

# The Alteration on Malondialdehyde Content on Wistar Rats' Blood and Lungs Tissue to Ward the Exposure of Electric Cigarette Smoke

Bambang Wirjatmadi<sup>1</sup>, Rivan Virlando Suryadinata<sup>2</sup>

<sup>1</sup>Faculty of Public Health, Airlangga University, Surabaya, Indonesia, <sup>2</sup>Faculty of Medicine, Surabaya University, Surabaya, Indonesia

## Abstract

**Context:** The effect of electric cigarette smoke exposure had increased due to the number of electric cigarette smoker that raised every year. The smoke which enters the respiratory tract enhance the free radical inside the body, either in blood or lung tissue. The exceeding amount of free radical could trigger the oxidative stress which causes cell damage. The increase of cell damage within lung tissue is accompanied by the enhancement of malondialdehyde content. Therefore, this study aimed to know the malondialdehyde content alteration on blood and lung tissue against the exposure of electric cigarette smoke. This study used experimental methodology with posttest control group design using male Wistar rats as the sample. Wester rats were divided into groups and examined the cell damage through malondialdehyde content within the blood and the malondialdehyde expression within the lung tissue. The exposure of electric cigarette smoke was given to each group with different amount and duration. The lung tissue damage was measured using malondialdehyde content parameter within the blood and immunohistochemistry (IHC) on lung tissue. The finding showed that there was differentiation on malondialdehyde content within the blood and malondialdehyde expression on lung tissue ( $p < 0.05$ ). Whereas the relation between two groups showed a strong and significant relationship for ( $r=0.945$ ) and ( $p=0.000$ ). The duration of electric cigarette smoke exposure could affect the enhancement of malondialdehyde content within the blood and lung tissue.

**Keyword:** Malondialdehyde, electric cigarette, immunohistochemistry, lungs tissue

## Introduction

Electric cigarette has been popular these days. The increased number of electric cigarette user does not merely happen in developing countries but also in developed countries. In 2011, the E-cigarette user among Senior High school students in the United States of America was around 1.5% which then increases in 2014 for 13.4%. In New Zealand, the E-cigarette user at young age (14-15 years old) had reached three times bigger than

2012 for 20% in 2014<sup>1</sup>. E-cigarette is a battery-powered cigarette that works through the metal coil process using propylene glycol solution, vegetable glycerin and flavor that sometimes contained with nicotine<sup>2</sup>. It also known as a tool to heat the liquid nicotine into gas which inhaled by the user. This product is relatively new with popularity that increases every year<sup>1</sup>. A good marketing and an eye-catching form of E-cigarette make it more popular compared to the traditional cigarette. Besides, most of the society assumes that E-cigarette is safer than the traditional cigarette with tobacco, and lead to the rapid enhancement of the use of E-cigarette in society<sup>3</sup>. Besides, the use of electric cigarette consumed by everyone, ranged from adolescent until elder<sup>2</sup>. However, the amount of E-cigarette user is accompanied by the huge number of people who inhale the smoke which gives bad impact to health, especially in respiratory tract<sup>4</sup>.

---

### Corresponding Author:

**Bambang Wirjatmadi**

Faculty of Public Health, Airlangga University,  
Surabaya, Indonesia

e-mail: adrianimerryanafkmunair@gmail.com

E-cigarettes contained various kinds of dangerous ingredients same as the traditional cigarette<sup>5</sup> which had a direct effect on respiratory tract<sup>6,7</sup>. The smoke that enters the respiratory tract could occur some health problems, including Chronic Obstructive Pulmonary Disease (COPD), asthma, cardiovascular disease and stroke<sup>8,9</sup>. Even if the long term effect on E-cigarette has not yet revealed, but the intrusion on health could be seen through the damaged cell caused by the E-cigarette smoke<sup>4</sup>. The damaged cell was caused due to the free radical enhancement that enters the respiratory tract<sup>10</sup>.

The E-cigarette smoke contained with high free radical component, including Reactive Oxygen Species (ROS) and Reactive Nitrogen Species (RNS)<sup>11</sup>. The exceed amount of free radical would cause an imbalance between free radical and antioxidant inside the body<sup>12</sup>. Free radical is a molecule derived from one or more unpaired electron. The amount of odd electron causes the free radical having short age, reactive and not stable<sup>13</sup>. This makes free radical able to catch the electron to get the stability by attacking the stable molecule around them. The attacked molecule will become free radical due to the loss of electron and caused cell damage. One of the most reactive free radical is superoxide<sup>14</sup>. The reaction would occur the oxidative stress and affect the cellular pathways, including cell metabolism, proliferation process and inflammation. The oxidative stress also triggers the peroxide lipid that caused cell damaged and fatality<sup>15</sup>. A very reactive and not stable free radical caused the measurement of free radical enhancement could not be done, except by using malondialdehyde content that was the final result of peroxide lipid<sup>16</sup>. Therefore, this study aimed to see the enhancement of free radical within the blood and lung tissue caused by the exposure of E-cigarette smoke.

## Materials and Method

This study used experimental methodology with posttest control group design. The sample was male Wistar rats (*Rattus norvegicus*) divided into six groups based on the treatment duration. The exposure of cigarette smoke was done for every 5 minutes of intervention with different amount of exposure per day and the duration time per week given to each group. The first group is the negative control group used as a comparison to the treatment group without giving the cigarette smoke exposure. While the rest of the groups was given the electric cigarette smoke exposure in a certain time and evaluated on malondialdehyde content through blood and

observation on lung tissue with Immunohistochemistry (IHC) staining to see the damaged cell.

**Wistar Rats:** Male Wistar rats aged around 2-3 months weighted for 150-200gr which had no abnormalities were used as the sample in this study. The research was done in the Laboratory of Medicine Faculty, Airlangga University, Surabaya. The Wistar rats were put for adaptation for 5 days before doing the treatment. After the adaptation, the Wistar rats were divided into groups contained with 5 male Wistar rats for each group. Then, each group would be given different duration and amount of the e-cigarette smoke exposure. The calculation of the replication sample was used to compare the treatment groups using the formulation as below:

$$n = \left\{ \frac{(Z_{1-\alpha} + Z_{1-\beta}) \cdot \sigma}{\mu_1 - \mu_0} \right\}^2$$

**E-Cigarette:** The e-cigarette solution used in this study was contained with 6mg of nicotine. The e-cigarette smoke was streamed around the room-sized 50cm x 40cm x 20cm with pipe around the room.

**Malondialdehyde Measurement Within the Blood:** The malondialdehyde measurement in blood was done using Thiobarbituric Acid Reactive Substance (TBARS) Assay. The examination was done directly and accurately using the Bioassay system based on the TBARS reaction with Thiobarbituric Acid in shaping the product or pink-colored compound. The color intensity was measured on 535nm or with fluorescence intensity on 560nm/585nm which proportional with TBARS concentration in sample.

**Immunohistochemistry (IHC):** The sample was valued in semi-quantitative using modified Remmele method in which the Remmule index scale (Immuno Reactive Score/IRS) was the multiplication result between the percentage values of immunoreactive cell with color intensity value in immunoreactive cell. The data for every sample was the mean value of IRS in 5 different high power fields of 1000 times magnification. This whole examination was used a light microscope.

**Treatment Examination:** The male Wistar rats were divided into 6 groups, including negative control and treatment group. The first group as the negative control group was a group that given no intervention for 4 weeks. While the second group as the treatment

group I was given the e-cigarette smoke intervention once every 5 minutes per day in a week. The third group or the treatment group II was given e-cigarette smoke exposure intervention twice every 5 minutes per day in a week. The treatment group III was given intervention of e-cigarette smoke exposure once every 5 minutes per day in 2 weeks. The treatment group IV was given e-cigarette smoke exposure twice every 5 minutes per day in 2 weeks. The last control group was given intervention of e-cigarette smoke exposure once every 5 minutes per day in 3 weeks.

**Statistical:** The statistical test was done to the collected data using ANOVA test with SPSS version 20 to see the differentiation on malondialdehyde content

within the blood and lung tissue in every group. Then, the Least Significance Differences (LSD) test was done to make comparison among groups. Moreover, correlation test was also done to see the relationship between two groups.

**Result**

**Malondialdehyde Content within the Blood due to E-cigarette Smoke Exposure:** The result showed that every group had the mean value on malondialdehyde content in blood was proportional to the duration of e-cigarette smoke exposure. In treatment group 1, the malondialdehyde content reached the lowest value or  $0.0144 \pm 0.0008$ , while the highest value was obtained by the treatment group IV for  $0.1444 \pm 0.0037$ .

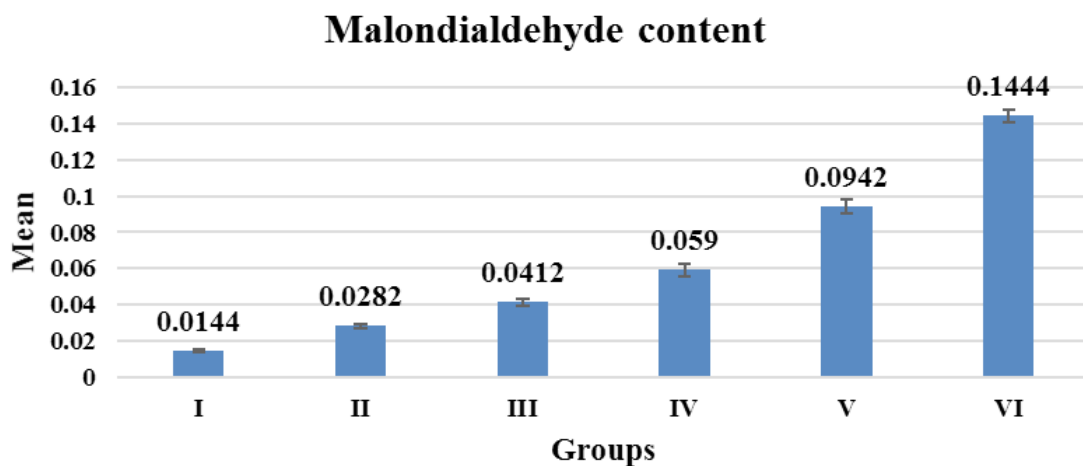


Figure 1: The mean value ± SD on Malondialdehyde content in blood

Table 1: The mean value and ANOVA test for Superoxide Dismutase (SOD) in each group

	Groups	Mean ± SD	P Value
I	Control Group	5,64 ± 0,12	0,000
II	Treatment Group I	4,35 ± 0,07	
III	Treatment Group II	2,92 ± 0,08	
IV	Treatment Group III	2,3 ± 0,06	
V	Treatment Group IV	1,49 ± 0,07	
VI	Treatment Group V	0,87 ± 0,05	

The ANOVA result showed the differentiation of malondialdehyde content in every group ( $p=0.000$ ). Then it analyzed using Least Significance Different (LSD) to see the differentiation among groups which

could be seen in table 2. Based on table 2 below, there was significant differentiation for ( $p<0.005$ ) of malondialdehyde content between the negative control group and all treatment groups.

Table 2: Least Significant Difference (LSD) Result on Malondialdehyde Content

Groups	I	II	III	IV	V	VI
I	-	-	-	-	-	-
II	0,002	-	-	-	-	-
III	0,000	0,003	-	-	-	-
IV	0,000	0,000	0,000	-	-	-
V	0,000	0,000	0,000	0,000	-	-
VI	0,000	0,000	0,000	0,000	0,000	-

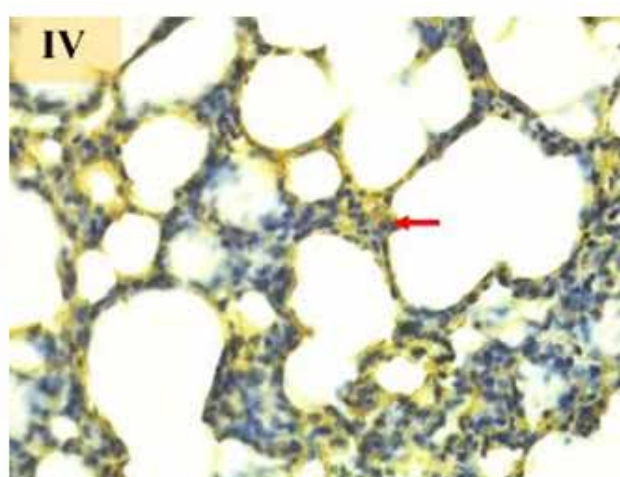
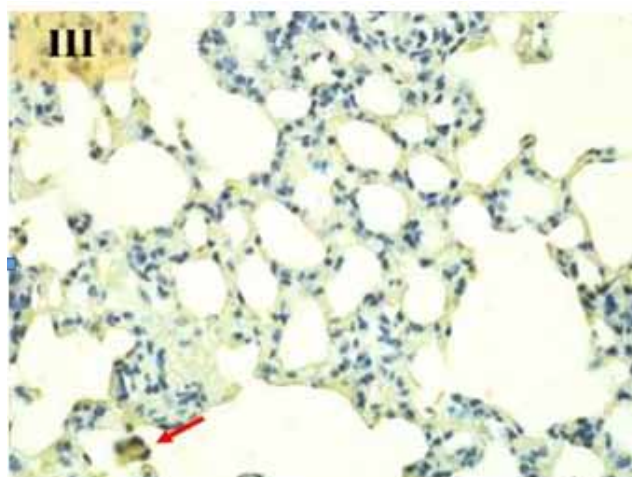
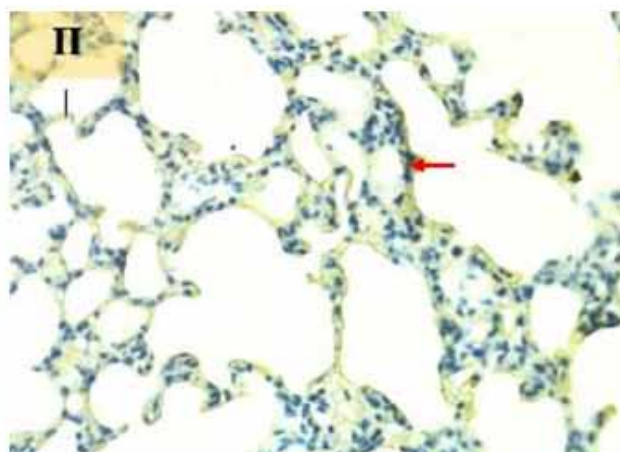
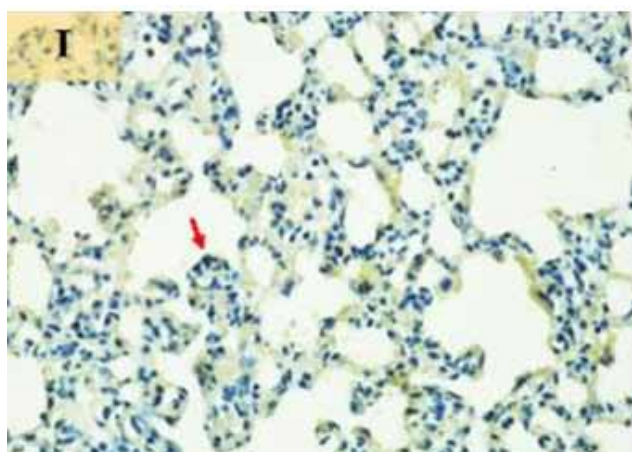
**Malondialdehyde Expression due to E-cigarette Smoke Exposure:** The result was used to compare the mean of malondialdehyde in every group for 5 high power fields. Based on figure 2 below, it could be seen that the mean value and deviation standard of malondialdehyde in every group. It showed that the enhancement of malondialdehyde was proportional to the length of time duration in e-cigarette smoke exposure. In treatment group I the mean value of malondialdehyde reached  $2.28 \pm 0.215$  which became the lowest mean value from every

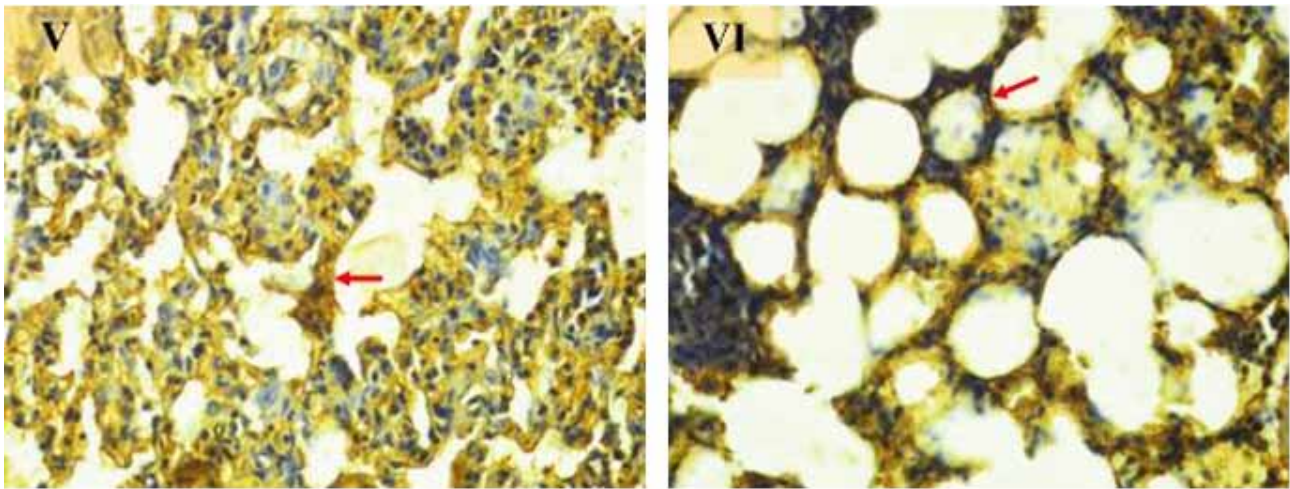
group. Meanwhile, the highest mean value was obtained in treatment group IV for  $10.08 \pm 0.196$ .

The differentiation of malondialdehyde expression in every group was done using Kruskal Wallis test since the obtained data were not fulfilled the requirement for normality and homogeneity test ( $p < 0.05$ ). The analysis result on malondialdehyde expression showed that there was differentiation on each groups ( $p = 0.000$ ) which could be seen in table 3 below;

**Table 3: The Result of Kruskal Wallis Test on Malondialdehyde**

Group	Mean ± SD	Maximum	Minimum	Kruskal Wallis Test
I	$2,28 \pm 0,215$	2,8	1,6	0,000
II	$3,2 \pm 0,063$	3,4	3,0	
III	$4,92 \pm 0,258$	5,8	4,4	
IV	$6,28 \pm 0,413$	7,0	5,0	
V	$8,96 \pm 0,117$	9,2	8,6	
VI	$10,08 \pm 0,196$	10,8	9,6	





**Figure 3: Malondialdehyde Expression on Wistar Rats due to E-Cigarette Smoke Exposure using Immunohistochemistry Technique**

Based on figure 3 above, it showed that the control group had low color intensity on lung tissue than the other groups. The correlation test also showed the strong relationship between malondialdehyde content on blood with lung tissue for ( $r=0.948$ ). Additionally, both control group and treatment groups had significant relationship ( $p<0.05$ ).

### Discussion

The sales of E-cigarette have always promoted the E-cigarette as one of the alternative ways to stop smoking. E-cigarettes also claimed as the traditional cigarette substitute which safe from hazardous substances, including tar, carbon monoxide, and other dangerous particles<sup>8</sup>. Some research showed clinical refinement on people who moved from traditional cigarettes to electric cigarettes, such as the enhancement of FEF 25% - 75% and the reduction of cough and choky symptoms<sup>17,18</sup>. However, it was too early to issue the statement on E-cigarette safety in reducing the danger of traditional cigarette and fixing the respiratory tract since the long term effect was not certainly known yet<sup>19,20</sup>. Therefore, the appraisalment on E-cigarette safety could be done by analyzing the smoke exposure which enters the human body through the respiratory tract. The huge amount of free radical resulted from E-cigarette showed negative effect on health<sup>21</sup>.

This free radical would enter the respiratory tract and caused oxidative stress and trigger the peroxide lipid process that damaged the cell<sup>22</sup>. One of the peroxide

lipid results was malondialdehyde which became the most often parameter to know the enhancement of free radical inside the body<sup>23</sup>.

This study showed that there was an enhancement on malondialdehyde content within the blood and lung tissue. Malondialdehyde within the lung tissue could be measured by immunohistochemistry coloring. The enhancement of malondialdehyde was proportional with the long time duration and the intensity in giving the smoke exposure. The longer the smoke exposure, then the malondialdehyde content will increase. The enhancement of malondialdehyde content within the blood was a sign on oxidative stress and often used for health problems, such as Chronic Obstructive Pulmonary Disease or COPD, asthma and cardiovascular disease<sup>24</sup>. While the malondialdehyde expression from immunohistochemistry coloring showed the availability of peroxide lipid within the tissue due to the increase of cellular oxidative stress.

This study showed that free radicals that came from the E-cigarette smoke exposure could enter into the blood and lung tissue. Moreover, it also increased the free radical inside the body which led to the negative effect for health.

### Conclusion

In conclusion, the long duration of E-cigarette smoke exposure could affect the enhancement of malondialdehyde content within the blood and lung tissue.

**Conflict of Interest:** The authors declare there is no conflict of interest

**Source of Funding:** No funding source

**Ethical Clearance:** Taken from the Ethics Committee of the Faculty of Public Health Airlangga University, with regards of the Human Rights and welfare in medical research.

## References

1. Thrasher JF, Abad-Vivero EN, Barrientos-Gutierrez I, et al. Prevalence and Correlates of E-Cigarette Perceptions and Trial among Early Adolescents in Mexico. *J Adolesc Heal*. 2016. doi:10.1016/j.jadohealth.2015.11.008
2. Grana R, Benowitz N, Glantz SA. E-Cigarettes. *Circulation*. 2014;129(19):1972-1986. doi:10.1161/CIRCULATIONAHA.114.007667
3. Palipudi KM, Mbulo L, Morton J, et al. Awareness and current use of electronic cigarettes in Indonesia, Malaysia, Qatar, and Greece: Findings from 2011-2013 global adult tobacco surveys. *Nicotine Tob Res*. 2016. doi:10.1093/ntr/ntv081
4. Evans SE, Hoffman AC. Electronic cigarettes: Abuse liability, topography and subjective effects. *Tob Control*. 2014. doi:10.1136/tobaccocontrol-2013-051489
5. Perikleous EP, Steiropoulos P, Paraskakis E, Constantinidis TC, Nena E. E-Cigarette Use Among Adolescents: An Overview of the Literature and Future Perspectives. *Front Public Heal*. 2018. doi:10.3389/fpubh.2018.00086
6. Suryadinata RV, Wirjatmadi B, Adriani M. PENGARUH PERUBAHAN HIPERPLASIA SEL GOBLET SELAMA 28 HARI PAPARAN ASAP ROKOK DENGAN PEMBERIAN ANTIOKSIDAN SUPEROXIDE DISMUTASE. *Indones J Public Heal*. 2017. doi:10.20473/ijph.v11i1.2016.60-68
7. Schraufnagel DE, Blasi F, Drummond MB, et al. Electronic Cigarettes. A Position Statement of the Forum of International Respiratory Societies. *Am J Respir Crit Care Med*. 2014;190(6):611-618. doi:10.1164/rccm.201407-1198PP
8. Goniewicz ML, Knysak J, Gawron M, et al. Levels of selected carcinogens and toxicants in vapour from electronic cigarettes. *Tob Control*. 2014; 23(2):133-139. doi:10.1136/tobaccocontrol-2012-050859
9. Polosa R, Cibella F, Caponnetto P, et al. Health impact of E-cigarettes: A prospective 3.5-year study of regular daily users who have never smoked. *Sci Rep*. 2017. doi:10.1038/s41598-017-14043-2
10. Indraswari PII, Lorensia A, Suryadinata RV. Analysis Effect of Nutrition Intake on Lung Function of Active Smoker and Non Smoker. *J Kesehat Masy*. 2018. doi:10.15294/kemas.v14i2.14947
11. Zhang G, Wang Z, Zhang K, et al. Safety assessment of electronic cigarettes and their relationship with cardiovascular disease. *Int J Environ Res Public Health*. 2018. doi:10.3390/ijerph15010075
12. Goel R, Durand E, Trushin N, et al. Highly Reactive Free Radicals in Electronic Cigarette Aerosols. *Chem Res Toxicol*. 2015; 28(9):1675-1677. doi:10.1021/acs.chemrestox.5b00220
13. Suryadinata RV, Wirjatmadi B, Adriani M. Efektivitas Penurunan Malondialdehyde dengan Kombinasi Suplemen Antioksidan Superoxide Dismutase Melon dengan Gliadin Akibat Paparan Asap Rokok. *Glob Med Heal Commun*. 2017. doi:10.29313/gmhc.v5i2.1860
14. Pratiwi SR, Lorensia A, Suryadinata RV. Asupan Vitamin C dan E Dengan SQ-FFQ terhadap Fungsi Paru Perokok dan Non-Perokok. *Media Kesehat Masy Indones*. 2018. doi:10.30597/mkmi.v14i2.3998
15. Suryadinata RV. Pengaruh Radikal Bebas Terhadap Proses Inflamasi pada Penyakit Paru Obstruktif Kronis (PPOK). *Amerta Nutr*. 2018. doi:10.20473/amnt.v2i4.2018.317-324
16. Reuter S, Gupta SC, Chaturvedi MM, Aggarwal BB. Oxidative stress, inflammation, and cancer: How are they linked? *Free Radic Biol Med*. 2010. doi:10.1016/j.freeradbiomed.2010.09.006
17. Arulselvan P, Fard MT, Tan WS, et al. Role of Antioxidants and Natural Products in Inflammation. *Oxid Med Cell Longev*. 2016. doi:10.1155/2016/5276130
18. Messner B, Bernhard D. Smoking and cardiovascular disease: Mechanisms of endothelial dysfunction and early atherogenesis. *Arterioscler Thromb Vasc Biol*. 2014. doi:10.1161/ATVBAHA.113.300156
19. Phaniendra A, Jestadi DB, Periyasamy L. Free Radicals: Properties, Sources, Targets, and Their Implication in Various Diseases. *Indian J Clin Biochem*. 2015. doi:10.1007/s12291-014-0446-0

20. Cibella F, Campagna D, Caponnetto P, et al. Lung function and respiratory symptoms in a randomized smoking cessation trial of electronic cigarettes. *Clin Sci*. 2016. doi:10.1042/cs20160268
21. Campagna D, Cibella F, Caponnetto P, et al. Changes in breathomics from a 1-year randomized smoking cessation trial of electronic cigarettes. *Eur J Clin Invest*. 2016. doi:10.1111/eci.12651
22. Unger M, Unger DW. E-cigarettes/electronic nicotine delivery systems: A word of caution on health and new product development. *J Thorac Dis*. 2018. doi:10.21037/jtd.2018.07.99
23. Staal YC, van de Nobelen S, Havermans A, Talhout R. New Tobacco and Tobacco-Related Products: Early Detection of Product Development, Marketing Strategies, and Consumer Interest. *JMIR Public Heal Surveill*. 2018. doi:10.2196/publichealth.7359
24. Korfei M. The underestimated danger of E-cigarettes - also in the absence of nicotine. *Respir Res*. 2018. doi:10.1186/s12931-018-0870-4

ISSN-0976-0245 (Print) • ISSN-0976-5506 (Electronic)

Volume 11 / Number 03 / March 2020



# Indian Journal of Public Health Research & Development

An International Journal

Website:

[www.ijphrd.com](http://www.ijphrd.com)



# Indian Journal of Public Health Research & Development

## EXECUTIVE EDITOR

**Prof. Vidya Surwade**

Deptt. of Community Medicine, Dr Baba Saheb Ambedkar, Medical College & Hospital, Rohini, Delhi

## INTERNATIONAL EDITORIAL ADVISORY BOARD

1. **Dr. Abdul Rashid Khan B. Md Jagar Din** (*Associate Professor*)  
Department of Public Health Medicine, Penang Medical College, Penang, Malaysia
2. **Dr. V Kumar** (*Consulting Physician*)  
Mount View Hospital, Las Vegas, USA
3. **Basheer A. Al-Sum**,  
Botany and Microbiology Deptt, College of Science, King Saud University,  
Riyadh, Saudi Arabia
4. **Dr. Ch Vijay Kumar** (*Associate Professor*)  
Public Health and Community Medicine, University of Buraimi, Oman
5. **Dr. VMC Ramaswamy** (*Senior Lecturer*)  
Department of Pathology, International Medical University, Bukit Jalil, Kuala Lumpur
6. **Kartavya J. Vyas** (*Clinical Researcher*)  
Department of Deployment Health Research,  
Naval Health Research Center, San Diego, CA (USA)
7. **Prof. PK Pokharel** (*Community Medicine*)  
BP Koirala Institute of Health Sciences, Nepal

## NATIONAL SCIENTIFIC COMMITTEE

1. **Dr. Anju D Ade** (*Professor*)  
Community Medicine Department, SVIMS, Sri Padamavati Medical College, Tirupati,  
Andhra Pradesh.
2. **Dr. E. Venkata Rao** (*Associate Professor*) Community Medicine,  
Institute of Medical Sciences & SUM Hospital, Bhubaneswar, Orissa.
3. **Dr. Amit K. Singh** (*Associate Professor*) Community Medicine,  
VCSG Govt. Medical College, Srinagar – Garhwal, Uttarakhand
4. **Dr. R G Viveki** (*Associate Professor*) Community Medicine,  
Belgaum Institute of Medical Sciences, Belgaum, Karnataka
5. **Dr. Santosh Kumar Mulage** (*Assistant Professor*)  
Anatomy, Raichur Institute of Medical Sciences Raichur(RIMS), Karnataka
6. **Dr. Gouri Ku. Padhy** (*Associate Professor*) Community and Family  
Medicine, All India Institute of Medical Sciences, Raipur
7. **Dr. Ritu Goyal** (*Associate Professor*)  
Anaesthesia, Sarswathi Institute of Medical Sciences, Panchsheel Nagar
8. **Dr. Anand Kalaskar** (*Associate Professor*)  
Microbiology, Prathima Institute of Medical Sciences, AP
9. **Dr. Md. Amirul Hassan** (*Associate Professor*)  
Community Medicine, Government Medical College, Ambedkar Nagar, UP
10. **Dr. N. Girish** (*Associate Professor*) Microbiology, VIMS&RC, Bangalore
11. **Dr. BR Hungund** (*Associate Professor*) Pathology, JNMC, Belgaum.
12. **Dr Sartaj Ahmad**, PhD Medical Sociology, *Associate Professor*,  
Swami Vivekananda Subharti University Meerut UP India
13. **Dr Sumeeta Soni** (*Associate Professor*)  
Microbiology Department, B.J. Medical College, Ahmedabad, Gujarat, India

## NATIONAL EDITORIAL ADVISORY BOARD

1. **Prof. Sushanta Kumar Mishra** (*Community Medicine*)  
GSL Medical College – Rajahmundry, Karnataka
2. **Prof. D.K. Srivastava** (*Medical Biochemistry*)  
Jamia Hamdard Medical College, New Delhi
3. **Prof. M Sriharibabu** (*General Medicine*) GSL Medical College, Rajahmundry,  
Andhra Pradesh
4. **Prof. Pankaj Datta** (*Principal & Prosthodontist*)  
Indraprastha Dental College, Ghaziabad

## NATIONAL EDITORIAL ADVISORY BOARD

5. **Prof. Samarendra Mahapatro** (*Pediatrician*)  
Hi-Tech Medical College, Bhubaneswar, Orissa
6. **Dr. Abhiruchi Galhotra** (*Additional Professor*) Community and Family  
Medicine, All India Institute of Medical Sciences, Raipur
7. **Prof. Deepti Pruthvi** (*Pathologist*) SS Institute of Medical Sciences &  
Research Center, Davangere, Karnataka
8. **Prof. G S Meena** (*Director Professor*)  
Maulana Azad Medical College, New Delhi
9. **Prof. Pradeep Khanna** (*Community Medicine*)  
Post Graduate Institute of Medical Sciences, Rohtak, Haryana
10. **Dr. Sunil Mehra** (*Paediatrician & Executive Director*)  
MAMTA Health Institute of Mother & Child, New Delhi
11. **Dr Shailendra Handu**, *Associate Professor*, Phrma, DM (Pharma, PGI  
Chandigarh)
12. **Dr. A.C. Dhariwal**: *Directorate* of National Vector Borne Disease  
Control Programme, Dte. DGHS, Ministry of Health Services, Govt. of  
India, Delhi

**Print-ISSN:** 0976-0245-**Electronic-ISSN:** 0976-5506, **Frequency:** Quarterly  
(Four issues per volume)

**Indian Journal of Public Health Research & Development** is a double blind peer reviewed international journal. It deals with all aspects of Public Health including Community Medicine, Public Health, Epidemiology, Occupational Health, Environmental Hazards, Clinical Research, and Public Health Laws and covers all medical specialties concerned with research and development for the masses. The journal strongly encourages reports of research carried out within Indian continent and South East Asia.

The journal has been assigned International Standards Serial Number (ISSN) and is indexed with Index Copernicus (Poland). It is also brought to notice that the journal is being covered by many international databases. The journal is covered by EBSCO (USA), Embase, EMCare & Scopus database. The journal is now part of DST, CSIR, and UGC consortia.

**Website : [www.ijphrd.com](http://www.ijphrd.com)**

©All right reserved. The views and opinions expressed are of the authors and not of the Indian Journal of Public Health Research & Development. The journal does not guarantee directly or indirectly the quality or efficacy of any product or service featured in the advertisement in the journal, which are purely commercial.

## Editor

**Dr. R.K. Sharma**  
Institute of Medico-legal Publications  
Logix Office Tower, Unit No. 1704, Logix City Centre Mall,  
Sector- 32, Noida - 201 301 (Uttar Pradesh)

## Printed, published and owned by

**Dr. R.K. Sharma**  
Institute of Medico-legal Publications  
Logix Office Tower, Unit No. 1704, Logix City Centre Mall,  
Sector- 32, Noida - 201 301 (Uttar Pradesh)

## Published at

**Institute of Medico-legal Publications**  
Logix Office Tower, Unit No. 1704, Logix City Centre Mall,  
Sector- 32, Noida - 201 301 (Uttar Pradesh)



# Indian Journal of Public Health Research & Development

www.ijphrd.com

---



---

## Contents

---



---

Volume 11, March 03

March 2020

1. Development and Validation of a Questionnaire on Eating Behaviour for School Children and its Correlation with Nutritional Status.....1  
*A. Ayesha Fathima, T.H. Hema, A.J. Hemamalini*
2. Occupational Varicella outbreak at a Tertiary Care Hospital: An Insight.....7  
*Abhisek Mishra, C.M. Singh, Binod Ku Pati, Barkha Rani Beck, Hari Krishnan Ashokan*
3. An Exploratory Study To Identify Factors Affecting Non Compliance To Dots Therapy Among Tb Patients At Selected Dots Centre Vadodara ..... 13  
*Akash S. Patel, Miss. Varsha Hun, Mr. Adithya S.*
4. Assessment of Cognitive Impairment among Elderly in the Selected Rural Community, Kancheepuram District, Tamil Nadu ..... 19  
*Akila K., Divya R., Preethianushya M., Aravindhan B., Rogina J.S. Savarimuthu*
5. Safety and Tolerability of Two Different Formulations of Mycophenolate (Mycophenolate Mofetil and Mycophenolate Sodium) among Patient with Connective Tissue Disease Associated Interstitial Lung Disease (CTD-ILD) in a Tertiary Care Hospital.....22  
*Amrut Kumar Mohapatra, Pratima Singh*
6. Assessment of Awareness of Parents on Importance of Dental Care in Pediatric Patients in Ethnic Tamil Population .....27  
*Anandhi D., R. Bharanidharan, Lekshmy Jayan, Ramya R., K. Rajkumar, R. Hemalatha*
7. Study of Total Time Taken for OPD Billing Process in a Multi-Specialty Hospital .....32  
*Anil Pandit, Savita Prashar*
8. Sleep Quality and Glycemic Control among Patients with Type II Diabetes Mellitus .....41  
*Anju Babu, Sabitha V Janardhanan, Sreevidhya R., Sruthy K.S.*
9. A Comprehensive Break Even Analysis of MRI and CT Unit of a Tertiary Care Hospital in Sikkim.....47  
*Ankit Singh, Priya Ravi, Soniya Joseph*
10. A Descriptive Survey on the Consumption of Sweetened Beverages and Contributing Factors among Adolescents in Selected PU Colleges at Mangaluru .....53  
*Anu Joseph, Anuja Susan Varughese, Archana P.S., Ashigha Anil Kumar E., Aswathi P., Athira Anto, Anju Ullas*

## II

11. Effect of Smoking and Tobacco Chewing on Superoxide Dismutase Activity.....57  
*Utkarsh Yadav, Junaid Ahmed, Nandita Shenoy, Nanditha Sujir, Ceena Denny*
12. A Study of Young Adults' Intention towards Genetically Modified Foods: Mediating Effect of Health Belief .....63  
*Avinash Rana, Vishal Soodan*
13. Assessment Of Stress Among Who Take Care Of Elderly Individuals At Home In Selected Rural Community At Kanchipuram Distrect, Tamil Nadu, India. ....69  
*B. Indra, K. Gowri Lakshmi, S. Saritha, G. Jayashree, M. Yagajeyanthi*
14. Life beyond the Diagnosis of Breast Cancer: A Qualitative Study on the Lived Experiences of Breast Cancer Survivors .....73  
*Binsha Pappachan C., Fatima D'Silva, Safeekh A.T.*
15. A Study of Prevalence of Type 2 Diabetes Mellitus among Adults in an Urban Population of Eluru: POT2DIE Study.....78  
*Chandrasekhar Vallepalli , Chandra Sekhar Kalevaru, Balaraju Ratna, U. Vijaya Kumar, Ch. Rama Mohan, P.G. Deotale*
16. A Comparative Study to Assess the Academic Performance and Factors Affecting it among Higher Secondary School Students in Both Rural and Urban Areas of Vadodara.....84  
*Chetana Patel, Rajesh Joseph, Nirmal Raj*
17. Applications of Chitosan in Dentistry .....89  
*Chitharanjan Shetty, Aditya Shetty, Shishir Shetty, Gurmeen Kaur, Mithra N. Hegde, Lakshmi Nidhi*
18. Health, Sanitation and Hygienic Problems among Women Travellers in Nepal .....96  
*Devika S., Sreenath Muraleedharan K.*
19. A Study to Assess the Level of Knowledge on Home Management of Diarrhea among Mothers .....100  
*Divya R., Nandhini T., Pradeep Raj, Subbulakshmi S.*
20. Autonomic Function Tests in Chronic Obstructive Pulmonary Disease (COPD) and their Correlation with Disease Severity .....104  
*Ganesan R., Gaur G.S., Karthik S., Vishnukanth*
21. A Cross Sectional Study on Smartphone Addiction among Students in Ayapakkam, Thiruvallur District, Tamil Nadu, 2018 .....110  
*Gideon J.I., Mosoniro Kriina, Athira Venugopal, Minu Maria Mathew, Boopathi K., Vasna Joshua*
22. A Study to Assess the Effectiveness of Health Teaching Programme on Knowledge Regarding Stem Cell Collection, Preservation & its Benefits among Student Nurses of Selected Nursing Colleges of Vadodara.....116  
*Ishita P. Shah, Vruti Patel, Robby Solanki*
23. A Study to Assess the Level of Nomophobia among Students at Sumandeep Nursing College, Vadodara with a View to Develop an Information Booklet.....121  
*Ismail P.A., Darshni Patel, Harika Patel, Feni Patel, Drashti Patel*

24. A Study on Drug Utilization in Hypertension in Medical Care Hospital..... 125  
*Jalpa Suthar, Priyal Shah, Krupali Patel, Pankti Pathak*
25. A Retrospective Study to Compute the Prevalence of Pneumonia and its Associated Risk Factors among Children in Selected Tertiary Care Hospital, Kelambakkam, Kancheepuram, Tamilnadu, India..... 131  
*Jegin P., Dinesh Kumar M. , Dayana J., Elakiya E., Subbulakshmi S.*
26. A Comparative Study to Evaluate Early Postoperative Complications and Short-Term Quality of Life Assessment Between Stripping and Endovenous Laser Therapy in the Treatment of Chronic Venous Insufficiency Patients: A Study From North India ..... 134  
*Jitendra Kumar Kushwaha, Ankit Gupta, Pranav Yadav, Abhinav Arun Sonkar*
27. Risk Assessment of Catheter Associated Urinary Tract Infection among Catheterised Patients at Selected Hospital at Mangaluru ..... 141  
*Jomol Johny, Joseymol Joy, Jositta Reji, Juby Kurian, Keerthana K.R., Indumathi*
28. Evaluation of Serum Level of RANTES among Vitiligo Patients before and After Treatment by Fractional Carbon Dioxide Laser ..... 145  
*Hisham A. Shokeir, Hanaa Emam, Mohamed Mohsen Soliman, Yasmin Abdel Latif, Ola Omar Abou Zeid, Mai Shoeib, N.S. Hanafy*
29. Effectiveness of Myotherapy on Stress among Patients Subjected to Major Orthopaedic Surgery at a Tertiary Care Hospital, South India..... 152  
*K. Sathiya, Vijayasamudeeswari, Mohan kumar*
30. Impact of Cranial Electrical Stimulation on Statistical Indices of Time Domain Parameters of Heart Rate Variability in Hypertensive Individuals ..... 157  
*Khyatee, Aparna Sarkar, Rajeev Aggarwal, Inder singh*
31. Role of Hip Complex Re-Training Exercises on Patients with Chronic Low Back Pain ..... 164  
*Krishna Kumar Singh, Swapnil Ramteke, Subrat Samal*
32. Assessment of the Prevalence of Febrile Seizure and Associated Factors among Children: A Retrospective Study..... 169  
*L. Jisha, P. Jayaprabha, S. Gnanawel, K. Gowtham Kumar, P. Kogila*
33. Effectiveness Practice-intervention Based Project on Knowledge, Attitude and Practice Compliance to Infection Control Measures and Factors Predicting Non-compliance among Nurses Working in Tertiary Care Hospital, Mangalore, India..... 172  
*Larissa Martha Sams, Shalini Lidwin Fernandes, Diana Lobo, Amitha P. Marla*
34. Awareness of Oral Complications of Diabetes Mellitus in Diabetes Patients: A Questionnaire Study..... 179  
*Lekshmy Jayan, A. Ramesh Kumar, R. Ramya, Monika Srivastav*
35. Effectiveness of Nursing Intervention on Knowledge of Family Caregivers of Patients with Paraplegia..... 184  
*Liny Joseph, C. Kanniammal*
36. Effect of Video Assisted Teaching on Usage of Plastics and its Impact on Environment among Adolescent in a Selected School, Kanchipuram District, Tamil Nadu..... 189  
*M. Saranbharathi, T. Sowmiya, D. Moses Rathnakumar, M. Pradheepa J., Shenbagaprabha N.*

#### IV

37.	Assessment of Risk of Fall among Elderly .....	192
	<i>M. Vijay, S. Mohanapriya, V. Vinodhini, R. Divya, Sathiyapriya V.</i>	
38.	Recharging Ground Water Using Age– Old Traditional Mechanisms.....	196
	<i>Manbeer Kaur, Mona Prashar</i>	
39.	A Study on Work Life Balance and Stress of Female Employees in IT Sector: A Study with Special Reference to Employees in Chennai.....	202
	<i>Mary Sudharshini Fernando, M. Kavitha</i>	
40.	Comparison of the Masticatory Efficiency and Biting Force between Conventional Complete Dentures and Implant Retained Over Dentures with Different Types of Attachments .....	207
	<i>Mohammed Abid, Nagesh Bhat, Seema Abdul Gani, Nagarajappa R.</i>	
41.	Concept Mapping as a Clinical Learning Strategy on the Competency Scores of Nursing Students .....	214
	<i>Jasmine Joseph, Hemalatha R.</i>	
42.	A Study on Nutritional Value and Sensory Evaluation of Wheat Gateaux by Addition of Jaggery.....	219
	<i>John Williams, H.M. Moyeenudin, Manivel K., Mark Keith Faraday</i>	
43.	Thyroid Disease Classification Using Decision Tree and SVM.....	224
	<i>K. Dharmarajan, K. Balasree, A.S. Arunachalam, K. Abirmai</i>	
44.	An Empirical Study on Impact of Traffic Pollution on Health of Roadside Vendors and its Effects on Their Business .....	230
	<i>Lavanya A., Kiruthikasri S., Aishwarya H.S., Surendarnath K., Shashank S., G. Devakumar</i>	
45.	A Study to Analyse the Reliability and Validity of the Smartphone Goniometer Application (G-PRO) by Measuring the Elbow Joint Range of Motion.....	235
	<i>Maheshkumar P.G., Harihara Subramanyan, Swapna N., J. Jannet Merlin</i>	
46.	Water Quality Assessment of Kanchipuram Temple Pond by Using Statistical Method and Water Quality Index .....	241
	<i>Meenakshi Perumal, Sriram Gopalsamy</i>	
47.	Awareness of Ceramic Implants among Dentists in Tamilnadu .....	248
	<i>Mohamed Thamemul Ansari K.A., Dhanraj M.</i>	
48.	Problems of Nosocomial Infection in Newly Upgraded and Newly Opened Government Health Institutions and their Management .....	253
	<i>Naresh Vashist, Raveen Chauhan, Kumari Kamlesh</i>	
49.	A Study on Brand Awareness and Customer Engagement .....	258
	<i>P. Vanitha, S. Subramanian</i>	
50.	Linezolid Resistantclinically Significant Isolates of Coagulase Negative Staphylococci: An Emerging Therapeutic Concern.....	263
	<i>Priyanka Chaturvedi, Anita Pandey</i>	

51.	Quality Characteristics and Antioxidant Properties of Bread Supplemented with Iron Rich Black Strap Molasses.....	269
	<i>R. Balakrishnaraja, P. Pavithra, C. Sivapriya, K. Saranya, T. Vishnu, J. Bindhu</i>	
52.	Personal Health Record Using Cloudcomputing Technology.....	275
	<i>R. Sumithra, V. Jayalakshmi, R. Priya</i>	
53.	Knowledge, Coverage and Usage Patterns of Health Insurance in Rural South India.....	282
	<i>Rahul Hegde, Karthamada Ganapathy Kiran, Nanjesh Kumar S.</i>	
54.	Role of Intrinsic Motivation in Eating Habits and Physical Activity in Adults with Primary Hypertension	287
	<i>Rajkumar Eslavath, Madhavaram T. Kishore, P. Madhira</i>	
55.	The Combination of Transcranial Direct Current Stimulation (tDCS) and TENS - Its Effectiveness on Pain and Functional Outcomes in Knee OA Patients: A Pilot Study .....	295
	<i>Rekha Chaturvedi, Sivachidambaram Kulandaivelan</i>	
56.	A Study on Epidemiology and Its Models.....	299
	<i>S. Balambigai, S. Siva Shankar, Gayatri Parasa, M. Mary Sujatha</i>	
57.	Ideal Self-Concept Factors influencing on Emotional Intelligence among School Teachers and Nurses.....	305
	<i>S. Antonysamy, J.M. Asgarali Patel, A. Velayudhan</i>	
58.	A Study to Assess Prevalence of Cysts and Tumours in the Oral Cavity: A Retrospective Study .....	311
	<i>S. Bhuvaneshwari, Silpiranjan Mishra</i>	
59.	Neural Network Based Implementation of Corner Detection for Biomedical Application in Computer Vision.....	314
	<i>Santosh M. Herur, S.S. Kerur, Kalmeshwar N. Hosur</i>	
60.	Effectiveness of Ultrasound Therapy on Oral Submucosal Fibrosis.....	320
	<i>Senthilkumar S., Chitra S., Vijayaraghavan R., V. Hemaashree, Subhavani P.</i>	
61.	Clinicomicrobiological Profile of Gram Negative Bacterial Infections in Adult ICU's of a Tertiary Care Centre .....	326
	<i>Shalini Shenoy Mulki, Sevitha Bhat, Pooja Rao</i>	
62.	Comparitive Evaluation of pH and Calcium Ion Release in Newer Calcium Silicate Based Root Canal Sealers.....	332
	<i>Sunpreet Kaur, Navneet Kukreja, Abhishek Bansal, Anamika Thakur, Ankita Sharma, Aayush Malhotra</i>	
63.	Tobacco Prevalence and Usage Pattern in the Urban Slum of Visakhapatnam .....	337
	<i>Surada Chandrika, Chepuru Rajyalakshmi</i>	
64.	Psychological Health in Respect of Self Esteem among Rural, Urban and Semi Urban College Students of Different Genders of East Midnapore District: A Cross Sectional Study .....	343
	<i>Susmi Biswas, Sourav Gangopadhyay, Jayeeta Majumder</i>	
65.	Utility of High Fidelity Simulation Training in Improving Adherence to Critical Actions During Cardiopulmonary Arrest.....	348
	<i>Parag Rishipathak, Monesh Bhandari, Anand Hinduja</i>	

## VI

66. Effectiveness of Video Assisted Teaching on Knowledge Regarding Home Care Management among Patients Diagnosed with Acute Coronary Syndrome .....352  
*Parvathy Chandran, Binutha V.P.*
67. Assess the Prevalence of Type 2 Diabetes Mellitus among Adults at Selected Areas in Kanchipuram District, Tamilnadu, India.....358  
*Pavithra M., Kavitha S., Chindiya J., Yogalakshmi R., Steffepressill A.A., Haripriya R., Shenbagaprabha N.*
68. Assessment of Self Esteem and Peer Pressure among Adolescents in Selected College of Kanchipuram District, Tamil Nadu .....360  
*Pema Drema Gyamo, P. Nivetha, P. Pavithra, S. Nandhini, Metha J.*
69. A Modified Technique for Establishing the Occlusal Plane in Complete Denture Prosthesis.....364  
*Pradeep S.*
70. Quality of Life among Survivors of a Disaster in Kodagu District, India.....367  
*Prakash B., Jose Jom Thomas, Praveen Kulkarni, Narayana Murthy M.R.*
71. Surgical Approaches to Infra Orbital RIM Fractures: A Review Literature .....373  
*Prakash Dhanavelu, Senthilnathan, Vijay Aravind R.*
72. Caffeine: Benefits, Risks and Effects-A Review .....377  
*Praveen Kumar Gupta, Himashankari B., Anwasha Sinha, Kandi Arvind Reddy, Priyadharsini V., Lingayya Hiremath, Ajeet Kumar Srivastava*
73. Internet Addiction among Medical Postgraduate Students: A Cross- Sectional Study.....383  
*Ishan Pathak, Preet P. Khona*
74. Sickness Absenteeism and Associated Factors among Foundry Workers in Belagavi, Karnataka: A Cross Sectional Study .....388  
*Preet P. Khona, Sulakshana Baliga*
75. The Burden Leprosy Diseases in India: A Study with Special Reference to Tamilnadu and their Districts .393  
*Dr. R. Hariharan*
76. Post Endodontic Treatment in Diabetic Patients and Correlation with their Glycemic Status: A Study .....399  
*R. Jagadish Rajkumaar, Gheena S.*
77. A Descriptive Study to Assess the Knowledge, Practice and Attitude on Iron Deficiency Anemia among Adolescent Girls at Selected Private School, Kanchipuram Dt, Tamilnadu, India .....404  
*R. Renuga, S. Sivaranjani, S. Jeevitha, S. Ashwin Kumar, Subbulakshmi S.*
78. Effectiveness of Structured Teaching Programme Regarding Weaning Practices among Primipara Mothers in a Selected Area at Kanchipuram District, Tamilnadu, India.....409  
*R. Vinothini, M. Deepan Babu, S. Vasuki, T. Nandhini, J. Nancy Victoria*
79. Anthropometric Profile of Mentally Challenged Children .....413  
*Syed Tariq Murtaza, Ashish Kumar Katiyar, Farkhunda Jabin*

80.	The Relationship of Low Birth Weight Babies with Stunting in Toddlers Aged 12-36 Months in Bogor Regency, 2019 .....	420
	<i>Ari Wijayanti, Ratna Djuwita</i>	
81.	Bio-monitoring of Atmospheric Heavy Metals Deposited on Selected Tree Leaves in Kanchipuram, Tamilnadu .....	426
	<i>Sumathi Ramesh, Sriram Gopalsamy</i>	
82.	Unmet Need of Objective Monitor to Evaluate Performance Status in Lung Cancer Patients .....	432
	<i>Reema Shyamsunder Shukla, Yogender Aggarwal, Shreeniwas S. Raut, Rakesh Kumar Sinha</i>	
83.	The Drug Compliance and Factors Influencing Therapeutic Regimen among Senior Citizen .....	437
	<i>Regina Antony, Shali Mol U.S, Revathy R. Nair, Rintu Thomas</i>	
84.	Competency on Breast Feeding among Mothers of High Risk Babies and Practice of Nurses in Assisting the Mothers with a View to Develop A Protocol .....	442
	<i>Sanaya Suresh, Anila. K.P., Rafia Islam</i>	
85.	Nutritional Status of Adolescent Girls Residing in the Urban Field Practice Area of S.N. Medical College, Bagalkot .....	448
	<i>Vasundara S. Gayakwad, Gowri Shankar</i>	
86.	A Comparitive Study on Road Traffic Accident in Kerala and Tamil Nadu: A Secondary Data Analysis ...	453
	<i>N. Venkata Abinaya, Saravanan Govindaraj</i>	
87.	Evaluation of Effective Dose and Associated Radiation Risks in Common Computed Tomography Procedures .....	460
	<i>Abdul Kayyum, Nitika C. Panakkal, Arathy Mary John</i>	
88.	A Correlative Study to Assess the Knowledge and Practice of Housewives Regarding Householdwaste Management in Selected Rural Community at Mangalore with a View to Provide an Information Pamphlet .....	466
	<i>Abin Baby, Shycil Mathew</i>	
89.	Role of the Internet in the Health-Seeking Behaviour of Parents of Children Under-Five During Fever .....	471
	<i>Abinaya Sivakumar, Padmasani Venkatramanan, Sarala Premkumar</i>	
90.	Poverty and Access to Medicine: A Medico Legal Study.....	474
	<i>Ajay Kant Chaturvedi, R.L. Koul</i>	
91.	To Assess Cases of Trigeminal Neuralgia.....	479
	<i>Alankrita Chaudhary, Kuldeep Dhanker, Sachin Chand, Pallavi Sharma, Priyanka Bhushan</i>	
92.	Early Postoperative Pain Intensity after Laparoscopic Cholecystectomy and Associated Risk Factors.....	483
	<i>Amrita Panda, Jagadish Chandra Mishra, Ansuman Panigrahi, Sowyma Kandregula, Riddhika Majumder</i>	
93.	Determination of Efficacy of Different Apex Locators.....	488
	<i>Anu Vashisht, Ekta Choudhary, Sagar Chaudhary, Ritu Sharma, Rukhsar Anjum, Aashima Kulshreshtha</i>	
94.	Correlation of Cancer Antigen 125 Levels with Adnexal Masses .....	491
	<i>Atmajit Singh Dhillon, Neha Vashishat, Bimal K. Agrawal</i>	



## VIII

95. Dependence of Demographic Indicators upon Government Expenditure on Health: A Study of the Indian States .....496  
*Bandita Deka*
96. Correlation of Total Serum Calcium and Ionic Calcium Levels with Severity of Birth Asphyxia.....503  
*Kusum Mahajan, Bharat Bhushan Singh, Charu Chandwani, Vikramjot Singh*
97. Usage of Complementary Alternative Medicine among the Patients Attending Tertiary Care Hospital.....509  
*Bodhi Sri Vidya Vennam, Srinivasa Reddy. Pulusu, N.G. Nagamani, R.V. Manasa*
98. Adoption of Health Management Information System (HMIS) among ESIC Healthcare Professionals in Southern Districts of Tamil Nadu: An Integrated Model.....514  
*C. Sriram, V. Mohanasuundaram*
99. Malpositioning of Central Venous Catheter from Right Internal Jugular Vein into Ipsilateral Vertebral Vein: A Rare Phenomenon .....519  
*Chashamjot Bawa, Laveena Dabla, Jyoti Raina, Himank Chadha*
100. Prevalence of Nomophobia and its Association with Loneliness, Self Happiness and Self Esteem among Undergraduate Medical Students of a Medical College in Coastal Karnataka.....523  
*Chethana K., Maria Nelliyanil, Manjula Anil*
101. Silver Diamine Fluoride in Arresting Dentinal Caries in School Children.....530  
*Shivani Daga, Vabitha Shetty, Amitha Hegde*
102. Study of Effects of Formalin Exposure in Dissection Hall on Pulmonary Function Tests of Medical Students .....536  
*Shrirang N. Patil, Milind Thorat*
103. Effectiveness of an Animation Video on Behavioral Response to Pain among Toddlers During Immunization in a Selected PHC at Mangalore India .....542  
*Bijimol N.J., Shycil Mathew*
104. Marsupialization for the Management of Unicystic Ameloblastoma-Retrospective Study .....548  
*Srikar M.V., Sangamesh N.C., Vidya K.C. Rao, Jugajyothi Pathi*
105. Sepsis Unfolding a Very Large Pheochromocytoma in an Elderly Patient: A Case Report .....553  
*Subhash Chandra Dash, Naba Kishore Sundaray, Debabrata Kumar Sabat, Urvashi Ghosh, Promod Kumar Tudu, Sohail*
106. Assessment of the Level of Awareness on Negative Impact on Playing Mobile Games among High School Students in Selected Higher Secondary School, Kanchipuram District, Tamilnadu.....558  
*Rebetha S., Vaishnavi R., Robin Jayaraj C., Divakar Rao G., T.R. Manjula*
107. The Cut that Scars: Exploring Female Genital Mutilation in Somalia with Reference to Select Texts.....562  
*Reshma Sarah Easo, Sreenath Muraleedharan*
108. Development of Rapid, Sensitive and in-expensive Point of Care Diagnostic Method for Brucellosis in Dairy Cattle at Resource-Limited Areas .....566  
*Revathi Poonati, Prudhvi Chand Mallepaddi, Rudrama Devi Punati, Soumendra Nath Maity, Krishna Satya Alapati, Kavi Kishor B. Polavarapu, Rathnagiri Polavarapu*

109. Effect of Recreational Therapy on Attention and Depression in School Children with Learning Difficulties .....573  
*Rutuja Amit Lalingkar, Trupti Saurabh Yadav, Sayali Shreenivas Gijare*
110. Human Papilloma Virus Infection Status and Oral Cancer Incidence in South India–Lack of Evidence and its Current Impacts .....579  
*S. Karthika Nagarajan, Usha Subbiah*
111. Assessment of Knowledge, Attitude and Practice on Immunization among Primi Mothers of Children .....583  
*S. Aswini, S. Tharaniya, R.J. Joey Persul, B. Avinash Lingam, P. Kogila*
112. Fluorosis: An Endemic Health Disease .....588  
*Sakshi Chaturvedi, Chakrapani Chaturvedi, Ashutosh Dadhich*
113. Incidence and Recurrence of Dental Caries after Repeated Application of Topical Fluoride Gel on Permanent Dentition of School Children of a School-based Dental Program in Nerul: A Retrospective Study .....591  
*Shatakshi Srivastava, Shrirang Sevekar, Sabita M. Ram, Mihir Jha, Laresh Mistry, Vaibhav P. Thakkar, Sujata Hirve*
114. Evaluation of Balance Control and Pattern of Muscle Activation from Functional Perspectives Across the Ages– An Observational Study Protocol .....595  
*Singh Sonia, Kaur Ravinder, Sharma Sorabh, Multani Kaur Narinder, Sonia Singh*
115. Dental Stem Cells Beyond Dentistry .....600  
*Sona Baburathinam, Vidyarani Shyamsundar, Aravindha Babu N., Masthan K.M.K.*
116. Relationship between Maxillary Molar Root Tips and Maxillary Sinus Floor Using CBCT .....605  
*Suhas Manoharan, Jayanth Kumar V.*
117. To Study the Effect of Rotator Cuff Exercises on Tennis Elbow .....610  
*Swapnil Ramteke, Subrat Samal*
118. Relationship between Occupational Stress and Resilience .....615  
*S. Vasantha, R. Santhi*
119. Assessment of Practice and Attitude of Mothers in Using Over the Countermedication in a Selected Rural Area of Kanchipuram District, Tamil Nadu .....621  
*Vishnu Priya S., Ashwin Garry Joshua I., Shakthivell N.S., Sandhiya B., Krupa Susan Koshy*
120. A Study to Assess the Effectiveness of Nursing Directives on Knowledge Regarding Lifestyle Modification among Diabetes Mellitus Patient Admitted at Dhiraj General Hospital, Waghodia Vadodara .....625  
*Ravindra H.N., Yogendra Rathod, Sonal Patel*
121. Assessment of Mycobacterium Tuberculosis Sensitive Antibiotics from the Isolation of LJ Media .....631  
*Zafar Nowshad Wani, Pushpa Yadav, Garima Jaiswal, Mridul Malakar*
122. Level of Stress and Coping Strategies among Institutionalised and Non-Institutionalised Elderly .....637  
*Soumya Raj K., Anagha Raj M., Amulya N.*

**X**

123. Quality of Sleep among Diabetes and Non–Diabetes–Pilot Study.....643  
*Neenu Merin, Regina Antony*
124. Competency Based Core Infusion Curriculum in Indian Setup-An Imperative Need .....648  
*Anand L., Gandhimathi M., Unmona Borgain*
125. Patanjali Yoga Practice and its Effect on Mental Health and Moral Judgment Amongst Juvenile Delinquents .....653  
*Dayal Sandhu, Amit Kumar, Monika Agarwal*
126. Quality of Life of Wives of Alcoholics .....658  
*Shiji P.J., Neetha Kamath*
127. A Study on Knowledge, Attitude and Practice on Mosquito Borne Diseases in Thirumazhisai, Thiruvallur District, Tamilnadu.....663  
*B. Charumathi, D. Jayashri, R. Rajayamini, Gomathy Parasuraman, Ruma Dutta, Timsi Jain*
128. Awareness, Attitude and Obstacles in Research among Dental Professionals in Chennai: An Institutional Based Survey .....669  
*Akila Ganesh, Janani Krishnamachari, Janani K., M. Rajkumar, B. Archana, S.K. Balaji*
129. “Chewing Technique” Using Gums toward Mucositis Prevalence on Chemotherapeutic Cancer Patients...676  
*Hernita Frisnawati Purba, Laili Rahayuwati, Titis Kurniawan, Ikeu Nurhidayah, Kusman Ibrahim*
130. Predicting Pollutant Removal with Abundance of Plants in the Interest of Health: An Evidence Based Study .....682  
*Rudraksh Gupta, Manju Rawat Ranjan, Usha Mina, Rajshree R Gupta,*
131. A Trailer of Health Care Spending in Indian Scenario.....688  
*S. Chandrachud, S. Sudha, Telu Suvarna, S. Saravanan, E. Siva*
132. Effect of Balance Training on Health Related Quality of Life in Patients with Chronic Obstructive Pulmonary Disease (COPD).....692  
*Suresh Babu Reddy A., Nataraj Madagondapalli Srinivasan, T. Anil Kumar, Vinod Babu K. Gopala Krishna Alaparathi, Kalyana Chakravarthy Bairapareddy*
133. Factors Associated with Achieving Hematological Response in CML (Chronic Myeloid Leukemia) Patient .....699  
*Willy Anthony, Tutik Harjianti, A. Fachruddin B., Syakib Bakri, A. Makbul Aman, Hasyim Kasim, Arifin Seweng*
134. ‘My Live is Meaningful and Adherence to Antiretroviral Therapy’ Men Who Have Sex with Men (MSM) Who Live with HIV/AIDS; Mixed Method .....705  
*Yafi Sabila Rosyad, Hema Malini, Rika Sarfika*
135. The Development Model of Post Malaysia Sports School’s Athlete Alternative Career Pathway.....710  
*Zulakbal Abd Karim, Yusop Ahmad, Najib Razak*
136. A Narrative Review of Literature of Health Information Seeking Behaviour .....715  
*T.R. Gopalakrishnan, Rachel Jacob*

137. Empirical Investigation between Occupational Stress and its impact on Job Satisfaction among Medical Practitioners’ of Jawaharlal Nehru Medical College.....	720
<i>Yogendra Pal Bharadwaj, Aruna Dhamija, Somesh Dhamija</i>	
138. Validation of the World Health Organisation 5-Item Well-Being Index (WHO-5) among the Adult Population Living in a Chronically Arsenic Affected Area of Rural West Bengal in India .....	726
<i>Pallabi Pattnaik</i>	
139. Socio-economic Determinants in the Utilization of Maternal Health Care in India: Exploring National Level Data.....	732
<i>R. Vivekanandhan, A.K. Ravishankar, Nawaz Rasool</i>	
140. Catastrophic Health Care Expenditure on Maternal Health Care in India: Evidence from National Level Data.....	738
<i>R. Vivekanandhan, A.K. Ravishankar, Nawaz Rasool</i>	
141. Effectiveness of Planned Teaching Programme on Knowledge Regarding Child abuse among Mothers.....	743
<i>Rajashri B. Karale, Pradnya Malgi, Vaishali R. Mohite, Samir K. Choudhari</i>	
142. The Association between Cardiovascular Risk Factors and Dental Caries amongst Patients Visiting a Dental College in Greater Noida, U.P. ....	748
<i>Sahil Thakar, Shivalingesh KK, Bhuvandeep Gupta, Swati Sharma, Vatsul Sharma, Mansimranjit Kaur Uppal, Ahmad Jhurry Hadi</i>	
143. A Review of Glass Ionomer as ‘ART’ Sealant.....	754
<i>Savil R Uchil, Baranya Shrikrishna Suprabha, Arathi Rao</i>	
144. Treatment Seeking Pattern of Relapse Cases of Substance Use Disorder in Bangladesh.....	759
<i>Iqbal Masud, Mohammad Hayatun Nabi, Tasnuva Humaira, Amir Hussain, Farah Naz, Sanjana Zaman, Mohammad Delwer Hossain Hawlader</i>	
145. Predicting effect of Personality Traits and Age on Emotional Intelligence .....	764
<i>Mahendra Kumar, Gayatri Jay Mishra, Sumanlata Saxena, Vandana Singh, Mahesh Kumar, Yanjana</i>	
146. Synthesis of Rosemary Oleoresin Mediated Silver Nanoparticles and its Characterisation Using UV-Vis Spectrophotometry and TEM.....	770
<i>T. Ushanthika, Roy Anitha, S. Rajeshkumar, T. Lakshmi</i>	
147. Serum Cotinine Level as a Biomarker for Tobacco-Related Oral Cavity Malignancy.....	775
<i>Vekariya Mayank, C.Z. Pardeshi</i>	
148. To Assess the Capacity to do Breast Self Examination among Non-Medical Female Employees of Tertiary Care Hospital from Western Maharashtra .....	782
<i>Purnima M. Desai, Manisha C. Gholap, Samir K. Choudhari</i>	
149. TOMON (Tooth Monster Hunter): Educative Media for Teaching Toothbrushing to Children .....	787
<i>Salikun, Supriyana, Suwarsono, Emma Kamelia</i>	
150. Infant Massage Promotes Growth in Full-term Infants.....	793
<i>Rahma Dian Hanifarizani, Yulia Silvani, Mergy Gayatri, Prasetya Ismail Permadi</i>	

## XII

151. The Outcome of Myringoplasty with d without Cortical Mastoidectomy Comparative Study between Elastic Nail Versus Plates and Screws in the Treatment of Diaphyseal Both Bone Forearm Fracture in Children .....800  
*Farhad Jalil Khayat, Laysaa Adil Rashid, Hayder A. Fawzi*
152. Determinants of Unmet Need for Family Planning among Married Women Age 15-49 in Sumatera Utara Province (Analysis of 2017 RPJMN Data)..... 807  
*Erna Mutiara, Ancha Sitorus, Sri Rahayu Novita*
153. Relationship between Effective Leadership and Decision Making on Patient Safety Culture.....813  
*Endang Pertiwiwati, Jajar Martono*
154. Colombian Users' Experiences about Telemedicine in Health Services.....817  
*Lucia Palacios-Moya, Lemy Bran-Piedrahita, Alejandro Valencia-Arias, Martha Benjumea-Arias*
155. Analysis of Public Value in Governmental Institution Cardiac Center as an Example .....822  
*Sulaman Almesned, Abdulrhman Almesned*
156. The Effect of Metal Nanoparticle on LH, FSH and Testosterone in Male Rats..... 826  
*Dalya K. Naser, Kadhim A. Aadim, Ahmed K. Abbas and Salah M.M. AL-Chalabi*
157. Innovation of Jemawut Cookies (Foxtail Millet)-Tuna On Nutrition Status and Zinc Value for Children Aged 6-24 Months With Less Nutrition Status In Regency of Pacitan–Indonesia .....831  
*Fibria Dhian Ikawati, Diffah Hanim, Harsono Salimo*
158. The Effectiveness of Local Dance Training of the Northeastern Thailand (Champa Sri) to Increase Glomerular Filtration Rate (GFR) in Elderly Women in Mahasarakham Province, Thailand.....836  
*Nuanprang Duangsawang, Chulaporn Sota, Ampornpun Theeranut, Pongsawat Rattanasang, Earmporn Thongkrajai, Ampon Sriraksa*
159. A 10-Year Follow-up of Rehabilitation of Severely Atrophied Edentulous Mandible with Implant Supported Over Denture: A Case Report .....842  
*Ajay Jain, Chethan Hegde, Sridevi Ugrappa*
160. Vascular Complications of Type 1 Diabetes among Indian Patients .....846  
*Alma Baptist, S. Salvi, C.S. Yajnik*
161. Mental Health Among Orphan and Non-Orphan Adolescents in Delhi-NCR .....852  
*Ashu Kumari, Nudrat Jahan*
162. A Study to Establish Correlation between Dermoscopic and Clinical Findings of Dermatophytosis .....857  
*Asma Arif Hussain, Namita D. Narkhede*
163. Normative Data of Trunk Muscle Endurance for Male Long-Distance Runners of Vadodara: An Observational Study .....863  
*Bhura Paras A., Shah Sweety A., Bhura Camy P.*
164. Spatial Cluster Analysis as a Sampling Approach in Public Health Research.....868  
*H. Gladius Jennifer, M. Bagavan Das*

165. Prevalence of Good Menstrual Hygiene Practices among Adolescent Girls in a Rural Area  
Kancheepuram District ..... 875  
*M. Buvneshkumar, P. Kaveri, V. Ravivarman*
166. Influence of Age and Gender on Mindfulness-Cognitive Science ..... 882  
*M. Thirumaran, Manibalan Vijayaraman, Mohammed Irfan, S. Khaja Moinuddin, Nayab Shafaque*
167. Association of Internet Addiction with Social Support, Loneliness And Stress: A Cross Sectional  
Study among Female College Students ..... 887  
*Nitasha Khehra*
168. Effects of Dance and Movement Therapy (DMT) Versus Progressive Muscle Relaxation (PMR) on  
Quality of Life among Elderly Residing in Selected Old Age Homes of Haryana: A Quasi Experimental  
Study ..... 893  
*Prakash Jha, Srinivasan P., Uma J Deaver, Jyoti Sarin*
169. Effects of Integrative Neuromuscular Training Combined with Yoga and Stretching Exercises on  
Abdominal Strength Endurance of Primary School Children ..... 899  
*S. Malar, D. Maniazhagu*
170. A Combination of Clinical Examination with Specific Biomarkers and Judicious Use of Imaging  
Modality can Reduce the Rates of Negative Appendicectomy ..... 904  
*Satyendra Kumar Tiwary Raghunath More, Sandip Kumar, Amit Nandan Dwivedi, Jayant Maurya,  
Satendra Kumar*
171. Psychosocial Impact of Overactive Bladder Symptoms among Adults in a Selected Hospital at  
Mangaluru ..... 910  
*Susamma Varughese, Rajeev T.P., Devina E. Rodrigues*
172. Etiological Factors of Failure in Endonasal Dacryocystorhinostomy ..... 917  
*Tripti, Abhay D. Havle, Ganesh M. Vihapure, Swapna A. Shedge*
173. Evaluation of Sensory Responsiveness in Children with Autism Spectrum Disorder ..... 921  
*U. Ganapathy Sankar, Monisha R.*
174. Assessment of Diabetes Risk and the Factors Associated in Adult Population Using Indian Diabetes  
Risk Score: A Community Based Study in Coastal Andhra Pradesh ..... 925  
*V. Sarada, B. Subbarayudu, C. Rajyalakshmi*
175. Passive Tobacco Exposure in School Age Children with Recurrent Respiratory Illness using Salivary  
Cotinine Assay ..... 931  
*Vijay Simha, Ashwini P.S., UllalHarshini Devi, Rathika D. Shenoy*
176. A Retrospective Study on Most Common Symptoms in Dengue Viral Infection of Paediatric Age  
Group Presented in a Tertiary Care Hospital, Visakhapatnam ..... 936  
*Yasaswini Sabbineni, Pilli Hema Prakash Kumari, Payala Vijayalakshmi*
177. Impact of Internal Branding on Employee Engagement: An Empirical Study Conducted among  
Medical Staff's Brand Supporting Behaviour in Indian Hospitals ..... 942  
*Asha Binu Raj*

#### XIV

178. Effectiveness of Health Education on Myths of Menstrual Hygiene among Adolescent Girls in Selected Rural Area in Andhra Pradesh, Vizianagaram District..... 948  
*Krishna Vaishnavi P.*
179. Polymorphism in XRCC1, XRCC2, XRCC3 Genes and Risk of Gastrointestinal Cancer: A Case-Control Study from South-Western Maharashtra..... 954  
*Madhavi N. Patil, Kailas D. Datkhile, Anand Gudur, Rashmi A. Gudur, Satish V. Kakade, Sandeep S. Kadam*
180. Correlation of Anthropometric Parameters with Blood Pressure: An Anthropometric Study among Two Endogamous Groups of Haryana ..... 959  
*Sandhya Singh , Reena Singla, Vishal Verma*
181. A Cross Sectional Study on Drug Adherence among Type 2 Diabetes Mellitus Patients Attending a Tertiary Care Hospital in Chennai..... 964  
*Srisanthana Krishnan V., Roselin V.*
182. p53 and c-erbB-2 Expression in Breast Cancer: An Indian Population Study ..... 970  
*Satendra Kumar, Satyendra K. Tiwary, Raghunath More, Krishna Jee Pandey, Puneet, Ajay K. Khanna*
183. A Study of Internet Addiction and its Association with Big Five Personality Traits in Indian Adolescents. 975  
*Shibani Julka, Rajesh Upadhyay*
184. Content Validation of Early Intervention Protocol for Preterm Infants in Indian Population..... 981  
*A. Rajarajeswari, P. Ramachandran, L.N. Padmasani, Sailakshmi Ganesan*
185. Effect of Core Stability and Functional Mobility Exercises on Muscle Strength after Lumbar Spinal Cord Injury ..... 985  
*Miss Neha Y. Kakade, Suraj B. Kanase*
186. Medicalization of Judicial Mode of Execution: A Critical Study in American Context..... 991  
*Author-Anjum Hassan, Meenu Gupta*
187. A Cross Sectional Study to Evaluate Tree Plantation and Gardening as an Intergenerational Bonding Activity Amongst Geriatric Population..... 996  
*Rahul Netragaonkar, Amrut Arun Swami, Shruti Amrut Swami*
188. Prevalence of Folic Acid Deficiency among Elderly Population..... 1002  
*Venkat Siddarth Chagamreddy, E. Malligai, Somdyuti Roy*
189. Misconceptions and Traditional Treatment Practices Regarding Childhood Epilepsy in Central Gujarat of India: A Community Perspective ..... 1008  
*Vipin Vageriya, Anil Sharma*
190. Development of Job Design Indicators for Generation Y Nurses at Tertiary Level Hospitals under Ministry of Public Health in Thailand..... 1013  
*Porntipa Suparasri, Netchanok Sritoomma, Suchitra Luangamonlert*
191. Why is Education Important to Prevent Cognitive Impairment? A Cross-Sectional Study in Jakarta Indonesia..... 1019  
*Raden Siti Maryam, Junaiti Sahar, Kuntjoro Harimurti, Sutanto Priyo Hastono*

192. Breast Cancer: Self-Concept and Quality of Life for Patients in Wahidin Sudiro Husodo Hospital Makassar City, Indonesia .....	1025
<i>Rahman, Naharia Laubo, Baharuddin K, Rudy Hartono</i>	
193. Risk Communication in the Air Pollution .....	1030
<i>Rahmi Amir, Anwar Daud, Indar, Furqan Naeim</i>	
194. HIV/AIDS Awareness of People Who Work at Barbershops and Beauty Salons at Al-Nasiriya City in Iraq.....	1036
<i>Rawaa Kamel Abd, Tareq Al-Qassab, Vinoth Raman</i>	
195. Pneumonia among Under-Five Children in Indonesia: A Situational Analysis .....	1042
<i>Restuning Widiasih, Binahayati, Nenden Maryam, Habsyah Agustina, Mutia Assyifa, Tata Sudrajat, Retno Wardhani</i>	
196. Health Risks of People Living Close Cipayung Depok Landfill Due to Hydrogen Sulfide Exposure: Respiratory Problems and Malodor Peceptions.....	1048
<i>Rima Maulida Hidayati, Suyud Warno Utomo, Haryoto Kusnoputranto</i>	
197. Influenza Vaccine and The Frequency of Acute Respiratory Tract Infection of West Java’s Pilgrims-Indonesia: Is there any Correlations Between? (An Analysis of Siskohatkes Indonesian Hajj Data 2018)	1054
<i>Risma Yustiani Syarif, Syahrizal Syarif, Tri Yunis Miko Wahyono</i>	
198. The Increasing Obedience and Changes in Blood Pressure Through Family Empowerment Model in Elderly People with Hypertension .....	1061
<i>Risna Damayanti, Abdul Aziz Alimul Hidayat, Nurhayati</i>	
199. Risk Factor of Hypertension among Adolescence: A Literature Review.....	1065
<i>Riza Fikriana, Nursalam, Shrimarti Rukmini Devy, Ahsan, Al Afik</i>	
200. The Influences of Coping Strategies on Emotional Well-Being Victims of Verbal Bullying in Senior High School 11 Surabaya .....	1069
<i>Rosdiana Mahardika Putri, M. Bagus Qomaruddin, Rachmat Hargono</i>	
201. The Role of the School’s Health Clinic Teacher on Clean and Healthy Life Behavior in Elementary School Students in the South Ternate City .....	1074
<i>Rusny Muhammad, Kartini M. Ali</i>	
202. Correlation between Plasma Sex Hormones Levels and Hepatitis C Infection in Some Iraqi Male.....	1079
<i>Sabah Saad Abdulsahib, Ammar Basim Al-Assadi, Kadhim Ibrahim</i>	
203. Impact of Discharge Educational Program on Preterm Infants’ Mothers’ Knowledge and Practice .....	1084
<i>Samar M. Mohamed El-Hadary, Soheir A. Dabash, Hanan M. Rashad, Zahraa E. Osman</i>	
204. Effect of Protocol of Care for Mothers on Selected Postoperative Outcomes among their Children with Developmental Dysplasia of the Hip.....	1090
<i>Samar. S. Abd Elkhair, Afkar R. Mohamed, Sanaa A. Mohamed, Hassan M. Elbarabary</i>	
205. The Temporal Pattern of Ambient PM2.5 and Health Risk Assessment in Thailand .....	1096
<i>Samart Prasertsin, Ganjana Nathapindhu</i>	



## XVI

206. Psychological Wellness of Early Childhood Educators Inventory: A Reliability Analysis Study .....1101  
*Samsiah Mohd Jais, Mohammad Nasir Bistamam, Mohammad Aziz Shah Mohammed Arip, Pau Kee, Amelia Mohd Noor, Md Azman Shahadan*
207. The Correlation Factors on Epilepsy Stigma amongst People in Indonesia.....1107  
*Saniya Ashilah Rabbani, Joseph Ekowahono R, Viskasari P. Kalanjati*
208. Effect of a Learning Activity Package on Improving Awareness about Liver Fluke Prevention and Control for Secondary School Students in Northeastern Thailand.....1113  
*Saowalux Khatchamart, Suchada Paileeklee, Ariyaporn Kuroda, Teerachai Nethanomsak, Narong Khuntikeo*
209. Protective Effect of Ethanolic Extract of Zingiber Officinale Against Mercuric Chloride Induced Renal Toxicity In Rats .....1118  
*Sawsan A. Ali, Mariam A. Kadhem, Hameed A. Ali*
210. Association between Superoxide Dismutase 2 p.(Ala16Val) and Superoxide Dismutase 3 p.(Arg213Gly) Genetic Variants and Risk of Peripheral Neuropathy in Children and Adolescents with Type 1 Diabetes .....1124  
*Sharaf H., Hamed M., Ramzy T., Ashraf H., Hassan M.*
211. Outcome of Treatment of Chronic Hepatitis C Patients by New Antiviral Drugs .....1129  
*Sharehan Abdelrahman Ibrahim, Ibrahim Abdelghany Motawea, Ghada Mohammed Elzagheir, Ragaa Abdelshaheed*
212. Evaluation of Implant Stability after Application of Platelet Rich Fibrin in Mandibular Posterior Ridge Splitting and Simultaneous Implant Placement Versus Xenograft Application: A Randomized Clinical Trial.....1134  
*Shymaa M. El-Halawany, Takek El-Ghareeb, Elzahra FElbagoury*
213. The Influence of Age, Work Period, Distance of Residence, and Midwife's Intention to Behavior in Recording and Reporting Routine Immunization.....1141  
*Sindy Aziza Hermanuya, Sri Widati, Oedojo Soedirham*
214. Decreasing Blood Sugar Levels Through Modification of Diabetes Exercise and Peer Group Support .....1146  
*Siti Rahmani, Abdul Aziz Alimul Hidayat, Nurhayati*
215. Pre-Marriage Course Regarding Health Reproductive: Knowledge and Attitude of Bride and Groom Candidate in Preparing Health Status before Pregnant in Grobogan Regency .....1150  
*Achadi Nugraheni, Cahya Tri Purnami, Atik Mawarni, Winarni M., Apoina Kartini, Septo Pawelas Arso, Alfi Fairuz Asna*
216. Correlation between 25-Hydroxyvitamin D Serum Levels with Telomere Length in Premenopausal Minangkabau Ethnicity Women .....1155  
*Sri Nani Jelmila, Delmi Sulastri, Yuniar Lestari*
217. The Dynamics of Budget Fulfillment Policy in the Implementation of Minimum Service Standards in the Health Sector at Community Health Centers (Case Study in Sleman and Magelang Regencies, Indonesia) .....1161  
*Sunarto, Mukti, A.G, Pramusinto A.*

218. The Development of the Aerobic Dance Leaders Training Program ..... 1167  
*Surumpa Charoensuk Kaewwong, Chulaporn Sota*
219. The Impact of the Use of Sports Centre Facilities (Teamsport) towards Student's Mental Health: A Pilot Study ..... 1173  
*Suzila Ismail, Farah Nadia Mohd Faudzi, Mohd Azrin Mohd Nasir, Nor A'tikah Mat Ali, Aizul Firdaus Musa, Syaliza Adiha Tewiran*
220. The Relationship between Adolescent Pregnancy and Stunting among Toddlers Aged 12-36 Months in Bogor District, Indonesia..... 1179  
*Syamsul Ma'arif, Ratna Djuwita*
221. Factors of Acute Diarrhoea among Children of Under Five Years Old in Sabah, Malaysia: A Case-Control Study..... 1185  
*Syed Sharizman Syed Abdul Rahim, Shamsul Azhar Shah, Mohammad Saffree Jeffree, Zahir Izuan Azhar, Mohd Rohaizat Hassan, Nazarudin Safian & Narinderjeet Kaur*
222. Effect of Visfatin on Insulin Resistance in Non-Obese Adolescents ..... 1191  
*Thidarat Somdee, Suneerat Yangyuen, Suvimol Sungkamanee, Udomsak Mahaweerawat*
223. ***Escherichia Coli*** in ***Musca Domestica*** Flies toward the Incidence of Diarrhoea in Children Under Five Years in around the Location of Traditional Fish Processing in the North Jakarta..... 1196  
*Uli Rohati Siregar, Dewi Susanna*
224. Effects of Benzene Exposure on Respiratory Symptoms to Workers in the Informal Footwear Industry... 1201  
*Ummiyatul Hajrah, Agustin Kusumayati, Ema Hermawati*
225. Factors Associated with Limited Level of Health Literacy on Application of Health Information Related to Opioid Use in Kachin State, Myanmar ..... 1207  
*Ye Htut Oo, Wongsu Laohasiriwong*
226. Evaluation of Serum Lipid Profile after Different Chemotherapeutic Regimens in Iraqi Patients with Breast Cancer..... 1213  
*Zainab Nazar Hasan Anber*
227. *Escherichia Coli* as a Biological Model for Reduction of Graphene Oxide..... 1218  
*Zina Bakir Al-Hilli, Nawfal Hussein Aldujaili*
228. Factors Affecting Pregnant Women Behavior on Antenatal Care (Anc) Examination in Three Health Centers in Jombang Regency ..... 1224  
*Rahayu Wijayanti, Shrimarti Rukmini Devy, OedojoSoedirham*
229. Relationship between Multiparity and the Types of Histopatology of Cervical Cancer..... 1229  
*Ratih Nawang Wulan, Zaenal Abidin, Esa Rosyida U., Elmi Aris R., Jajuk Retnowari, Eko Sih P., Dewi Arini H.*
230. Stigmatization People Living with HIV AIDS (PLWHA)..... 1234  
*Rio Ady Erwanyah, Moecharam, Rizky Asta Pramesti, Argo Winoto, Miranti Dea D, Moch Dadang S, Ainur Rusdi*

## XVIII

231. Development of Doctors Attire According to Patients Preferences ..... 1238  
*Rizki Fadillah, Rizma Adlia Syakurah, Riana Sari Puspita Rasyid*
232. Lower Abdominal Pain During Office Hysteroscopy as a Guide in the Assessment of Tubal Patency  
in Infertile Women..... 1243  
*Sally Elattar, Ahmed Maged, Moutaz Elsherbini*
233. Overview of Smoking History in Lung Cancer Patients at RSUD Dr. Soetomo, Surabaya ..... 1249  
*Santi Martini, Kurnia Dwi Artanti, Sri Widati, Dessy Arumsari*
234. Radiographic Evaluation of Two Different Designs for Treatment of Mandibular Bilateral Free End  
Saddle with Osseo-integrated Implants ..... 1255  
*Seham Sabra, GehanF ekry, Emad Agamy*
235. Adaptive Physical Education in Rehabilitation after Injuries Maxillofacial Area ..... 1261  
*Sergey Petrovich Evseev, Olga Eduardovna Evseeva, Andrey Vladimirovich Aksenov*
236. Role of Autophagy in the Myelodysplastic Syndrome and Myeloproliferative Disorders ..... 1266  
*Shaimaa F. Kamel, Mohamed E. Abd El-Fattah, Hisham A. Aly, Hisham M. Tawfik, Elwy M. Soliman,  
Khaled M. Salah*
237. The Influence of Reward and Communication to Cohesion Team of Tuberculosis Prevention Team in  
Community Health Centers ..... 1274  
*Sinta Dewi Lestyoningrum*
238. The Effect of Burnout on Employee Satisfaction in 9 Local Health Centers in Surabaya City..... 1279  
*Siti Fatimah Hariyati, Ernawaty*
239. The Influence of Social and Cultural Factors on the Decision of Selecting a Place for Preeclampsia  
Mother Giving Birth ..... 1285  
*Siti Nur Azizah, Ernawaty*
240. The Difference of Brain Derivat Neutrophilic Factor of Mus Musculus Newborn from Adolescent and  
Adult Pregnancy ..... 1289  
*Sri Wahyuni, Widjiati, Muhammad Miftahussurur*
241. The Relationship between Integrated Antenatal Care (ANC) Service and the Transmission Prevention  
Examination from Mother to Children in Sleman Public Health Centers in 2018..... 1294  
*Suci Musvita Ayu, Ana Amalia Rizqi*
242. Correlation of Maternal Education with Parenting and Child Nutritional Status..... 1299  
*Sukmawati, Bambang Wirjatmadi, Merryana Adriani, Shrimarti Rukmini Devy, Sirajuddin*
243. The Correlation Between Social Support and Mental Health among Mothers of Children with Autism  
Spectrum Disorder ..... 1305  
*Susi Rosida Simanjutak, Sri Hartini*
244. An Evaluation of Epidemiological Surveillance of Transport Equipment for A Prevention Strategy of  
Quarantinable Diseases and Pandemic Potential Diseases in the Health Office of First Class Port of  
Surabaya in the Working Area of Tanjung Perak Port of 2018..... 1311  
*Syahrial Setia Perdana, Chatarina Umbul*

245. Does Vertigo Predict Hypertension in Cervical Spondylosis: Clinical Trail Study.....1316  
*Talib Kadhim Akar*
246. Maternal Death Model Induced Neuron Cells Apoptosis in Rattus Norvegicus Newborn.....1320  
*Tri Yunita Fitria Damayanti, Hermanto Tri Joewono, Widjiati*
247. Behavioral Based Nutrition Education Intervention to Increase Fish Consumption among School Children Using Raised Bed Pool Media: Protocol for a Randomized Control Trial .....1326  
*Trias Mahmudiono, Triska Susila Nindya, Qonita Rachmah, Luh Ade Wiradnyani*
248. The Actions to Control the Blood Pressure among a Community Hypertensive Elder in Denpasar City ...1331  
*Triyana P.D., Budi U., Zaenal A., Riny P., Lis T., Antonia H.H.*
249. Internal Constraints and Policy Constraints on Conventional X-Rays.....1336  
*Ulfia Munta Ati, Annis Dwi Trisnawati*
250. Effects of Hyaluronic Acid and Silver Sulfadiazine in Laceration Wound on Wistar Rats.....1341  
*Vannes C.P. Sapan, Jufri Latief, Prihantono, Arifin Seweng*
251. Breast Cancer among Young Women in Baghdad, Iraq.....1346  
*Venus M. Fadil, Mohsin A.A. Sahib, Jawad K.Al-Diwan, Najim Al Khaldy, Safra H. Alhusseini, Sabah J. Mohammed*
252. How Do School Nurse Programs Influence Premarital Sexual behavior In Adolescents?.....1352  
*Wenny Artanty Nisman, Yayi Suryo Prabandari, Ova Emilia, Elsi Dwi Hapsari*
253. Women’s Involvement in Decision Making and Unmet Need for Contraception In Indonesia .....1358  
*Yunita Amraeni, Sudijanto Kamso, Sabarinah B. Prasetyo*
254. Needs of Family Caregiver Education for Caring Stroke Patients at Home .....1364  
*Yunita Putri Wulansari, Ira Nurmala, Rachmat Hargono*
255. Risk Factor for Anxiety on Clients with Diabetic Foot Ulcer .....1369  
*Zaenal Abidin, Kusnanto, Supriyono, Edy Purwanto, Hendrik Haryono*
256. Cyclic Fatigue Resistance of Wave One Gold, F6 SkyTaper, One Curve, and AF Blue R3 NiTi Rotary Instrumentation Systems.....1375  
*Zainab M. Abdul- Ameer, Samar Abdul Hamed, Rasha H. Jehad, Jacob Al-Hashemi*
257. Dietary habits among former athletes in Saudi Arabia.....1381  
*Zayed M Altowerqi, Zainal Abidin bin Zainuddin, Sameer M. Sayyd, Wadee A Alkuhaili, Moayed A. Alsayegh*
258. Evaluation of the Efficacy of Diode Laser in Maturogenesis of Immature Teeth with Necrotic Pulp: An in Vivo Study “Part One” .....1387  
*Abd El Rahman Ossama El Mekkawi, Medhat Abd-El Rahman Kataia, Magdy Mohamed Ali, Stefano Benedicenti, Reham El Sayed Abdel Salam, Ahmed Mohamed El Sayed*
259. Comparative Study Between Effects of Epidural Magnesium Sulphate on Intraoperative and Postoperative Analgesic Requirements in Cancer Thoracic Surgery: A Randomized Controlled Trial.....1393  
*Abdelfattah Abdelsatar Hussein, Hossam Zarif Ghobrial, Mahmoud Ahmed Kamel, Amr Mohmed*

**XX**

*Ahmed Saied, Mohammed Khattab, Abdelrahman Tarek Mohammed, Ahmed Mohammed Ahmed Elhalwagy*

260. Risk Factors of TB in Southern Iraq with Specific Focus on Governorates with Marshland Populations ..1400  
*Abdulkarim Fazza Al-Missadi, Saeb Jasim Al-Shuwaili, Ahmed Asmer Mankhi, Layth Ghazi Al-Salihi, Dheyaa Bakheet Al-Rabeai, Hashim Ahmed Al-Battat, Zuhair Abdulkareem Alsalemi*
261. Relationship Antenatalcare (ANC) with Neonatal Death in Indonesia (Data Analysis 2017 IDHS) .....1406  
*Ade Mulya Nasrun, Helda*
262. The Effect of Mind Fullness Therapy on Psych on Euro Immunology: A Systematic Review .....1411  
*Agus Yulianto, Zaenal Abidin, Abdul Fauzi, Anita Dewi A., Ika Endah K., Dady Zharfan H., M. Hendri Haryono*
263. Long Term Outcome of Laparoscopic Assisted Anorectoplasty in Management if High Anorectal Malformations in Males.....1417  
*Ahmed Akoula, Ahmed Wishahy, Gamal Eltagy, Omar Nagy, Mohammed Abdelrahman*
264. Regionalization Referral System of the Hospital National Health Insurance .....1422  
*Amir Mahmud Hafsa, Alimin Maidin, Sukri Palutturi, Stang*
265. Relationship of Knowledge and Experience with Perception of the Level of Emergency in Patient's Family at Emergency Room .....1427  
*Ani Sutriningsih, Setya Haksama, Firman Suryadi, Rahman*
266. Relationship Factor Enabling Giving Complementary Foods for Breast Milk with Baby Nutrition Status in Makassar City .....1432  
*Anto J. Hadi, Matius Rantesalu, Endang Maryanti, Erni Yetti R, Saskiyanto, Manggabarani, Syamsopyan, Ishak*
267. Urinary Tract Stones Cases Profile at a B-type General Hospital, Gresik, East Java in March: May 2018 1438  
*Ardito Ario Willy Goller, Rochmad Yasin*
268. Performance of Immunization Program Managers Based on Malcolm Baldrige Criteria for Performance Excellence (MBCFPE) in Puskesmas Tangerang District in 2019 .....1442  
*Asruddin, Dian Ayubi, Pujiyanto*
269. The Impact of Primary Dysmenorrhea on the Level of Physical Activity among College age Students.....1448  
*Ayat M. Omar Masoud, Heba A. Bahey El-Deen, Samya M. Hegazy<sup>a&b</sup>*
270. Factors Associated with Safety Compliance among Workers at Feed Poultry Industry .....1454  
*Bachtiar Chahyadhi, Denny Ardyanto, Tjipto, Soewandi*
271. Public Perceptions About Immunization in Indonesia: National Online Survey .....1459  
*Celcius Butandy, Muhammad Auzan Ridho, Klara Sinta, Rizma Adlia Syakurah*
272. The Effect of Metal Nanoparticle on LH, FSH and Testosterone in Male Rats.....1464  
*Dalya K. Naser, Kadhim A. Aadim, Ahmed K. Abbas, Salah M.M. AL-Chalabi*
273. Association of Exclusive Breast Feeding Practice and Physical Activities in Reducing of Postpartum Maternal Weight .....1469  
*Dede Wulanita Sari, Luluk Mutmainnah, Sri Sumarmi*

274. Short-term Survival of Stroke Patients According to Hemorrhagic and Ischemic Stroke Type in National Brain Center Hospital Jakarta .....1474  
*Desvina Della, Helda*
275. Factors Affecting Nurse Performance in Medical Ward .....1479  
*Desy Puspa Sari, Bayu Saputera, Muhammad Saleh, Qomariyatus Sholihah, Ibrahim Daud*
276. Maternal Death Model Decreases the Expression of BDNF in Rattus Norvegicus Newborns' Cerebrum and Cerebellum .....1484  
*Duhita Dyah Apsari, Hermanto Tri Joewono, Widjiati*
277. Is it a Common Oral Lichen Planus or a Part of Grinspan's Syndrome? .....1490  
*Dwi Ariani, Harum Sasanti, Taufan Bramantoro*
278. Effect of Chitosan on the Reproductive System of Female Rats (Rattus Norvegicus) Exposed to Lead Acetate .....1495  
*Dwi Dianita Irawan, Annisa Wigati Rozifa, Alief Ayu Purwitasari, Umi Kalsum, Nurdiana Retty Ratnawati, Kenty Wantri Anita*
279. Physiological Response of Men Over 50 to Dosed Physical Activity: The Basis for Preventing the Development of Diseases of the Cardiovascular System .....1501  
*Ekaterina Sergeevna Kachenkova Svetlana Yuryevna Zavalishina, Dmitry Mikhailovich Pravdov, Gennady Nikolaevich Germanov*
280. The Difference of Exposure Effect of the Mozart, Javanese, Sundanese and Balinese Gamelan Music During Pregnancy to the Number of Neuronal Cells on Cerebrum and Cerebellum of Offspring Rattus Norvegicus .....1507  
*Elfrida Kusuma P, Hermanto Tri J, Widjiati*
281. Correlation the Components of Health Belief Model and the Intensity of Blood Tablets Consumption in Pre-Conception Mother .....1512  
*Evita Kumala Dewi, Sri Umijati, Aditiawarman*
282. Factors Affecting the Survival of Antiretroviral (Arv) Therapy Patients in One of the Hospitals in Jakarta 2007-2017 .....1517  
*Fauziyah Hasani, Nuning Maria Kiptiyah, Mondastri Korib Sudaryo, Elisabeth SL Handayani*
283. Assessment of Medical Rehabilitation Patients on Service Convenience .....1523  
*Husnul Khatimah, Stefanus Supriyanto*
284. Relationship Between Safety Promotion and Perception of the Use of Personal Protective Equipment (PPE) on Workers at Pt Aneka Gas Industri Region V East Java .....1528  
*I Komang Indra Irmawan Hario Megatsari*
285. Correlation of Multidetector 64 Ct Pulmonary Angiography and Well's Clinical Score in Pulmonary Embolism .....1534  
*Ibrahem E. Ali*
286. Functional Lapin-Human Simulation of Knee Joint Synovial Mucosal Cytokine Responses in Staphylococcus Aureus Septic Arthritis .....1543  
*Ibrahim M S Shnawa, Aljanabi IAA, Almohana A, Busisi HA, Abiaes AA*

## XXII

287. Influence of Predisposing Factors of Elderly on the Utilization of Health Services At the Health Centre in Sidoarjo District.....1549  
*Ika Santi Widayarsi, Ernawaty*
288. Functional Features of the Endothelium in Conditions of Dysfunction of Cardio-Vascular System .....1554  
*Ilnura Ibrahimovna Fayzullina, Galina Sergeevna Mal, Nadezhda Viktorovna Vorobyeva*
289. Functional Features of Modern Cardiological Patients .....1561  
*Ilnura Ibrahimovna Fayzullina Galina Sergeevna Mal, Nadezhda Viktorovna Vorobyeva*
290. Functionally Determined Measures for the Rehabilitation of Adolescent School Children with Chronic Obstructive Bronchitis .....1566  
*Ilya Nikolaevich Medvedev, Dmitry Mikhailovich Pravdov, Alexander Viktorovich Dorontsev Tatyana Yuryevna Fedorova Natalya Gennadievna Pryanikova*
291. Predicting Behavioral Intentions to Control Type 2 Diabetes Mellitus from Social-Cognitive Variables at Haji Surabaya General Hospital, Indonesia.....1572  
*Irma Dian Permata, Shrimarti Rukmini Devy, Oedojo Soedirham*
292. Relationship Between Mother's Knowledge of Rubella with Measles Rubella (MR) Immunization Status in Children Age 9-59 Months at MR Campaign, Java Island - Indonesia 2017.....1578
293. Impact of Drug Abuse among Students: A Case Study of the School of Health Technology, Jega, Kebbi State, Nigeria .....1583  
*Kehinde Kazeem Kanmodi, Semeeh Akinwale Omoleke, Chika Umar Aliyu, Jesunbo John Martins, Njideka Jacob Nwafor, Precious Ayomide Ogundipe, Mariya Ibrahim Abdulsemeeh-Omoleke*
294. Saturated Fat Acid Food Consumption Correlation with Hypertension in Elderly Woman .....1588  
*Khirdiyah Mauliyah Azzannabillah, Wirjatmadi*
295. Relationship Energy and Protein Intake with the Incidence of Stunting among Toddler Aged (25-60 Months) in Mangkung Village, District of Central Lombok.....1593  
*Lalu Moh. Anshori, Bambang Sutrisna, Sandra Fikawati*
296. The Same Risk Factors of Hypertension in Women in Rural and Urban Areas (Following Analysis of Data Indonesia Family Life Survey 5 in 2014) .....1599  
*Lestari Febrilia Dwi, Helda*
297. The Phenomenon of Patient Health Education by Nurses in Hospital.....1605  
*Lucky Amanda Fajriyanti, Ira Nurmala, Rachmat Hargono*
298. Does Recovery Prevent Myocardial Damage Due to Overtraining?.....1610  
*Made Kurnia Widiastuti Giri, Muchsin Doewes*
299. Study Analysis of Oral Tuberculosis Patients in South Kalimantan, Indonesia .....1617  
*Maharani Laillyza Apriasari, Monita Valentine Silalahi, Isnur Hatta*
300. Herbal Dental Products: The Impact of Social Media on Consumers' Behaviour.....1623  
*Manar E.Al-Samaray, Humam M. Al-Somaiday, Ali Mahmoud Al-Samydai Rudaina Othman Yousif*
301. The Difference Effect of Adolescent and Adult Pregnancy on Apoptosis Index of Neuron Cells .....1630  
*Maria Felixia Agustini Bayo, Hermanto Tri J, Muhammad Miftahussurur, Widjiati, Ernawati,*

*Sulistiawati, Zaenal Abidin*

302. The Affect of Zinc and Calcium Adequacy Levelon Stunting Toddler Aged 24-59 Months **(In Bulak Banteng Health Center, Surabaya)**.....1636  
*Marintan Laura Siagian, Lailatul*
303. Different Grades of Body Mass Index is Correlated with Left Atrium and Ventricle Structure in Patients with Hypertensive Heart Disease..... 1642  
*Meity Ardiana, Rofida Lathifah, MakhyanJibrilAl-Farabi, Muhammad Satya Bhisma*
304. Correction of the Manifestations of Attention Deficit Hyperactivity Disorder in Primary School Children .....1647  
*Anatoly IvanovichAlifirov*
305. Functional Features of External Respiration in School Children of Adolescence, Long Suffering from Chronic Obstructive Bronchitis .....1652  
*Vladimir Yurevich Karpov, Ilya Nikolaevich Medvedev, Dmitry Mikhailovich Pravdov, Failsa Ravilievna Sibgatulina, Alexander Viktorovich Dorontsev*
306. Specificity of the Neurotic Syndrome of Employees of Organizations with Professional Deformations.... 1658  
*Olga Borisovna Polyakova, Dmitrii Vladimirovich Semenov, Alexandr Fedorovich Anufriev, Alexandr Olegovich Blinov, Mariya Anatolyevna Kovaleva, Vera Vladimirovna Pchelinova, Alexandra Stanislavovna Shcheglova*
307. The Physiological Reaction of the Surface Properties of Erythrocyte Membranes in Individuals who Previously Had Low Physical Activity at the Beginning of Regular Physical Training..... 1664  
*Nadezhda Viktorovna Vorobyeva, Victor Ivanovich Zatsepin, Tatyana Vladimirovna Skoblikova, Elena Viktorovna Skripleva, Artem Viktorovich Skriplev, Anatoly Alexandrovich Khvastunov*
308. Preventive Potential of Health Tourism in Terms of Preventing the Development of Arterial Hypertension.....1669  
*Svetlana Yuryevna Zavalishina, Mikhail Nikonorovich Komarov, Andrey Valentinovich Malyshev, Alexey Vitalievich Gusev, Viktor Ivanovich Sharagin*
309. Short Term Outcomes of Laparoscopic Complete Mesocolic Excision with Central Vascular Ligation for Right Colonic Cancer.....1674  
*Mohamed Abdel Aziz, Abu Baker M. Mohi El-Deen Ayman M. Hasanien, Ahmed M. Attia, Ahmed S. Hafez*
310. Comparative Study Between Inversion and Non Inversion of the Staple Line in LSG .....1680  
*Mostafa A. Soliman, Hany A. Balamoum, Marwan S. Zahran, Mohammed A. Daoud, Mohammed S. Hassanein, Mohamed Shaaban*
311. Intralesional Ethanolamine Oleate Injection for Management of Venous Malformations: Case series..... 1686  
*Moutaz Ragab, Sarah Arafat, Wesam Mohamed, Mohamed Hamed Abouelfadl, Ahmed Arafat, Mamdouh Aboul Hassan, Gamal Eltagy*
312. Health Literacy Survey on Medical Students .....1692  
*Moza Guyanto, Rizma Adlia Syakurah*



## XXIV

313. Descriptive Study of the Implementation of Primary Health Care Services for Senior Citizens in Surabaya .....1697  
*Muafa Mahdi Ramadhan, Ernawaty*
314. Intrinsic and Extrinsic Factors of Cadre Performance in Non-Communicable Disease Integrated Development Post (Posbindu Ptm): Qualitative Study on Posbindu PTM Cadre in Gadingrejo Public Health Center, Pasuruan, East Java, Indonesia.....1703  
*Muhamad Taufik Nurhuda, Shrimarti Rukmini Devy, Dra, Oedojo Soedirham*
315. Nurse Communication and Patient Safety Incident Type of Clinical Administration .....1709  
*Mulyaminingrum, Aldiar Lailifah Kurniavip, Nyoman Anita Damayanti*
316. Nurse Compliance in Implementing Standard Precaution Based on Theory of Planned Behavior .....1715  
*Nadhif Alfa Charista Kusniar, Nyoman Anita Damayanti*
317. Assessing Depression among Students in Malaysia.....1720  
*Nor Shafrin Ahmad, Ahmad Zamri Khairani, Aziah Ismail, Rahimi Che Aman*
318. Relationship Between Age of Exposure and Media to Pornographic Exposure to Adolescents in Gorontalo City, Indonesia.....1725  
*Nour Arriza Dwi Melani Irwanto, Ira Nurmala*
319. Poverty or People Density Affecting Human Development? Panel Data Regression Study .....1729  
*Nuke Amalia, Arief Wibowo, Mahmudah*
320. Effect of Low Density Lipoprotein (LDL) to High Density Lipoprotein (HDL) Ratio with Stroke in Adults in Bogor City.....1734  
*Nur Fadhilah Sari, Bambang Sutrisna*
321. IncRNAs as New Biomarkers in Systemic Lupus Erythematosus: A Prospective Study .....1740  
*Olfat Gamil Shaker, Yasser Hussein Nassar, Tamer Atef Gheta, Randa Mohamed Essameldin Moussa Erfan*
322. Dynamics of Micro-Rheological Properties of Red Blood Cells in Animals on the Background of Hypothermia .....1748  
*Olga Nikolaevna Makurina, Valery Panteleevich Kartashov, Elena Alexandrovna Notina, Irina Alexandrovna Bykova, Alexey Alexeyevich Terekhin*
323. Study of the Link between the Audit (Alcohol Use Disorders Identification Test) and the PDQ-4+ Test (The Personality Diagnostic Questionnaire) in a Group of Alcohol Consumers in Morocco.....1754  
*Abdelaaziz Zaroual, Lamyaa Benchikhi, Jamal Mehssani, Abderrazzak Ouanass*
324. Study of the Link between Personality Disorders and Burnout in Moroccan Call Center Agents .....1760  
*Abdelaaziz Zaroual, Lamyaa Benchikhi, Jamal Mehssani, Abderrazzak Ouanass*
325. Psychosocial Risks of Moroccan Teachers: Study by the Karasek Questionnaire.....1765  
*Abdeslam Amri, Zakaria Abidli, Mounir Bouzaaboul, Sakina Mejdoub, Ziri Rabea, Ahmed Omar Touhami Ahami, Abdelmajid Soulaymani*
326. Aerodigestive Tract of Foreign Body in 12 Indonesian Academic Hospital.....1771  
*Aditya Wira Buana, Herawati Juniati, Rizka Fathoni Perdana*

327. Effect of Cinnamon Supplement to Laying Hens Diet in Blood and Egg Cholesterol Concentration.....1777  
*Afrah A. Habeeb, AL-FuratAL-Awsat Al-Dewaniyah*
328. Perspectives From Key Stake Holders on Child Sexual Abuse in Pakistan: Glimpse of Potential Facilitators and Barriers.....1780  
*Afsheen Masood, Rafia Rafique*
329. The Relationships of Environmental Sanitation with Stunting among Toddlers Aged 12-36 Months in Bogor Regency, West Java Province, Indonesia .....1786  
*Agus Nawan, Ratna Djuwita*
330. Evaluation of Laparoscopic Colectomy for Colonic Cancer in Minia University Hospital (Two Years Follow Up).....1792  
*Ahmed Kenawy, Ayman Hassanen, Alaa Elsewefy, Adel Mohamed Shehata*
331. The Crucial Dentist Role Toward Stunting Prevention in Indonesia .....1797  
*Alexander Patera Nugraha, Fianza Rezkita, Andari Sarasati*
332. Correlation of Presbycusis with Demensia Based on Hearing Handicap Inventory for the Elderly-Screening and the Mini Mental State Examination .....1802  
*Alfin Putratama, Nyilo Purnami, Djohar Nuswantoro*
333. Comparison of Some Healthy Motor and Physical Abilities among Young Taekwondo and Karate Players and Their Relationship to Skill Performance.....1807  
*Ali Jasim Kareem, Hamid Abdul shaheed Hadi, Abbas Mahdi Saleh, Salman OkabSarhan*
334. Health care Systems and Their Transformation: A Comparing the Health Care System of Three Selected Countries .....1813  
*Ali Mohammad Alokozay, Sayed Shoaib Ghafari, Batool Erfani, Shah Jahan Shayan*
335. Creating Value Bugis-Based Filosive Ada Na Gauk in South Sulawesi Regional General Hospital .....1818  
*Armin, Alimin Maidin, Indahwaty Sidin, Fridawaty Rivai, Muhammad Safar, Burhanuddin Bahar, Indrianty Sudirman*
336. A Study of Exhaustion and Work-Related Stress of a Group of Employees at the Faculty of Science of Kenitra, Morocco .....1824  
*Amal EL Alami, Abderrazzak Khadmaoui, Abdel Majid Soulaymani, Mohammed Ibriz*
337. The Role of Endometrial Volume By 3 D Ultrasonography in Prediction of Endometrial Hyperplasia and Carcinoma.....1830  
*Ameer Abdullah, Mohammed Tawfiq, Ahmed Rabie, Sameh Reda, Eissa Mahmoud*
338. Emotional Freedom Technique as a Promotive Effort for Housewives to Change the Smoking Behavior of Family Members in Indonesia .....1836  
*Andreanda Nasution, Ade Saputra Nasution, Satvica Kalbu*
339. Nutritional Status, Family Support and Dietary Habit among Tuberculosis Patients: An Overview .....1840  
*Anggraini Dwi Kurnia, Nur Lailatul Masruroh, Nur Melizza*

## XXVI

340. The Ratio of 7-Ketocholesterol to Free Cholesterol on Patients of Acute Myocardial Infarction Treated in ICCU.....1846  
*Ansar Katili, Bambang W, Budi Susetyo Pikir*
341. Antibacterial Chitosan of Milkfish Scales (Chanos Chanos) Onbacteria Prophyromonas Gingivalis & Aggregatibacter Actinomycetemcomitans.....1852  
*ArniIrawaty Djais, Harun Achmad, Miftahul Jannah*
342. Evaluation of Dietary Habits and Assessment of Eating Disorders among Adolescents with Celiac Disease in Morocco .....1857  
*Asmae Zriouel, Abha Cherkani-Hassani, Abderrazzak Khadmaoui, Said Ettair*
343. Intake of Sulfur Dioxide (SO<sub>2</sub>) Exposure to the Symptoms of Respiratory Impairment in Ceramics Industry Plered, Indonesia .....1863  
*Ayudhia Rachmawati, Haryoto Kusnopranto, Bambang Wispriyono*
344. Aging Effect on Marginal Gap Distance and Cyclic Loading of Two Different Ceramic Crowns .....1869  
*Mostafa Elhussieny, Mohammed Ismail, Chief A. Mohsen*
345. Effect of Evoo on Mda, Adma and no Level in Rattus Norvegicus Pre-Eclampsia Model .....1874  
*Bambang Rahardjo, Wenny Rahmawati, Alfima Rahasti, Dwi Norma Retnaningrum, Hidayat Sujuti, Noorhamdani AS, Tri Yudani Mardining Raras*
346. The Alteration on Malondialdehyde Content on Wistar Rats' Blood and Lungs Tissue to Ward the Exposure of Electric Cigarette Smoke.....1881  
*Bambang Wirjatmadi, Rivan Virlando Suryadinata*
347. Perceived Social Support Level and Related Factor among Community Dwelling Urban Elderly .....1888  
*Bangonsri Jindawong, Piyathida Kuhirunyaratn, Isaraporn Thepwoonga, Prasert Prasomrak*
348. Effectiveness of Health Education in Reducing *Plasmodium Vivax* Malaria Recurrence in Sentani Papua .....1894  
*Chandrayani Simanjorang, Umar Fahmi Achmadi, Nasrin Kodim, Tri Yunis Miko, Agnes Kurniawan, Tri Krianto*
349. Effects of Topical No Toner and Essence on Skin Changes in the Subjects with Acne Vulgaris .....1900  
*Chun Hyunsoo, Song Wonseob, Shim Joungmyo, Kim Aekyung, Kim Giyeon*
350. Is There Any Correlation between Stress Levels and Sleep Pattern?.....1906  
*Debby Siagian, I. Gusti Ngurah Gunadi Sindhu Putra, Irfiansyah Irwadi*
351. The Use of Mosquito Nets Associated with Malaria Cases in Donggala Regency, Central Sulawesi 20181911  
*Dedi Mahyudin Syam, Herlina S. Sunuh, Andi Bungawati*
352. Standardized Antenatal Care and Utilization of Skilled Birth Attendants in Indonesia.....1916  
*Desi Suantari, Besral*
353. Density Flies and Helminth Infection at Child in Muara Angke.....1921  
*Devi Oktaviani, Dewi Susanna*

354. Policy Implementation Analysis of District Health System to Improve Health Services: Study in North Central Timor Regency, East Nusa Tenggara Province, Indonesia ..... 1926  
*Dominikus Minggw, Fred L. Benu, Frans Gana, Petrus Kase, Yuanita C. Rogaleli*
355. Hypertention with Left Atrium abnormalities, Left Ventricular Hypertrophy, Qt Interval and the Smoker 1932  
*Dwi Laksono Adiputro, Asnawati, Huldani, Harun Achmad, Dicky Arwandi, Joseph Teghar P, Muhammad Fariz Rizal A*
356. Lead Exposure in Community Well Water of Open Dumping Solid Waste Cipayung, Indonesia..... 1937  
*Endang Krisnawaty, Ema Hermawati, Budi Hartono*
357. Does Parent's Gender Shape Adolescent's Behavior? a Study among Indonesian Migrant Worker Families Left Behind ..... 1942  
*Eri Wahyuningsih, Yayi Suryo Prabandari, Tyas Retno Wulan, Ira Paramastri*
358. Kurdish Women's Experiences of Health Care Needs with Breast Cancer: A Qualitative Interview Study From the Kurdistan region of Iraq..... 1947  
*Ezaddin Kamal Mahmud, Saadia Ahmed Khuder*
359. Translation, Cross-Cultural Adaptation, Validity and Reliability of the Malay Version of the Rosenbaum Concussion Knowledge and Attitude Survey-Student Version (Rockas-St-M)..... 1952  
*Fariza Zainudin Fairus, Mohd Azrul Anuar Zolkafi, Ali Md Nadzalan, Zulezwan Ab. Malik, Lee Ai Choo*
360. Changes in Blood Serum Levels of IGFI in Type 2 Diabetes and Alzheimer's Disease in Saudi Population: An Observational Study ..... 1957  
*Fatimah Abdou Khormi, Safa Yousef Qusti, Madiha Noah Sini*
361. Effect of Acupressure Pain and Fatigue among Patients with Multiple Sclerosis ..... 1962  
*Fayza Ahmed Ibrahim, Hanan Ahmed Al Sebaee, Dalia Salah El Deen, Nevin Mohieldin Shalaby*
362. Effect of Hydrotherapy Warm Red Ginger to Reduce Blood Pressure on Elderly at Panti Werdha Budi Luhur, Jambi ..... 1968  
*Fithriyani, Miko Eka Putri, Dede Nasrullah*
363. Consistency of Condom Use Associated with HIV among Transgender in Indonesia: Secondary Data Analysis of IBBS 2015 ..... 1973  
*Fitri Indrawati, Mondastri Korib Sudaryo*
364. Depression and Generativity of the Middle Aged: Mediating Effect of Social Support..... 1979  
*Hae Kyung Chang*
365. Quality of Life Evaluation in Titanium/Peek Andtitanium/Co-Crdouble Crown System in Implant-Retained Mandibular Overdenture (Randomized Controlled Trial)..... 1984  
*Hala Z. Abd Eltwab, Ahmed E. Fayyad, Ashraf A. Amer*
366. The Correlation Between Nesfatin-1 Level and Insulin Resistance in Gestational Diabetes Verses Control ..... 1990  
*Shatha M. J. AL-Khateeb, Hanan Mousa Chiad, Esraa Hameed Humadi*
367. Construct Validity Indonesian Version of Barthel Index for Post Stroke ..... 1996  
*Henny Pongantung, Josephine Lorica, Rosdewi, SKp, Merry Solon*

## XXVIII

368. Input Evaluation (HR, Funds, Method, Facilities and Infrastructure, and Targets) on the Implementation of Biscuits as Complementary Foods for Pregnant Women in Parepare City.....2001  
*Henrick Sampeangin, Else Theresia, MartinusJimung, Agustina Bernadus, Sherly Horax, Vidyanto, Abd Razak Thaha*
369. The Relationship Between Lifestyle and Breast Cancer among 25-64 Year Old Women on Urban Areas of Indonesia in 2016.....2006  
*Herdiani Siallagan, Sudarto Ronoatmodjo, Nurhayati Adnan Prihartono*
370. Coronary Artery Disease in the Military Setting: Lower Gensini Score in High-Rank Personnel Compared to Low-Rank and Civilian.....2012  
*I Gde Rurus Suryawan, Benny Jovie, Parama Gandi, Makhyan Jibril Al-Farabi, Ragil Nur Rosyadi, Moch Fatichul Huda*
371. Social Support on Parents of Children with Intellectual Disability.....2018  
*Ikeu Nurhidayah, Farras Amalia Alhusniati, Imas Rafiyah, Nur Oktavia Hidayati*
372. Health Promotion Action by Primary Health Care for Smoking Prevention .....2023  
*Imam Kuswanto, Mohammad Zainal Fatah, Rachmat Hargono*
373. The Influence of Posyandu Cadres' Training to ward the Predisposing Factors of Provider Initiated Testing and Counseling (PITC) of HIV Services for the Pregnant Women and Its Utilization on Samarinda Municipality, Indonesia.....2028  
*Irfansyah Baharuddin Pakki, Kuntoro Shrimarti Rukmini Devy Windhu Purnomo*
374. Nutritional Evaluation of Chayote Flour-Based Biscuits(*Sechium Edule*).....2034  
*Jamaludin M. Sakung, Yuli Nurmayanti, Rahmania, Mulyani, Hafsa Fitra*
375. Trihalomethane Presence in Tap Water, Mahasarakham Province, Thailand.....2039  
*Jindawan Wibuloutai\*, Weerapong Hanrin, Natthaphon Phumphim, Thawatchai Huangboon, Sawan Thitisutthi, Udomsak Mahaweerawat*
376. Development of Strategic Implementation Indicators for Nursing Organizations at Community Hospitals in Thailand.....2045  
*JintanaTapiin, Netchanok Sritoomma, Suchittra Luangamomlert*
377. Medication Safety Climate Perception among Registered Nurses in a University Hospital, Thailand .....2052  
*Jongkol Poltree, Piyathida Kuhirunyaratn, Apichat Jiravuttipong, Wutchara Ruttanaseeha, Nipapan Ritthirod, Nuchajaree Wuttisupong*
378. Characteristics of Outpatient Pre Diabetes Dr. Dody Sarjoto Hospital, Maros Regency, South Sulawesi, Indonesia .....2058  
*Junedi Sitorus, Nurhaedar Jafar, Ridwan Amiruddin, Sukri Palutturi, Veni Hadju, Owildan Wisudawan B*
379. Factors Affecting Satisfaction and Necessity of Suicide Prevention Program.....2062  
*Jung Nam Sohn*
380. Effect of an Educational Program on Knowledge and Practices of Alzheimer Patient's Caregivers .....2068  
*Khulud Ahmad Rezaq, Heba Magdy Sharaa, Nawal A. Fouad*

381. To Evaluate the Correlation of Stature with Hand & Foot Width in Subjects .....2074  
*Khwaja Moizuddin, Shaikh Siraj Ahmed Shaikh Hasham Saudagar, Sanket Dadarao Hiware, Faiza Banu Siddiqui, Syed Rehan Hafiz Daimi, Asim Mohsin Badaam*
382. Health Risk Assessment on the Glyphosate Exposure of Knapsack Sprayers .....2077  
*Kodchakorn Uengchuen, Sunisa Chaiklieng*
383. To Assess Correlation of Stature with Hand & Foot Length .....2083  
*Khwaja Moizuddin, Shaikh Siraj Ahmed Shaikh Hasham Saudagar, Sanket Dadarao Hiware, Faiza Banu Siddiqui, Syed Rehan Hafiz Daimi, Asim Mohsin Badaam*
384. Teenage Girl Dating Experience: A Qualitative Study .....2086  
*Mia Fatma Ekasari, Rosidawati, Raden Siti Maryam, Ahmad Jubaedi*
385. Diet Compliance Against Blood Pressure Control in Hypertensive Patients in Tegalgundil public Health Center, North Bogor District: A Longitudinal Study.....2091  
*Kurnia Hariyani Sudarman, Ratu Ayu DewiSartika*
386. A Case Study of the Impact of Overweight on Body Image and Self-Esteem in a Population of Moroccan Adolescents and Adults .....2097  
*Lamyaa Benchikhi, Abdelaaziz Zaroual, Hind Nafiaa, Abderrazzak Ouanass*
387. Analysis Factors of Nursing Performance at the Mother and Child Hospital in East Java .....2103  
*Lembah Andriani Sulistyoning Dyah, Margono Setiawan, Dodi W. Irawanto, Fatchur Rohman, Nursalam Nursalam*
388. Effectivity of Teacher Motivation on Dental and Oral Hygiene of Elementary School Students .....2109  
*I Made Budi Artawa, I Gede Surya Kencana, Ni Ketut Nuratni, Ni Made Sirat*
389. Study Some of the Factors Affecting the Incidence of Diabetes in the Employed Segment in Basra City .2115  
*Maryam J. Almusawi, Murtadha Gh. Jasim*
390. Polyunsaturated Fatty Acid Intake and Symptom Severity of Patients with Schizophrenia in Ernaldi Bahar Hospital, South Sumatra, Indonesia .....2119  
*Mertien Sa'pang, Miftahull Hassana, Nadiyah, Prita Dhyani Swamilaksita, Harna*
391. A Study of Cyber Bullying Behavior in Middle-Schools in Rabat- Morocco: Prevalence and Risk Factors .....2125  
*Nezha Miami, Amina Belahcen, Laila Lahlou, Abderrazzak Ouanass*
392. The Correlation of Dental Caries with Parents Education Science Level at Ar-Rahmah Islamic Elementary School Tamalanrea Makassar, South Sulawesi.....2131  
*Mislia, Lilies Anggarwati Astuti*
393. Prevalence of Diabetes Mellitus among Stroke patients in King Fahad Specialist Hospital, Buraidah, 2018 .....2137  
*Mohammad Saleh Alsumaani, K. Chandra Sekhar*
394. Risk Factors and the Pattern of Injuries of Road Traffic Accidents in Holy City of Karbala/Iraq .....2143  
*Mohammed Aqeel Abbas Alalawi, Saad Ibrahim Al-Ghabban, Alaa Abdul-Rahman Habeeb*

**XXX**

395. Alpha-Fetoprotein for Prediction of Placenta Accreta in Women with Complete Placenta Previa Centralis: A Prospective Study .....2148  
*Mohammed Hany Mosbeh, Mohammed Abdallah Mohammed, Mo'men Mohamed Hassan, Ahmed Rabie Abd El-Raheim, Heba Reda Mohammed*
396. Health Promoting School in Surabaya, Indonesia: The Six Elements Implementation .....2154  
*Muji Sulistyowati, Kuntoro, Oedojo Soedirham, Budi Prasetyo*
397. Evaluation Context and Input of National Health Insurance in Ternate City.....2159  
*Muliana Muliana, Fauzi Almari*
398. The Effectiveness Comparison of Type of Treatments in Decreasing of Total Dissolved Solid (TDS) and Total Suspended Solid (TSS) in Household Wastewater .....2164  
*Muliyadi Muliyadi*
399. Environmental Health Risk Analysis of Carbon Monoxide Exposure among High Activity Communities Along “X” Street, Yogyakarta .....2170  
*Musfirah, Ahmad Faizal Rangkuti, Lyva Merintan Bahagiana*
400. The Effect of Work Satisfaction on the Quality of Health Services (Literature Review).....2176  
*Mutmainah Indriyati, Syahrizal Syarif*
401. Respiratory Symptoms of Housewives Exposed to SO<sub>2</sub> From Steel Industry in West Cikarang, Indonesia2181  
*Nada Amirah, Agustin Kusumayati, Suyud*
402. Efficacy of Endoscopic Transantral Versus Transorbital Surgical Approaches in the Repair of Orbital Blow-Out Fractures (Randomized Clinical Trial) .....2187  
*Nahla M. Awad, Reem H. Hossameldin, Samer N. AbdelGabar, Ibrahim E. Shindy*
403. Relationships of Workloads, Working Conditions and Dual Role Conflict with Nursing Stress .....2193  
*Nasrah Nasrah, Sulistiyani Sulistiyani, Elen V. Purba*
404. Intention of Diabetic Foot Ulcer Prevention Model Based on Social Support and Personal Agency Perspectives .....2198  
*NasrunPakaya, Kusnanto, Hari Basuki Notobroto, Rika Subarniati Triyoga*
405. The Development of Diabetic Foot Ulcer Prevention Model Based on Psychosocial Perspectives, Attitude, Intention, Coping Mechanisms.....2204  
*NasrunPakaya, Kusnanto, Hari Basuki Notobroto, Rika Subarniati Triyoga*
406. Association of Syphilis and HIV among Indirect Female Sex Worker in Indonesia: Secondary Data Analysis of Integrated Behaviour Biological Survey in 2015 .....2211  
*Neneng Aini, Mondastri Korib Sudaryo, Syahrizal Syarief*
407. The Knowledge of the Use of the Contraceptive Method among Married Men with Fertility Age 15-54 Years (Analysis of IDHS 2017 Data) .....2216  
*Nofia Caecilia Lae, Sudijanto Kamso*
408. Preliminary Study: Reliability and Validity of CFM-1 Form as Physical Literacy Assessment Instrument .....2220  
*Nur Ikhwan Mohamad, Muhammad Hannan Sazali, Ali Md Nadzalan, Asmadi Ishak, Hishamuddin*

*Ahmad, Thariq Khan Azizuddin Khan*

409. Perceived Dimensions of Service Quality on Patient Satisfaction and Loyalty in Healthcare Context: A Systematic Approach.....2227  
*Nur Salsabilah Hamdan, Haslinda Musa, Atikah Saadah Selamat, Nurulizwa Rashid*
410. Caring Behavior Improvement Model on Nursing Students at the Health Polytechnic of Ministry of Health, Pangkalpinang.....2233  
*Nurhayati*
411. Coping Strategies Used By Mothers in Children with Autism .....2238  
*Nurul Muchlisa, Helda*
412. Dental Status and Characteristics of Oral Fluid in Patients with Juvenile Rheumatoid Arthritis .....2243  
*Olga P. Galkina, Kamila A. Kolesnik, Inessa G. Romanenko, Sergey I. Zhadko, Vitalii B. Kaliberdenko, Ellina A. Russo, Shanmugaraj Kulanthaivel*
413. School Based Screening for Idiopathic Scoliosis in Premenarcheal Girls: A Pilot Study .....2248  
*Mudasir Rashid Baba, Ravindra Mohan Shenoy, Ajith Soman*
414. HIV Infection, Religion and Spirituality in Nigerian Community Settings .....2254  
*Vera Victor-Aigbodion*
415. Public Health Relevance of Sparganosis in Javan Spitting Cobra Snakes (*Naja sputatrix*): A Neglected Zoonotic Disease In Indonesia .....2258  
*Aditya Yudhana, Ratih Novita Praja, Dhandy Koesoemo Wardhana, Maya Nurwartanti Yunita, Faisal Fikri, Eunike Melanda Fransiska, Wardah Afifah Ismail*
416. Strength Improvement in Adults Healthy Men .....2263  
*Agung Wahyu Permadi, Soetanto Hartono, Endang Sri Wahjuni*
417. An Analysis of ROSIER Method on Handling Acute Stroke in Emergency Room of PKU Muhammadiyah Gamping Hospital.....2267  
*Al Afik, Erfin Firmawati, Riza Fikriana, Dwi Hutanti, Fajar Dwi Kurniawan, Amrulloh Qusyainy*
418. Features of Determining the Condition of the Thyroid Gland in Young People Residing in Regions with Partially Expressed Iodine Deficiency.....2272  
*Baranovskiy Yu. G., Ilchenko F.N., Samarth Kanubhai Koladiya, Megha Manubhai Patel*
419. Experience of Indonesian Mothers in Implementing Kangaroo Mother Care During Hospitalization with Low Birth Weight Neonates .....2276  
*Dewi Elizadiani Suza, Setiawan Setiawan, Achmad Fathi*
420. Postoperative Hypersensitivity and Digital Radiographic Assessment of a Zinc Modified Versus a Conventional Glass Ionomer Cement in Deep Carious Lesion: Randomized Controlled Clinical Trial .....2281  
*Dina Mounir El Kady, Rasharaafat, Mohamed Riad Farid*
421. Impact of Stimulation on Infant's Communication Development in Kuantan, Indonesia; A 2- 4- and 6-Month Follow-up Study .....2287  
*Helda, Nur Annisa Fauziyah, Irwan Muryanto, Sudarto Ronatmojo, Nadya Magfira*



## XXXII

422. Cost and Benefit Analysis of Laboratory Health and Safety Management System .....2293  
*Ida Ayu Indira Dwika Lestari, Fatma Lestari, Mila Tejamaya*
423. Association between Syphilis and HIV in the Men Sex with Men (MSM) Population in Indonesia in 2015: Secondary Data Analysis of Integrated Behavior and Biological Survey (IBBS) 2015 .....2298  
*Irma Siahaan, Mondastri Korib Sudaryo*
424. Social Immunity Not to Use Drugs on Youth (Case Study of the Marind and MUYU Tribes in The Border Region of Indonesia and Papua New Guinea).....2304  
*Isak Jurun Hans Tukayo, Mohammad Saljan, Ariani Pongoh*
425. Psychoeducation for Improving Self Efficacy of Care Givers in Risk Coronary Heart Disease Prevention: The Study of Family Empowerment .....2309  
*Kumboyono Kumboyono, Ahmad Guntur Alfianto, Titin Andri Wihastuti, Emi Wuri Wuryaningsih, Yulia Candra Lestari*
426. Community Experience on the Issue of BPJS (The Indonesian National Health Insurance System).....2314  
*Lailatul Kodriyah, Riza Fikriana, Wiwit Dwi Nurbadriyah, Nia Agustiningsih, Listyawati Ratna Ningrum, Ronal Surya Aditya, Ella Mayasari*
427. Acute Respiratory Infection Incidence among Toddlers Around the Steel Industry in Bekasi, Indonesia (2019).....2319  
*Lilian Susanti Nova, Agustin Kusumayati, Suyud*
428. Suitability of Fertility Indicators between Smart Fert and Indonesia 2010 Population Census.....2323  
*Lutfi Agus Salim, Hari Kusnanto, Lutfan Lazuardi, Kuntoro*
429. Depression and Cyber-Victimization among Middle School Students in Morocco .....2329  
*Nezha Miami, Amina Belahcen, Laila Lahlou, Abderrazzak Ouanass*
430. Application of Health Impact Assessment in Development of Sustainable Community-Based Tourism Strategies, Krabi Province, Thailand.....2335  
*Prawit Kunnikom, Umaporn Muneenam, Phen Sukmag*
431. Molecular Characterization of Virb4 Coding Gene: A Virulence Factor on Brucellosis as Zoonotic Disease.....2341  
*Ratih Novita Praja, Aditya Yudhana, Maya Nurwartanti Yunita, Dhandy Koesoemo Wardhana*
432. The Relation between Self-Efficacy and Quality of Life of Patients with Type 2 Diabetes Mellitus in Pelamonia Hospital Makassar .....2346  
*Rusni M., Ernawati, Hasifah, Amriati M., M. Askar*
433. Nasal Versus Oral Feeding Tube Placement: Selected Outcomes among Preterm Infants.....2351  
*Salwa M. Ahmed, Hanan M. Rashad, Hoda A. Mahmoud, Tamer A. Abd El Hamid*
434. Law Enforcement on Tobacco Control and Smoking among Youths in the Northeast of Thailand.....2356  
*Saroj Nakju, Wongsa Laohasiriwong, Kittipong Sornlom, Keopanha Soeung*
435. Workers Involvement in Improving the Effectiveness OSH in PT. Wijaya Karya (Wika) Beton Makassar (Case Study the Pettarani Elevated Toll Construction Project).....2362  
*Suharni A. Fachrin, Alfina Baharuddin*

436. The Association of Perceived Neighborhood Environment Factors and Methamphetamine Use among Drug Addicts in Northern, Thailand.....2368  
*Suneerat Yangyuen, Manop Kanato, Chatchada Mahaweerawat, Udomsak Mahaweerawat, Thidarat Somdee*
437. Medication Adherence in Patients of Diabetes Mellitus Type 2: Status of Depression and Working Status .....2373  
*Widyarti R., Hendrati L.Y.*
438. Potential Hazards of Antibiotics Resistance On Escherichia Coli Isolated From Cloacal Swab In Several Layer Poultry Farms, Blitar, Indonesia .....2378  
*Adiana Mutamsari Witaningrum, Freshinta Jellia Wibisono, Dian Ayu Permatasari, Wiwiek Tyasningsih, Mustofa Helmi Effendi, Fredy Kurniawan*
439. Analysis of Carbon Monoxide (CO) in Blood or Carboxyhemoglobin (COHb) on Psychological Stress in Public Transport Drivers (City Transportation) (Case Study in Depok in 2019).....2385  
*Apri Yulda, Umar Fahmi Achmadi, Ririn Arminsih*
440. Relationship between Serum Uric Acid and Lipid Profiles in Thai Adults.....2390  
*Chantra Tanunyutthawongse, Kitsarawut Khuancharee, Sivaporn Wannaiampikul*
441. The Relationship of Intelligence and Health Perceptions.....2398  
*Chilyatiz Zahroh, Khamida, Rahayu Anggraini, Ah. Yusuf, I. Ketut Sudiana*
442. Maturity Model and Safety Culture in Healthcare: A Systematic Review.....2402  
*Duta Liana, Kemal N. Siregar, Adang Bachtiar, Fatma Lestari*
443. Photographic Description of Mother's Dental Anxiety based on Oral Health Literacy Level in Surabaya, Indonesia.....2407  
*Fidelia Kartikasari, Gilang R. Sabdho Wening, R. Darmawan Setijanto, Muhammad Faisal, Amalia Wimarizky, Dinna Fitria Greisya, Aisyah Marwah*
444. Vertical Dimension of Rest (VDR) Analysis Using Photography Application .....2413  
*Haryo Mustiko Dipoyono, Gratia Trifena Susanto, Murti Indrastuti*
445. The Correlation between Joint Sound Versus Temporomandibular Opening Index (TOI) on Cases of Maxillary and Mandibular Teeth Loss .....2419  
*Haryo Mustiko Dipoyono, Iwa Sutardjo Rus Sudarso, Evan Arif Raharjo*
446. Influence of Quality of Nursing Work Life on Nurses' Turnover Intention: The Mediating Effect of Organizational Commitment .....2425  
*Hyoungshim Choi, Insook Kim, Yeongyi Yim, Seonae Won*
447. A Preliminary Study: Troponin T and Reg3 $\beta$  in Children with Left-to-Right Shunt Congenital Heart Disease with Heart Failure .....2431  
*I. Ketut Alit Utamayasa, Mahrus A. Rahman, Taufiq Hidayat, Rendi Aji Prihaningtyas*
448. The Combination of SLC2A9 Gene (rs2280205 and rs6820230) and Major Metabolic Factors with Association to Gout in Thai Men; A Matched Case-Control Study.....2436  
*Kitsarawut Khuancharee, Chantra Tanunyutthawongse, Pongdech Sarakarn*

## XXXIV

449. Acute Infection Following Flood Disaster: An Example from Bojonegoro District, East Java, Indonesia .2442  
*Mondastrri Korib Sudaryo, Besral, Meidy F. Prameswari, Helwiah Umniyati, Debarati Guha-Sapir*
450. Family Income and Prepregnancy Weight Associated Inversely with Gestational Age and Birth Weight .2449  
*M.R. Begum, S.C. Biswas*
451. Effectiveness of the Participatory Health Promotion Program for Improving Health Outcomes of Elderly with Non-Communicable Diseases in Municipalities, Thailand: An Experimental Study .....2455  
*Nittaya Pensirinapa, Theeravut Thammakul, Kanit Ngowsiri*
452. Health Literacy, Occupational Health and Safety Factors and Quality of Life of Municipal Waste Collectors in the Northeast of Thailand.....2460  
*Nittaya Phosrikham, Wongsra Laohasiriwong, Amornrat Luenam, Keo Panha Soeung*
453. Health Risk Assessment on Human Exposed of Nitrogen Dioxide in Adults Around Steel Industry .....2465  
*Redi Yudha Irianto, Agustin Kusumayati, Suyud*
454. The Relationship of Nutritional Status and Gingivitis in Elementary School Children.....2471  
*Agung Sosiawan, Theresa Dian Krissanti, Retno Palupi, Titiek Berniyanti, Gilang Rasuna Sabdho Wening, Putrisa Lestari*
455. Major Stunting Determinants in Infants: A Prevention Model .....2476  
*Teungku Nih Farisni, Yarmaliza, Fitriani, Dewi Susanna, Fitriah Reynaldi, Zakiyuddin, Safrizal S.A.*
456. Association of Manganese Level in Drinking Water and Other Factors with Hypertension in the Around Landfill Population in Depok, Indonesia.....2483  
*Ukik Agustina, Ema Hermawati, Laila Fitria, Febri Hardiyanti, Septia Rini Rizki*
457. The Influence of Probiotic Lactobacillusreuteri on Changes in Levels of Cytokines IL 23 Puerperal First Day on MUS Musculus Exposed to Bacteria Staphylococcus aureus .....2488  
*Umu Qonitun, Aris Puji Utami, Eva Silviana, Nurus Safaah, Novia Dwi Astuti*
458. Analysis of Working Period and Working Time to Health Complaints of Fish Smoking Workers Bandarharjo, Kota Semarang, 2019.....2492  
*Luthfia Andayani, Suyud Warno Utomo, Haryoto Kusnoputro*
459. Efforts to Improve the Health Status of Junior High School Students Through the Development of School Health Programs .....2497  
*Jayanti Dian Eka Sari, Diansanto Prayoga, Syifaul Lailiyah, Xindy Imey Pratiwi, Selviani Setyaning Dwiyaniti*
460. Particulate Matter 10  $\mu\text{m}$  ( $\text{PM}_{10}$ ) Exposure and Lung Function Disorder of Workers in Traditional Ceramic Industry Plered, Indonesia.....2503  
*Astrid Salome Evelina, Haryoto Kusnoputranto, Bambang Wispriyono*
461. ICSI Pregnancy Outcomes Following Hysteroscopic Tubal Electrocoagulation Versus Laparoscopic Tubal Disconnection for Patients with Hydrosalpinges .....2510  
*Marwa Abdalla, Alaa Ebrashy, Akmal El-Mazny, Walid Saber, Mohamed Ali*
462. Working Environment Dust to Disorders of Lung Function of Workers Textile Industry Spinning.....2517  
*Iwan Suryadi, Maria Paskanita Widjarnarti, Aditama Putra Nugraha*

463. Urine Serotonin in Sleep Deprivation Children .....2522  
*Umamah, Irwanto, Darto Saharso*
464. Assessing Demographic Distribution of Dengue Infections in Seremban District, Malaysia.....2528  
*Shahin Mia, A.C. Er, Rawshan Ara Begum, Joy Jacqueline Pereira, Ferdoushi Ahmed*
465. The Contribution of Learned Helplessness to the Results of Some Evaluation Tests for the Athletes of the Talent Care Centers .....2535  
*Ali Hamad Sameer, Ali Sumoom Al-fartusie, Abbas Ali Shallal*
466. Peer Support Education Reducing Pain Perception and Improving Blood Glucose Control of Diabetes Mellitus .....2541  
*Maria Diah Ciptaning Tyas, Tri Cahyo Sepdianto, Fitriana Kurniasari Solikhah, Ronal Surya Aditya*
467. Sexist Language: Gender-Linked Expressions in Official Communications in the Academic Workplace .2546  
*Estrella F. Fajardo, Massuline Antonio D. Ligaya, Joung-Hyun Ham*
468. Improving Body Balance and Reducing Risk of Falling in Elderly People by Providing Family Health Related Tasks.....2552  
*Rona Febriyona, Abdul Aziz AlimulHidayat, Nurhayati*
469. Effectiveness of Gail Model in Assessing the Risk of Developing Breast Cancer in Baghdad, Iraq .....2557  
*Zainab J. Al-jobawi, Besmah M. Ali, Abdulrahman I. Juda, Safra H. Alhusseini, Sabah J. Mohammed*
470. Cues to Action to Utilization of Cervical Cancer Screening Services among Women of Reproductive age in Kediri, East Java, Indonesia .....2562  
*Eko Winarti, Rachmat Hargono, Sri Haryuni, Tri Ratnaningsih*
471. Birth Length is a Dominant Risk Factor of Stunting among Children Aged 6-59 months in North Moyo Sub District, Sumbawa District West Nusa Tenggara, Indonesia.....2567  
*Ririn Akmal Sari, Ratu Ayu Dewi Sartika*
472. Extra-Levator Abdomino-Perineal Excision Versus Standard Abdomino-Perineal Excision: A Prospective Study in the Egyptian National Cancer Institute.....2572  
*Haitham Fekry Othman, Ahmed Fouad El-Khatib, Samy Ramzy Shehata*
473. A Comparable Study of Ovarian Response to Controlled Ovarian Stimulation between Overweight/ Obese and Normal Weight Women with Polycystic Ovary Syndrome Whom Undergone Intracytoplasmic Sperm Injection.....2578  
*Muhjah Falah Hassan, Zainab Shakir Mahmood, Zena Mahdi al Hindawi*
474. Evaluation of Locoregional Control and Survival after Total Mesorectal Excision for Middle and Lower Rectal Cancer .....2582  
*Alaadin Hussien Ahmed, Ahmed E. Elbadawy, Nevine F. Habashy*
475. Correlation between Duration of Work and Hand Position Using Computer with Carpal Tunnel Syndrome (CTS) at the Registration Administration Officer in Dr. Soetomo General Hospital Surabaya .2588  
*Joseph Ekowahono Rahardjo, Muhammad Hamdan, Mudjiani Basuki, Fidiana, Fadil, Hari Budi Susetyo*