUG INGESTION SUPERVISORS (PMO) AGAINST SUCCESS OF TREATMENT OF PULMONARY TUBERCULOSIS IN PUSKESMAS BANYU URIP SURABAYA	Novia Trisnasari, Ima Nadatien	Universitas Nahdlatul Ulama Surabaya	Public Health and Policy
22	130	Analysis of Disaster Preparedness and Mitigation in Ammonia Loading Systems	Ratna Ayu Ratriwardhani	Universitas Nahdlatul Ulama Surabaya	Risk Management

LETTER OF ACCEPTANCE

July 17, 2023

Dear Authors,


On behalf of the organizing committee of the 2nd International Conference on Applied Sciences, Education and Technology (2nd iConASET) 2023, we are pleased to inform you that your manuscript entitled:

"Experimental Study of Secondary Energy Losses in Smooth Pipes"

has been reviewed and accepted for presentation at the 2nd iConASET on 01-02 August 2023. Please submit your full revised paper, presentation, and make payment soon according to the conference deadline.

Again, thank you and see you in 2nd iConASET 2023.



Best Regards,

(Dr. Fitri Khonul Fitriyah, S.Pd., M.Pd.)
Conference Chairman



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Merdeka

CERTIFICATE

OF APPRECIATION

Robby Yussac Tallar

as the Presenter

**HAS ATTENDED THE 2nd INTERNATIONAL CONFERENCE
ON APPLIED SCIENCES, EDUCATION AND TECHNOLOGY**

With the theme "Entering Society 5.0 : Transformation and Efforts"

Surabaya, 1st- 2nd August 2023



Rector

Achmad Jazidie
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Chairman

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Fifi Khoirul Fitriyah
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Experimental Study of Secondary Energy Losses in Smooth Pipes

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Abstract

Smooth pipes are closed and circular conduits through which fluids are transported under pressure. Secondary energy losses in smooth pipes occur due to several factor such as inlet, valves, enlargement, construction, bend, outlet. Therefore, the purpose of this study was to determine and analyze secondary energy losses on smooth pipes by experimental study. Several stages of research have been set up for this study and some tests were carried out at the Hydraulics and Fluid Mechanics Laboratory of the Civil Engineering Study Program, Maranatha Christian University. Secondary energy losses analysis using the Bernauli Formula compared to Chezy Formula and Darcy-Weisbach Formula were used to obtain results. The experimental results indicated that all Reynolds Number (Re) value in smooth pipe is 6177 which more than 4000 which all flow regimes categorized as turbulent flows. The experimental results show that the secondary loss due to valve was approximately 0; due to the first bend was 6cm; and due to the second bend was 5.15cm. The anaylsis results of secondary energy losses in smooth pipes has shown a preponderance of the interrelated equations by Darcy-Weisbach Equation and Chezy Equation concerning friction factor in smooth pipes. Thickness of boundary layer (k) of smooth pipe is the most determining variable to categorize the pipe roughness as hydraulically smooth pipes. However, the experimental results presented a set of benchmark data for further research in smooth pipes.

Keywords: *Experimental study, smooth pipes, secondary energy losses.*

1. Introduction

Fluids in the form of liquids can be transported from one place to another through a carrier construction in the form of both natural and artificial channels that are both open and closed as in pipes. Therefore, the common definition of pipes is closed and circular conduits through which fluids are transported under pressure. In its planning, fluid distribution in the pipe must take into account the energy loss that occurs. Energy losses in the smooth pipe are divided into two types: primary energy losses and secondary energy losses. Primary energy losses in pipes occurs due to friction between the fluid and the pipe wall or pipe wall roughness which is closely related to pipe materials both smooth and rough such as PVC, steel, iron, glass, wood, etc. Meanwhile, secondary energy losses in smooth pipes occur due to several factor such as inlet, valves, enlargement, construction, bend, outlet.

A large amount of research was conducted to achieve a general and precise formulation of the various types of energy losses in pipelines. [1,2]. Some studies were focused on characteristics of type of flow in pipes either laminar or turbulent [3,4]. Other studies also conducted on primary energy losses in rough pipes [5,6]. Few studies were concentrated on secondary energy losses or in smooth pipes. Therefore, the purpose of this

study was to determine and analyze secondary energy losses on smooth pipes by experimental study.

2. Materials and methods

2.1 Experimental procedures and preliminary materials

The experiments were conducted in 14m long with 2cm diameter of smooth pipe with various types of secondary energy losses at Fluid Mechanics and Hydraulics Laboratory, Universitas Kristen Maranatha. Water was fully flowing through the smooth pipe with constant discharge (Q) $0.000171 \text{ m}^3/\text{sec}$. Figure 1 shows the layout of smooth pipe in this study. The hydraulic gradient line can be implemented in this experiment. Figure 1 shows the layout of smooth pipe for running the experiments. First of all, the analysis of datum should be done, and the result can be seen in Table 1. After that, the calculation of elevation head also performed and the result can be seen in Table 2. Next step is the analysis of pressure head and velocity head that can be seen in Table 3 and Table 4.

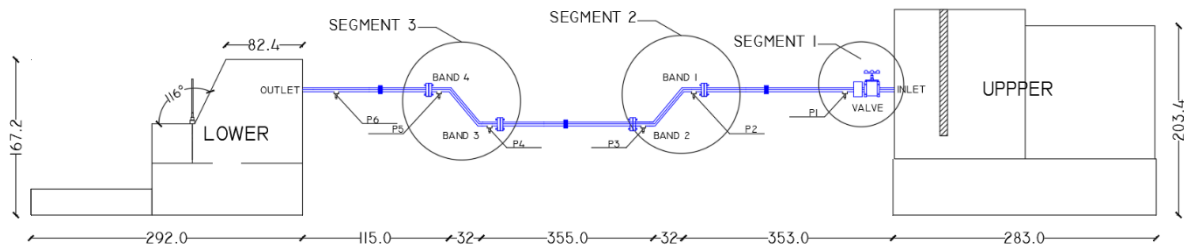


Figure 1. The layout of smooth pipe

Table 1. Calculation average of datum

Position	Datum (cm)
1	210.2667
2	
3	

Table 2. Calculation of elevation head

Position	T (cm)	Diameter \varnothing (cm)	z (cm)
Upper	157,442	3	155,9417
Piezometer 1	157,842	3	156,3417
Piezometer 2	157,892	3	156,3917
Piezometer 3	107,042	3	105,5417
Piezometer 4	105,842	3	104,3417
Piezometer 5	156,967	3	155,4667
Piezometer 6	155,992	3	154,4917

Table 3. Calculation of pressure head

Position	Velocity (cm/sec)	h_n (cm)
Entrance	60,032	139,958
Piezometer 1	60,032	128,058
Piezometer 2	60,032	117,008
Piezometer 3	60,032	161,858
Piezometer 4	60,032	150,608
Piezometer 5	60,032	94,333
Piezometer 6	60,032	79,408

Table 4. Calculation of velocity head

Position	Velocity (cm/sec)	$V^2/2g$ (cm)
Entrance	60,032	1,8368
Piezometer 1	60,032	1,8368
Piezometer 2	60,032	1,8368
Piezometer 3	60,032	1,8368
Piezometer 4	60,032	1,8368
Piezometer 5	60,032	1,8368
Piezometer 6	60,032	1,8368

Table 5 shows that the analysis of piezometric head for each position of piezometer along smooth pipe.

Table 5. Calculation of piezometric head

Piezometer	h (cm)
Inlet	295.900
Piezometer 1	284.400
Piezometer 2	273.400
Piezometer 3	267.400
Piezometer 4	254.950
Piezometer 5	249.800
Piezometer 6	233.900

2.2 Data analysis

The first stage of analysis is determining the flow type by analyzing the Reynolds Number (Re). The flow velocity, diameter of pipe and kinematic viscosity (ν) are the variables to define the value of Re. Bernoulli Equation is then used to calculate the value of total head energy losses differences of smooth pipe (ΔH_f). Further, friction factor (f) was defined by using the Chezy Equation and inserted into Darcy-Weisbach Equation. The results can be seen on Table 6.

Table 6. The Results of friction factor in smooth pipes

Segment	ΔH_f (cm)	C	f
1	11,50	140,4998	0,3976
2	6,00	200,8923	0,1945
3	5,15	216,8380	0,1669

3. Results and discussion

3.1 Results and discussion

Based on the analysis, it is found that head losses in smooth pipe especially secondary losses refers to the pressure drop (due to friction) as a fluid flow through a pipe. Head losses represents how much pressure will be lost due to the orientation of the pipe system. There are some bends that show the difference value of secondary energy losses. Moreover, the pressure of the fluid flow reduces as it goes through these bends due to a change in the direction of the fluid. The pressure of the fluid flow reduces due to frictional forces acting on the pipe's surface on the fluid. Head losses are affected by the input velocity of the fluid flow, the density of the fluid, and the pipe system's orientation (the number of bends and whether the bend is horizontal or vertical). Several mathematical models are used to calculate the function of total head loss. Some models are designed exclusively for laminar or turbulent flow, whereas others can be utilized for a wide range of Reynolds Numbers.

Table 7. Calculation of head energy

Position	Velocity (cm/sec)	h_n (cm)	H (cm)
Inlet	60.032	139.958	141.80
Piezometer 1	60.032	128.058	129.90
Piezometer 2	60.032	117.008	118.85
Piezometer 3	60.032	161.858	163.70
Piezometer 4	60.032	150.608	152.45
Piezometer 5	60.032	94.333	96.17
Piezometer 6	60.032	79.408	81.25

Secondary energy losses caused by singularities in smooth pipe are also known as minor head losses. This is owing to the fact that the value of long pipes can be overlooked in comparison to the value of friction. However, for short pipes, their impact can be enormous. Table 8 shows the results of secondary energy losses in smooth pipe.

Table 8. Calculation of secondary energy losses

Position	Experimental Results (cm)	Empirical Equations	% Difference
Inlet	55,255	60,032	4,143
Valve	0,363	0,433	8,79
Bend 1	0,394	0,433	4,715

Bend 2	0,437	0,433	0,459
Bend 3	0,433	0,433	0
Bend 4	0,504	0,433	7,577
Outlet	2,112	1,836	7

4. Conclusion

The current study evaluated secondary energy losses in smooth pipe induced by total disturbance generated by fittings such as valves and bends. The Reynolds number was used to determine whether a fluid flow was laminar or turbulent. Meanwhile, a transition flow is a fluid flow that exists between two points. The Reynolds number for a laminar flow should be less than 2000, whereas the Reynolds number for a turbulent flow should be larger than 4000. The experimental results showed that the total Reynolds Number (Re) value in a smooth pipe is 6177, which is greater than 4000, indicating that the flow is turbulent. The analysis results of secondary energy losses in smooth pipes has shown a preponderance of the interrelated equations by Darcy-Weisbach Equation and Chezy Equation concerning friction factor in smooth pipes. Later, thickness of boundary layer (k) of smooth pipe is the most determining variable to categorize the pipe roughness as hydraulically smooth pipes. Because such smooth pipes are vulnerable to aging and mossy effects, it is particularly difficult to measure the accuracy of pipe roughness. It was also found that the friction factor value of secondary energy losses due to valve that proposed by the manufacturer is no more valid since the experimental result and Bernoulli Equation indicated a quite different value. However, the experimental results presented a set of benchmark data for further research in smooth pipes.

Acknowledgment

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Conflict of interest

All authors declare that they have no conflicts of interest.

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