



2<sup>nd</sup> ICHMS & 2<sup>nd</sup> LSC

PROCEEDING

# PROCEEDING

## The 2nd International Conference of Medical and Health Sciences (ICMHS) and The 2nd Life Sciences Conference (LSC) 2016

*"Towards a Better Quality of Life  
through Interdisciplinary Research"*

Yogyakarta, 9<sup>th</sup>-10<sup>th</sup> December 2016  
The Alana Hotel and Convention Center

ISBN: 978-602-757-793-0



9 786027 577930



# PROCEEDING

## The 2nd International Conference of Medical and Health Sciences (ICMHS) and The 2nd Life Sciences Conference (LSC) 2016

*"Towards a Better Quality of Life  
through Interdisciplinary Research"*

Yogyakarta, 9<sup>th</sup>-10<sup>th</sup> December 2016  
The Alana Hotel and Convention Center

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

**TABLE OF CONTENT**

COMMITTEE .....	viii
WELCOMING SPEECH	
Welcome Message from Committee .....	ix
Welcome Message from Dean .....	x
Welcome Message from Rector .....	xi
Welcome Message from the Head of Provincial Health Office Special Region of Yogyakarta .....	xiii
KEYNOTE SPEAKER OF INTERNATIONAL CONFERENCE .....	xv
REVIEWER .....	xvi
FULL ARTICLE	
Diabetic Neuropathy - A Chance Towards A Better Treatment <i>Tri Wahyuliati</i> .....	2
Herbal Medicine a Holistic Approach; in Case of Food Supplement Formulation of <i>Sauropus androgynus</i> and <i>Elephantopus scaber</i> to Modulate Immune and Hormonal System in Pregnant <i>Salmonella typhi</i> Infected Mice <i>Muhammad Sasmito Djati</i> .....	10
Continuing Competence of Practicing Nurses in Indonesia <i>Fitri Arofiati, SKep.,Ns, MAN Ph.D</i> .....	19
The Influence of Neuromuscular Taping (NMT) in Walking Speed for the Patients After Ischemic Stroke <i>Umi Budi Rahayu</i> .....	29
Correlation between Larvae Free Number with DHF Incidence in Sleman, Yogyakarta, Indonesia <i>Tri Wulandari Kesetyaningsih, Sri Andarini, Sudarto, Henny Pramoedyo</i> .....	34
Correlation Interdialytic Weight Gain-Idwg towards Physical and Psychological Health to Quality of Life in Patients with Hemodialisa <i>Cecilya Kustanti, Maria Putri Sari Utami</i> .....	42

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

Quality of Life in Hemodialysis Patiens with Hypertension <i>Maria Putri Sari Utami, Elsy Maria Rosa, Azizah Khoiriyati</i> .....	48
Environmental Housing Characteristic of Pulmonary Tuberculosis Sufferers in Slum Area <i>Iwan Stia Budi, Yustini Ardillah, Indah Purnama Sari, Dwi Septiawati</i> .....	55
Exploration Study in Psychological Changed on First Trimester Pregnant Women at Kembaran II Health Center, Banyumas <i>Wilis Dwi Pangesti, Dewi Ambarwati, Inggat Ratna Kusuma</i> .....	63
The Anxiety of Pregnant Mother with History of Abortion in Health Service 2 Banyumas Qualitative Study <i>Evicenna Naftuchah Riani, Wilis Dwi Pangesti, Diah Atmarina Yuliani</i> .....	72
Analysis of Infection Control Risk Assessment and Strategies to Reduce Health-Care Associated Infections in RS PKU Muhammadiyah Gamping Yogyakarta <i>Nurmalita Sari, Elsy Maria Rosa</i> .....	76
Health Promotion Program for Disaster Eruption of Mount Merapi Refugee in Youth Centre Sleman Distric, Yogyakarta Special Province, Indonesia <i>Novitasari Ratna Astuti</i> .....	91
Pap Smear is Important Screening of Cervical Cancer for Women <i>Ivanna Beru Brahma</i> .....	100
Analysis of Compliance on Implementing Standard Precautions on Dental Health Service at PKU Muhammadiyah Gamping Hospital of Yogyakarta <i>Maria Margaretha S Nogo Masa, Elsy Maria Rosa</i> .....	108
Qualitative Study of Stakeholders' Knowledge Regarding Alert Village Program in Ogan Ilir Regency <i>Asmaripa Ainy, Iwan Stia Budi</i> .....	123
The Influence of Parents Knowledge and Health Care Access to the Identification of Children with Hearing Impairment <i>Asti Widuri, Alazi, Muhammad Pringgo Arifianto</i> .....	131

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

The Comparison of Maternal Leukocytosis Incidence between Preterm Premature Rupture of Membranes and Premature Rupture of Membranes at Term in Panembahan Senopati Hospital Bantul Yogyakarta <i>Choirotun Jum'iyatin Nisak, Supriyatningsih</i> .....	137
Analysis of Patient Safety Culture Instrument by MaPSaF <i>Arum Astika Sari, Arlina Dewi</i> .....	143
The Relationship of Fish Consumption to Cognitive Development in Students of SD Saptosari, Gunungkidul, Yogyakarta <i>Dewi Ngaisyah</i> .....	158
Inter Professional Education and Collaborative Practice: Reflection from Health students <i>Wiwik Kusumawati, Ika Setyawati, Romdzati, Likky Tiara Alphianti</i> .....	164
Steroidal Saponin in Ethanol Extract Tuber of Purple Yam ( <i>Dioscoreaalata L.</i> ) Decrease IL-4 Density of Blood Sera on BALB/c Mice Model Digestive Tract Allergy <i>Sri Nabawiyati Nurul Makiyah, Muhaimin Rifa'i, Widodo, Muhammad Sasmito Djati</i> .....	173
Managerial Leadership Competence in PKU Muhammadiyah Hospital of Gamping <i>Ranggit Oktanita, Qurratul Aini, Ekorini Listiowati</i> .....	184
Malaria Occurrence Factor Analysis Based on Elevation of Sea Surface in the District of OganKomeriungUlu, South Sumatra <i>Pademi Alamasyah, Chairil Anwar, Dwi Setyawan, Laila Hanum</i> .....	200
Increasing Family Involvement to Reduce of Cigarette Consumption with Participatory Learning Action (PLA) Approach <i>Tri Hastuti Nur Rochimah, Salmah Orbayinah</i> .....	212
Air Pollution Effect to Human Health in Palembang City <i>Marsidi, M.T. Kamaluddin, Fauziah N. Kurdi, Novrikasari</i> .....	230
Identification of Patient Satisfactory Profile for Outpatient Pharmaceutical Service at Private and Government Hospital within Semarang District <i>Pramitha Esha Nirmala Dewi, Novita Dwi Dahliyanti</i> .....	241

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

Intervention of Family Nutritional Awareness to Increase Family's Food Security <i>Fatmalina Febri, Anita Rahmiwati, Fenny Etrawati</i> .....	249
The Effects of Exercises in Molecular Neuron Cells of Cerebellum in Congenital Hypothyroidism Rats <i>Idiani Darmawati, Marten Bhara Suryo Aji, Zulkhah Noor</i> .....	258
The Effect of Air Freshener Exposure on Corneal Thickness of White Rat ( <i>Rattus norvegicus</i> ) <i>Yuningtyaswari, Pajar Sigit Nugroho</i> .....	265
The Correlation between Education about Personal Hygiene and Knowledge and Attitude of Personal Hygiene of the Adolescent <i>Kusbaryanto, Wahana</i> .....	272
The Relationship between Sports Activities and Premenstrual Syndrome In SMA N 1 Sentolo, Kulon Progo <i>Fenthy Vabiella, Alfaina Wahyuni</i> .....	277
Relationship Thyroid Status to the Physical Growth and Psychomotor Development on Children Under 2 Years in Endemic Areas of Iodine Deficiency Disorders in District Samigaluh of Kulonprogo Regency <i>Adang Muhammad Gugun, Zulkhah Noor, Jifani Rasyad, Mardylla Nur Fitriany..</i>	282
Baby Blood Vessel Detection-Based Touch Sensors <i>Ade Pajar Pirdianto, Anna Nur Nazila Chamim</i> .....	299
Analysis of Factors that Influence Smokers Using Alcohol among Students in a Private University in Yogyakarta <i>Iman Permana, Gibran Ilham Setiawan</i> .....	306
The Effectiveness of Combined Warm Water Foot Submerging and Breath Relaxation Therapy on Lowering the Blood T Pressure in Hypertensive Patients in the Work Area of Puskesmas Penumping Surakarta <i>Prima Trisna Aji, Novita Kurnia Sari, Sri Nabawiyati Nurul Makiyah</i> .....	315
Assessment of Interprofessional Communication and Collaboration: Using Multi Methods <i>Sri Sundari Purbohadi</i> .....	335

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

Bed Side Teaching as Effort for Decreasing Needle Stick and Sharp Injury in Clinical Practice Students of PSIK FKIK UMY <i>Azizah Khoiriyati, Novita Kurnia Sari</i> .....	342
The Relationship between Working Period and Cholinesterase Blood Levels among Pesticides-Spraying Workers in the Oil Palm Plantation <i>Restu Dewi Lestari, Merry Tiyas Anggraini</i> .....	350
The Effect of Interpersonal Relationship toward Birth Satisfaction <i>Hema Dewi Anggraheny</i> .....	356
Effect of Early Mobilization Education of The Level Anxiety and Independence of Patients After Total Knee Replacement in Hospital <i>Amik Muladi, Sagiran, Azizah Khoiriyati</i> .....	363
The Effect of Normal Dose Extract Gempur Batu Kejibeling ( <i>Strobilanthus crispus.BL</i> ) to the Histological of Rat's Digestive Tract <i>Yoni Astuti, Ali Usodo Mulyo, Harminani</i> .....	371
Effectiveness of Alcohol 70%, Clorhexidine Gluconate 4% Soap and Irgasan DP 300 as Hand Sanitizers in Reducing Bacterial Growth <i>Inayati, Pinter Hartono</i> .....	377

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

**Committee of ICMHS & LSC 2016**

Supervisor	dr. Ardi Pramono, Sp.An, M.Kes
Chair	dr Iman Permana, M.Kes, Ph.D
Partner	Dr Zahid Iqbal, Ph.D
Secretary	Winnie Setyonugroho, S.Ked, MT, Ph.D
Secretariat	dr Bramantyas Kusuma H, M.Sc Futuh Hidayat, SEI Elida Tri Grahani, SE
Treasury	dr Hidayatul Kurniawati, M.Sc
Scientific section	Dr dr Ikhlas M Jenie, M.Med, Sc Dr Sri Nabawiyati Nurul Makiyah, S.Si, M.Kes Lia Fitriana, SP
Programme section	dr Ika Setyawati, M.Sc dr Imaniar Ranti, M.Sc dr Ahmad Ikliludin, SpM
Publication and Documentation section	dr April Imam Prabowo Arif Hadiano, ST
Logistic and Transportation	dr Muhammad Kurniawan, M.Sc Aris Nuryanta, SH Muhammad Ma'rifatullah Katiga Putra Dwi Hatmo Budi, S.IP
Fund Raiser	dr Maria Ulfa, MMR dr Akhmad Syaiful Fatah Husein, SpAn



**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

**Chair person of The 2<sup>nd</sup> International Conference of Medical and  
Health Sciences and The 2<sup>nd</sup> Life Sciences Conference 2016**



Welcome to Jogja, sugeng rawuh!

For the second time, the Faculty of Medicine and Health Sciences Universitas Muhammadiyah Yogyakarta is going to conduct the 2nd International Conference of Medical and Health Sciences (ICMHS) this December in vibrant Yogyakarta, Indonesia. This year we are going to collaborate with the Life Sciences Society of Pakistan for their 2<sup>nd</sup> Life Sciences Conference (LSC) with Dr. Zahid Iqbal as the general secretary.

This year's conference theme "Towards a better quality of life through interdisciplinary research" will be celebrating an era of seamless interdisciplinary integration and collaboration in scientific innovations with the involvement of more extensive topics and disciplines in the conference. We aim to exhibit the products of that kind of approach in solving challenges, improving the quality of life, and creating sustainable developments. We are happy to announce that our conference is filled with Invited speakers from Pakistan, United States of America, Uni Emirates Arab, Malaysia and Indonesia. Presentations will be conducted in oral as well as poster that covers topics from medicine, public health, dentistry, pharmacy, biomedical to agriculture. To put more credibility to the conference we are collaborating with Isra Medical Journal and the Asian Journal of Agriculture and Biology to publish selected papers from the event. Other paper will be published in the ISBN Proceeding book.

The last but not least, enjoy the conference, start networking and sharing ideas, and let immerse yourself to the heritage cultural ambient of Jogja, sumonggo!

Yogyakarta, 1<sup>st</sup> December 2016

dr. Iman Permana, M.Kes, Ph.D.

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

**Dean of Faculty of Medicine and Health Sciences,  
Universitas Muhammadiyah Yogyakarta**



Assalamu'alaikum Wr. Wb.

Science, especially in the areas of health and life growing more rapidly. We need to work together in the research of various disciplines to the advancement of science and to provide benefits to human life.

After successfully organized international scientific meeting last year, the Faculty of Medical and Health Sciences Universitas Muhammadiyah Yogyakarta, held the second scientific meeting ICMHS along with "2nd Life Sciences Conference". In this second scientific meeting, FKIK UMY collaborates with various researchers, among others from Pakistan, Malaysia, and the United States. Taking the theme "Towards a better quality of life through interdisciplinary research" we hope to establish cooperation with various parties to be able to contribute ideas to the civilization of human life.

Finally, we congratulate the scientific meeting in the city of Yogyakarta Indonesia. Enjoy the beautiful city of Yogyakarta with priceless historical relics. We hope that this meeting can run smoothly and provide benefits to the advancement of knowledge.

Wassalamu'alaikum Wr. Wb.

Yogyakarta, 1<sup>st</sup> December 2016

dr. Ardi Pramono, M.Kes, Sp.An.

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

**Rector of Universitas Muhammadiyah Yogyakarta**



Assalaamu'alaikum Wr. Wb.

Ladies and Gentlemen,

Welcome to the 2<sup>nd</sup> International Conference on Medical and Health Science in conjunction with the 2<sup>nd</sup> Life Sciences Conference 2016

Welcome to Yogyakarta City of Tolerance

Our Faculty of Medicine and Health Sciences has been doing such international conference almost every year for the last ten years. This and other previous conferences are the things that supporting our vision as an excellence and Islamic university, a young and global university. We will always try to keep monitoring the development of science through sending more lecturers to do the sabbatical leave overseas, doing international research collaborations and also the international conference. Each department should do this strategy of internationalization so that each department has its own network. Faculty of medicine and health science is one of the most progressive units in implementing this strategy by inviting international experts on a regular basis. This program will certainly strengthen our vision.

International conference on medicine and health sciences is a smart choice to offer our lecturers access to the most recent development of the subjects. The participants will also gain the same knowledge and latest information on medicine and health sciences. As everyone knows that the development of science and technology are faster today compared to the previous period. Information technology, computer, and other development havefastened the transformation of medicine and health science into the different and more complex stage.

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

Cellular technology, for instance, can be used for several functions including those that directly impacts our daily life. There is no long distance call anymore today because cellular phone can do everything we need to contact other people far from where we stand anytime anywhere. People will finally innovate cellular phone for the sake of personal health services. We will in the future using our simple cellular phone to detect our body temperature, blood pressure, even how much fat we have in our body and how much it is supposed to be. We may also be able to check the health of our body without leaving our house and order medicine without going into the drug store. Everything is almost possible as long as we think hard for the better of people in the future. Enjoy the conference and don't forget to visit our rich tourist destinations, mountains, beaches or caves (underground waterways).

Thank you

Wassalaamu'alaikum Wr. Wb.

Prof. Dr. Bambang Cipto, MA

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

***Keynote Speech***

**by Head of Provincial Health Office Special Region of Yogyakarta  
in International Conference  
of Medical and Health Sciences and Life Sciences Conference**

**The Alana Hotel and Convention Center, Yogyakarta, December 9-10, 2016**

The honorable:

- Rector of Muhammadiyah University of Yogyakarta,
- The Dean of Medical and Health Sciences Muhammadiyah University of Yogyakarta,
- The chairman of organizing committee of the international conference of medical and health,
- Distinguished guests and colleagues.

*Assalamu'alaikum Warahmatullahi Wabarakatuh,*

First of all, we thank God for His blessings that today we may attend the International Conference of Medical Health Towards a Better Quality of Life Through Interdisciplinary Research in Yogyakarta.

My distinguished colleagues,

In Indonesia National Long Term Development Plan (2005-2024), the Indonesian Ministry of Health have determined a paradigm shift that have governed health services in health development plan. There has been a shift from Curative Health Services to Preventive and Promotive Health Services.

Recently, Indonesia suffers from a triple burden of diseases as health development challenges. The triple burden of diseases are: 1) the backlog of common infections, undernutrition, and maternal mortality; 2) the emerging challenges of non-communicable diseases (NCDs), such as cancer, diabetes, heart disease; and 3) mental illness, and the problems directly related to globalization, like pandemics and the health consequences of climate change.

Dear colleagues,

Here are some data that show several health problems in Indonesia:

1. Maternal mortality rate in 2015 is 4,809 cases, infant mortality rate in 2015 is 22,267 cases;
2. Regarding to children under the age of five, the national stunting rate is 37.2% which consists of 18% for very short dan 19.2% for short (Risksedas 2013);

# The 2<sup>nd</sup> International Conference of Medical & Health Sciences and The 2<sup>nd</sup> Life Sciences Conference 2016

---

---

3. HIV testing coverage is 14% dan antiretroviral (ARV) therapy coverage is 65.58% (Directorate General of Disease Control and Prevention Ministry of Health, 2015);
4. Tuberculosis (TB) notification rate in 2015 is 73.5% and tuberculosis treatment success rate is 72% (Directorate General of Disease Control and Prevention Ministry of Health, 2015).

Distinguished guests,

Indonesia Health Development Program in 2015-2019 strengths in improving human quality life through Health Indonesia Program with family approach. The Indonesian Ministry of Health issued The Minister of Health Regulation (Permenkes) No. 39 Year 2016 as a Guideline of Implementation of Health Indonesia Program with Family Approach. This program has 12 main indicators as markers of a family health status. Currently, many health programs have been implemented by Indonesian Ministry of Health, Provincial Health Offices, and District Health Offices. However, many health problems, some as mentioned above, still become health burdens. We may ask a question whether the programs that we conducted have answered the health problems we have in Indonesia.

It would be better if all health programs that we implement based on scientific health research, especially interdisciplinary research. The research should be related to detection, prevention, and treatment of diseases or problem solving for better health.

My dear colleagues,

Being a province with speciality, Special Region of Yogyakarta placed Traditional Medicine as one of the priority programs in Provincial Medium Term Development Plan (2017-2022). We still encounter many challenges in developing Traditional Medicine, especially in providing services which are based on scientific evidence.

Distinguished colleagues,

We look forward to results of interdisciplinary research which would support health problem solving, especially by developing traditional medicine in Yogyakarta. We believe that collaboration in interdisciplinary research would improve quality of human life.

Finally,

Thank you for your attention. We wish you a successful conference.

Wassalamu'alaikum Warahmatullahi Wabarakatuh,

On behalf of  
the Head of Provincial Health Office  
Special Region of Yogyakarta

**Drg. Pembajun Setyaningastutie, M.Kes**

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

**SPEAKER OF  
INTERNATIONAL CONFERENCE**

**Zahid Iqbal**

Al-Nafees Medical College Isra University Islamabad Campus Islamabad, Pakistan  
*"One Health Program for Public Health Benefit"*

**Prof. Dr. Abdul Khaliq**

Professor, Department of Agronomy, University of Agriculture, Faisalabad  
*"Role of Agriculture in Poverty Alleviation of Rural Areas"*

**Fitri Arofati**

Universitas Muhammadiyah Yogyakarta, Indonesia  
*"Continuing Professional Development of Practicing Nurses in Indonesia"*

**Tri Wahyuliati**

Universitas Muhammadiyah Yogyakarta, Indonesia  
*"Diabetic Neuropathy - A Chance Towards A Better Treatment"*

**Mohammad Khalid Ashfaq**

University of Mississippi, USA  
*"Natural Products –Use or Misuse"*

**Muhammad Mukhtar**

American University of Ras Al Khaimah, United Arab Emirates  
*"Emerging Biotechnologies and Genomic Medicines in Human Health and Well-Being"*

**Muhammad Sasmito Djati**

Brawijaya University Malang, Indonesia  
*"Herbal Medicine a Holistic Approach: in case of food supplement formulation of Sauropusandrogynus and Elephantopuscaberto modulate immune and hormonal system in pregnant Salmonella typhi infected mice"*

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

**REVIEWER**

1. Dr. Zahid Iqbal, Ph.D (Isra University, Islamabad, Pakistan)
2. Prof. Dr. Abdul Khaliq (University of Agriculture, Faisalabad)
3. Dr. Mohammad Khalid Ashfaq, DVM, DTVM, MS, Ph.D (University of Mississippi, USA)
4. Dr. Muhammad Mukhtar, Ph.D (American University of Ras Al Khaimah, United Arab Emirates)
5. Dr. Ir. Muhammad Sasmito Djati, MS. (Brawijaya University Malang, Indonesia)
6. Fitri Arofiati, S.Kep., Ns., MAN., Ph.D (Universitas Muhammadiyah Yogyakarta, Indonesia)
7. Dr. SN Nurul Makiyah, S.Si., M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
8. dr. Iman Permana, M.Kes, Ph.D (Universitas Muhammadiyah Yogyakarta, Indonesia)
9. Dr. dr. Ikhlas M. Jenie, M.Med, Sc (Universitas Muhammadiyah Yogyakarta, Indonesia)
10. Dr. dr. Arlina Dewi, M.Kes, AAK (Universitas Muhammadiyah Yogyakarta, Indonesia)
11. dr. Oryzati Hilman, M.Sc, CMFM (Universitas Muhammadiyah Yogyakarta, Indonesia)
12. Dr. Dra. Yoni Astuti, M.Kes, Ph.D (Universitas Muhammadiyah Yogyakarta, Indonesia)
13. Dr. drg. Tita Ratya Utari, Sp. Ort (Universitas Muhammadiyah Yogyakarta, Indonesia)
14. Dr. dr. Tri Wahyuliati, Sp.S, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
15. Dr. Elsy Maria Rosa, M.Kep (Universitas Muhammadiyah Yogyakarta, Indonesia)
16. Dr. dr. Titiek Hidayati, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
17. Dr. Shanti Wardaningsih, M.Kep., Ns., Sp.Kep.J., Ph.D. (Universitas Muhammadiyah Yogyakarta, Indonesia)
18. Dr. dr. Sri Sundari, M.Ke (Universitas Muhammadiyah Yogyakarta, Indonesia)
19. Dra. Lilis Suryani, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
20. Drh. Tri Wulandari K, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
21. Dr. dr. Wiwik Kusumawati, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
22. Sabtanti Harimurti, S.Si., M.Sc., Ph.D., Apt. (Universitas Muhammadiyah Yogyakarta, Indonesia)



**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

**SPEAKER OF  
INTERNATIONAL CONFERENCE**

ICMHS-P-1-18

## The Relationship between Sports Activities and Premenstrual Syndrome In SMAN 1 Sentolo, Kulon Progo

Fenthy Vabiella<sup>1</sup>, Alfaina Wahyuni<sup>2\*</sup>

<sup>1</sup> School of Nursing, Faculty of Medicine & Health Science, Universitas Muhammadiyah Yogyakarta

<sup>2</sup> Department of Obstetrics and Gynecology, Medical Science Study Program Faculty of Medicine & Health Science, Universitas Muhammadiyah Yogyakarta

\*Email: [alfaina\\_umy@yahoo.com](mailto:alfaina_umy@yahoo.com)

---

### Abstract

Pre-menstrual syndrome are an emotional and physical symptoms that happened before menstruation. The symptoms is caused by increasing of estrogen level. Sport activity is one of the treatment to decrease the pre-menstrual syndrome, because exercise can increase the endorphin that can prevent the increasing of estrogen. The aim of the study was to know the relationship between sport activity and pre-menstrual syndrome. The research was cross-sectional study. Respondents in this study were 66 students. They fill out the questionnaire at the same time. Data were statistically analyzed by chi square test. The results of the study was 77.8% students who do exercise regularly were suffer moderate premenstrual syndrome and 54.4% the respondent who do not regularly exercise suffered severe premenstrual syndrome ( $p < 0.05$ ) The students who are exercise regularly have a risk to suffer moderate until severe premenstrual syndrome 3.786 times compared with students who regularly exercise. It was concluded that there is a relationship between sporting activity with the occurrence of premenstrual syndrome in female students at SMAN 1 Sentolo

Keywords: Premenstrual Syndrome, sports activities

# The 2<sup>nd</sup> International Conference of Medical & Health Sciences and The 2<sup>nd</sup> Life Sciences Conference 2016

---

---

## INTRODUCTION

Adolescence is one of human development period. This period is a change or transition from childhood to adulthood biologically, psychologically and socially. Most of the people and culture, adolescence commonly begins at 10-13 years old and ended at the age of 18-22 years.<sup>1</sup> Premenstrual syndrome is a cycle disorders commonly experienced by young and middle aged women marked by physical and emotional symptoms consistently, occurring in luteal phase of menstrual cycle. Premenstrual syndrome will disappear when menstruation begins until a few days after menstruation.<sup>2</sup> The incidence of premenstrual syndrome in Indonesia is 70% - 90% and 2% - 10% experienced severe symptoms of premenstrual syndrome.<sup>3</sup>

Sport is able to maintain the women reproductive organs health. Women who exercise will have a good heart system, healthy blood vessels and hormones, so the impact is good blood flow on reproductive organs. If the hormones are balanced, then the control center of the brain reproductive hormone also works well.<sup>4</sup>

## MATERIALS AND METHODS

This research is an analytic study to find out the causes and the relationship between the two variables.<sup>5</sup> This study using cross sectional approach. Population in this study is 96 XI grade female students at SMAN 1 Sentolo. Selection of the sample in the study using total sampling method is a way of sampling by taking all members of the population to be sampled.<sup>6</sup> The sample was 96 respondents.

## RESULTS

When data collection, there are 6 absent respondents, 1 respondent had no menstrual period yet and 23 female students do not exercise. Therefore, 30 of 96 respondents included within the exclusion criteria in the study so it is not included in the results. So who meet the criteria for inclusion in this study were 66 respondents.

The results of this research is divided into two parts, namely univariate and bivariate analysis. Univariate analysis is an analytical look at the frequency distribution and presentation of data. Bivariate analysis to test the variable suspected having a connection or relationship between the two variables.

**Table 1. Frequency Distribution of Sport Activity and Premenstrual Syndrome on Female Students in Class XI SMAN 1 Sentolo 2015**

Sport activity	n	%
Regularly	9	13,6
Not Regularly	57	86,4

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

**Premenstrual Syndrome**

Mild	6	9,1
Moderate	29	43,9
Severe	31	47,0

**Table 2. Correlation between Sport Activity and Premenstrual Syndrome on Female Students in Class XI SMAN 1 Sentolo 2015**

Variable	Premenstrual Syndrome			X <sup>2</sup>	P
	Mild	Moderate	Severe		
Sport activity	Mild	Moderate	Severe	9,587	0,008
Regularly	22,2%	77,8%	0%		
Not Regularly	6%	38,6%	54,4%		

Based on Table 2. Known that 9 of the respondents who regularly exercise experienced premenstrual syndrome, 2 students (22.2%) experienced mild premenstrual syndrome, 7 students (77.8%) experienced moderate premenstrual syndrome, and no respondents who experienced severe premenstrual syndrome and 57 respondents who do not regularly exercise experienced premenstrual syndrome, 4 students (7.0%) with mild premenstrual syndrome, 22 students (38.6%) with moderate premenstrual syndrome, and severe premenstrual syndrome experienced by 31 students ( 54.4%). This conclusion is in accordance with the value of significant/probability (P Value) in the amount of 0.008 which, when compared with P values <0.05, so the research hypothesis is accepted. It means there is a correlation between sport/physical activity with premenstrual syndrome on grade XI female student at SMAN 1 Sentolo with Odd Ratio irregular Sport suffer from moderate-severe premenstrual syndrome 3.786 times and 3.167 suffer premenstrual syndrome milder than the routine one.

**DISCUSSION**

Based on Table 1, the majority age of respondents in this study is 16 years old as many as 38 students or 57,6%. Adolescence ages that is 12 to 21 years old is an important period because this period is the transition into adulthood. In adolescence, person has a rapid physical changes and intensive intellectual development so that the child's interest on what is happening in the world is very large and do not want to be considered as a child anymore.<sup>7</sup> Based on Table 2, It is known that they who are experienced severe premenstrual syndrome as many as 31 students or 47.0%. Based on research conducted by Adelina (2010),<sup>3</sup> who conduct analytical studies on female students who do sports activities with premenstrual syndrome, show that 48 of 73 (66%) young women who experience premenstrual syndrome. Based on an

## The 2<sup>nd</sup> International Conference of Medical & Health Sciences and The 2<sup>nd</sup> Life Sciences Conference 2016

---

analysis conducted by the author during the research found that most teens experience premenstrual syndrome because teens do not know the symptoms of premenstrual syndrome and did not know how to resolve or prevent it. According to the table 2 noted that the majority of respondents do not exercise regularly as many as 57 people with prosentse 86.4%. Schoolgirl mostly had once aweek exercise and long work up a sweat or within 20 minutes. Sports activities were measured by routine every week and how long the exercise. Based on measurement issued by the Ministry of Health of the Republic of Indonesia sport that can be done is 2-3 times a week sports, within 20-30 minutes. Based on research conducted by Ifana Nashruna toward 119 respondents in Klaten, Tulung Pucungmikiran village obtained 68 respondents (57.1%) did not exercise regularly.

Regular and continuing exercise contribute to improve the production and release of endorphins. Endorphin has a role on estrogen control. Women who experience premenstrual syndrome occurs due to excess of hormone estrogen. Excess of estrogen can be prevented by increasing endorphin. This is prove that regular exercise prevent or reduce premenstrual syndrome, women who do not exercise regularly will has higher estrogen which causing severe premenstrual syndrome.<sup>8</sup> Based on research conducted by Nurlaela et al (2008),<sup>8</sup> who conducted a descriptive study on women who do aerobics with premenstrual syndrome showed 68 of 119 (57.1%) women who routinely perform aerobic exercise every week has easier premenstrual syndrome than who is not routinely perform aerobic exercises.

### CONCLUSION

The results of this study can be concluded that there is a correlation between sports activities/physical exercise with premenstrual syndrome in grade XI female student at SMAN 1 Sentolo with P value = 0.008 (<0.05).

### REFERENCES

1. Notoatmodjo, Soekidjo (2007). *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta : Rineka Cipta
2. Saryono dan Waluyo, S., 2009. *Sindrom Premenstruasi*. Yogyakarta: Nuha Medika
3. Adelina, Novitri. (2010). *Hubungan Aktifitas Olahraga dengan Premenstruasi Sindrom*
4. Ifana Nashruna, Maryatul & Riani Wulandari. (2012), *Hubungan Aktivitas olahraga dan Obesitas Dengan Kejadian Sindrom premenstruasi*
5. Nursalam, (2011). *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan*, Jakarta: Selemba Medika

**The 2<sup>nd</sup> International Conference of Medical & Health Sciences  
and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

---

---

6. Hidayat A. A. (2012) *.Metode penelitian kebidanan teknik analisis data*, Jakarta, Salemba Medika
7. Shaliha, H., *Hubungan IMT dengan Usia Menarche pada remaja putri di kecamatan secanggang, Kabupaten Langkat, Medan*, 2010
8. Nurlala, Widiayati, Prabowo, T. (2007). *Hubungan aktivitas olahraga dengan kejadian premenstrual syndrome*. Jurnal ilmu keperawatan.