



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

PROCEEDING

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## 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

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**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 Brahmana</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</i> .BL) 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**

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**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**

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**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**

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**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.

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and  
The 2<sup>nd</sup> Life Sciences Conference 2016**

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**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**

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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**

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***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 (Riskesdas 2013);

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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**

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The 2<sup>nd</sup> Life Sciences Conference 2016**

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**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"*

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**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)



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The 2<sup>nd</sup> Life Sciences Conference 2016**

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**SPEAKER OF  
INTERNATIONAL CONFERENCE**

ICMHS-O-3-13

## Intervension of Family Nutritional Awarness to Increase Family's Food Security

**Fatmalina Febri<sup>1</sup> Anita Rahmiwati<sup>1\*</sup>, Fenny Etrawati<sup>1</sup>**

<sup>1</sup> Public Health, Faculty Universitas Sriwijaya, Indonesia

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### Abstract

The implementation of food security must begin from the small thing such as family. Because decreasing of food security can causes nutritional's problem. One of way that can do to increase nutritional is family nutritional awareness concept. The aim of this study is to analyze the effect of intervention of family nutritional awareness to knowledge and attitude as early indicator to measure food security. This research is a quantitative research with quasi experiment as research design, using *prepost test one groupdesign* approach. The population of this research are mothers who have infants at Ibul Besar I village in sub-districts Pemulutan district Oganllir. The sample using purposive sampling consists of 50 respondents. The counseling of 5 aspects (weighing weight regularly, giving exclusive breastfeeding to baby from newborn until six months year old, eating variety of foods, using iodized salt, drinking nutritional supplement based recommendation) are given by trained health counselor. Those aspects are given to small groups every week (each of groups consists of 5 infants mother). Pretest and posttest to mother's knowledge and attitude about family nutritional awareness would be done before and after intervention. Data were analyzed by pair t- test. The result of this research obtained that average respondents knowledge each indicator has increased 0.72 until 1.28 after intervention. Then, average respondents attitude has increased 0.52 until 2.42 after intervention. Respondent knowledge and attitude about family nutritional awareness indicator have weak and positive correlation value, only variable knowledge using iodized salt and attitude weighing weight regularly have moderate and positive correlation value.

Keywords: Intervention, family nutritional awareness, knowledge, attitude

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## INTRODUCTION

National Medium-Term Development Plan 2011-2015 has provide direction on Food and Nutrition Development to improve food security and the health and nutritional status of the community. It is laid out in the Law of Food number: 18 Year 2012 and Government Regulation No. 17 of 2015, food security is fulfilled condition of food for the country up to the individual, which is reflected in the availability of adequate food, both in quantity and quality, safe, diverse, nutritious, equitable, and affordable and does not conflict with religion, faith and culture, to be able to live healthy, active and productive sustainably.<sup>1</sup>

The low level of household food security is one of the causes of malnutrition. Malnutrition often encountered in the community include: Protein Energy Malnutrition (PEM), Iodine deficiency disorders (IDD), Iron Nutritional Anemia (AGB) and Vitamin A Deficiency (VAD).<sup>2</sup> Toddlers and pregnant mother are the group that is susceptible with malnutrition. If the prevalence of malnutrition among children under five doesn't be solved immediately, there will increase of child's mortality. Malnutrition have a negative impact on health and can hinder the quality of human resources as expected.

One of the efforts that can be done to improve the nutritional is to conduct counseling for mothers to be able to understand the problem of improving the nutritional, diet-nutritious foods for infants and the selection of materials in the environment around that contain balanced nutrition. Early stage to achieve these indicators is every family there are at least one family member is aware and willing to make changes in family behaved towards good nutrition.<sup>3</sup>

Family Nutrinional Awereness as well known as Kadarzi is a family that is able to recognize, prevent and address nutritional issues each family member. Family who called Kadarzi if they have behaved well characterized nutrition minimal with measure of body weight regularly, give breast milk only to infants from birth until the age of six months (exclusive breastfeeding), consumption of various food, use iodized salt, consumption of nutritional supplements as recommendation.<sup>4</sup>

According to data from Susenas (2010),<sup>5</sup> percentage of Indonesian children suffered from malnutrition in 2010 are 43.62%, while in 2011 children under five suffering from severe malnutrition amounted to 40.41% In South Sumatra there were 209 cases of severe malnutrition that 13 of these cases occurred in Ogan Ilir.<sup>6</sup> Exclusive breastfeeding is only 38%, the percentage of start feeding for children aged 0-23 months are less than an hour after the baby is born is 29.6%, the mother who gets Fe1dan Fe3 is 86% and 81%<sup>6</sup> That percentage shows that malnutrition is one of indicator to measure food security which has to be solved by government with society support. One of strategy to solve malnutrition is use empowerment society to build awareness and increase public knowledge through Kadarzi.

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and  
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**MATERIALS AND METHODS**

This is a quantitative research method with quasi experimental study design approach by prepost test one group design. Measurements were performed in the intervention group. This research was conducted in 3 important phases. First, surveys of quantitative data before the intervention is given, the second is the implementation of the intervention and the third surveys of quantitative data after the intervention. Research will be conducted at the Ibul Besar I village in District Pemulutan Ogan Ilir. Total population of women who have children in the village are 200 people. Research sampling unit is the household and the sample are some households in the village of Ibul Besar I. Samples will be taken by using purposive sampling. Minimum sample size in this study will be calculated using a sample size for two different proportions (Lemeshow, 1997). Thus, the total minimum sample size for the intervention group are 50 respondents. Data were analysed by pair t-test. The inclusion criteria for the sampling of the group that will intervene and control group intervention are respondents are mothers who have children and respondents are permanent residents of Ibul Besar I Village.

**RESULTS**

This study include the characteristics of respondents which are toddler antropometri measurement, children supplementation distribution, the status of the pregnancy and postpartum mothers, diversity of food consumption, exclusive breastfeeding, utilization of iodized salt, body weight measurement, knowledge and attitudes related maternal aspect of Kadarzi.

**Table 1. Characteristis of Respondent**

Variable	Frequency	Proportion(%)
<b>Ages</b>		
20-35 Years	38	76
> 35 Years	12	24
Mean (range)	29,48(20-45)	
<b>Number of family member</b>		
≤ 4 members	31	62
> 4 members	19	38
Median (range)	4 (3-11)	
<b>Mother's Occupation</b>		
Ibu Rumah Tangga	42	84
Farmer	5	10
Teacher	1	2
Waever	1	2
Manucipal Police	1	2

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The 2<sup>nd</sup> Life Sciences Conference 2016**

Variable	Frequency	Proportion(%)
<b>Father's Occupation</b>		
Labor	19	38
Farmer	16	32
Entrepreneur	11	22
Trader	2	4
Artist	1	2
Unemployment	1	2
<b>Mother's Education</b>		
Elementry School	23	46
Junior High School	15	30
Senior High School	10	20
University	2	4
<b>Father's Education</b>		
Elementry School	25	50
Junior High School	12	24
Senior High School	11	22
University	2	4
<b>Number of toddler in family</b>		
1	39	
2	10	78
3	1	20
Median (range)	1(1-3)	2
<b>Age of Toddler</b>		
0-11 months	11	22
12-23 months	10	20
24-35 months	12	24
36-47 months	9	18
48-59 months	8	16
Mean (range)	27,84(0-59)	
<b>Gender of Toddler</b>		
Boy	24	48
Girl	26	52
<b>Age of mother during giving birth toward last child</b>		
< 25 Years		
25-35	21	42
> 35 Years	22	44
Mean (range)	7	14
	27,16 (19-42)	

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Respondents were in the age 20-35 years more than ¾ of total respondent, approximately 60% have a family members are less than 4 people, more than 80% are women who do not work outside the home while the husband's occupation of respondents, mostly working as labor, farmers and entrepreneur. Approximately ¾ of the respondents and her husband attend school less than 12 years. More than 75% of a new respondent has one child under five with an average age of 27 months toddler. Percentage of respondents who gave birth at the age of risky enough (> 35 years) are 14%, while ratio of gender against the last baby is balanced.

**Knowledge**

**Table 2. Range Score of Respondents Knowledge about indicators of Kadarzi**

Variable	Pre-Intervention	Pasca-Intervention
Body Weight Measurement Regularly Mean (range)	3,08 (1-5)	4,32 (1-6)
Exclusive Breastfeeding Mean (range)	7,14 (3-11)	8,38 (0-11)
Consumption of various food Mean (range)	4,70 (1-8)	5,58 (2-9)
Utilization of Iodized Salt Mean (range)	4,04 (1-6)	5,00 (1-6)
Nutritional Supplement for Child Mean (range)	3,62 (0-5)	4,34 (1-5)

Respondent knowledge regarding utilization of iodized salt before the intervention has average score 4.04, while after the intervention the average score is 5.00. The analysis shows that there are differences in the average scores of knowledge before the intervention and after the intervention. Statistically obtained a result that there is medium and positive correlation between the knowledge of utilization of iodized salt before and after intervention.

There is a mean difference of -0.960 knowledge of the use of iodized salt before and after the intervention in the study sample. In the general population, we believe that the difference in mean 95% were in the range -1.362 (-1.362 knowledge before the intervention reduced compared after the intervention) and -0.558 (-0.558 knowledge before the intervention reduced compared after the intervention).

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**Attitude**

**Table 3. Range Score of Respondents Attitude about indicators of Kadarzi**

Variable	Pre-Intervensi	Pasca-Intervensi
Body Weight Measurement Regularly Mean (range)	22,10 (13-30)	23,92 (16-29)
Exclusive Breastfeeding Mean (range)	23,92 (18-31)	26,34 (16-33)
Consumption of various food Mean (range)	16,74 (12-23)	17,66 (13-24)
Utilization of Iodized Salt Mean (range)	18,56 (12-23)	20,32 (6-25)
Nutritional Supplement for Child Mean (range)	15,00 (9-20)	15,52 (9-21)

The attitude towards body weight measurement regularly before the intervention has average score 22.10, while after the intervention the average score is 23.93. The analysis shows that there are differences in the average score of attitude towards the body weight measurement before the intervention and after the intervention. Statistically obtained a result that there is medium and positive correlation between the knowledge of utilization of iodized salt before and after intervention.

There is a mean difference of -1.820 attitude towards the weighing regularly before and after the intervention in the study sample. In the general population, we believe that the difference in mean 95% were in the range -3.033 (-3.033 knowledge before the intervention reduced compared after the intervention) and -0.607 (-0.607 knowledge before the intervention reduced compared after the intervention).

**DISCUSSION**

Interventions through the system for Family Nutritional Awareness consultation (Kadarzi) provides changes to the knowledge and attitudes at family or household in Pemulutan Regency Ogan Ilir. The results of the research by implementing a Family Nutritional Awareness modeling are the differences in knowledge and attitudes before and after the intervention is significantly in positive direction.

Based on Yusuf & Rossiana (2015),<sup>7</sup> stated that interventions through nutrition counseling have positive impact for mother's knowledge. Education is one of the factors that influence adolescent knowledge for people. According to Notoatmojo (2007),<sup>8</sup> a higher level of education makes it easy for a person to receive an information even better.<sup>9</sup> But the statement was not absolutely true because the knowledge of mothers at Pemulutan who only graduated from Elementary School, they can receive positive impacts after the intervention through nutrition counseling for them. This is

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indicate to show that the mothers can receive some information even better,

Despite the mothers who only graduated from Elementary School, they are understanding some informations about Family Nutritional Awareness (Kadarzi) even better. The level of basic education did not inhibit the respondents to still be able to understand the information provided by either thus adding knowledge about Kadarzi. Knowledge is the result of the idea and someone did this happen after sensing on a particular object.<sup>10</sup> Social environment is a great help of the success of the the process of nutrition counseling for mothers. The mothers will be understood easily and it can

Mostly, the mothers at Pemulutan unconsciously did part of the Family Nutritional Awareness indicators. This is shown from the percentage of mothers who weigh the child regularly, exclusive breast feeding, and the granting of a supplement that is already more than 50% of mothers who already implemented it. The social environment of respondents basically already good, through counseling which done by the mothers can be easier to accept and apply the information. Therefore, with the level of basic education, if the mother is actively to seek out and understand the information by looking at the positive social environment then it will generate a good knowledge about Family Nutritional Awareness.<sup>11</sup>

The characteristics of the age of the mothers most of which are still at the age of 20-35 years old, they could still receive information from counseling properly. The mothers who will be step into an early adulthood and start to build households still lack of experiences in the household matters so that the mothers can looking for the information excitedly which can be used in married life. In early adulthood women who much learn and find out about things to do – for the good of their households, so they can be more easily in receiving the information and apply it in the household.<sup>12</sup>

Health education is one of the efforts to improve our society towards better achievement in encouraging a healthy life such as the knowledge, attitudes and skills. The mother's attitudes regarding the implementation of Family Nutritional Awareness (Kadarzi) indicators also experienced more positive changes after the intervention. One of the factors that influence the attitude of someone is a knowledge about an object, someone who has a good knowledge about an object, they will be more rational in responding to a specific object and consider about the positive and negative impacts of it.<sup>11</sup>

The percentage of mothers who weigh the child regularly is about 78%, after the intervention they will understand what must be considered when weighing the weight of the child such as the child's body weight every month should be increased by a minimum of 800 grams. After understanding it, the mothers showed an attitude that the mother does not mind to weigh children every month because it is believed to be able to see their children growing up. It shows that the mother's knowledge of the importance of



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weighing the weight regularly make mother's attitude changed to become even positive. In addition, the attitude was also influenced by the culture around them,<sup>12,13</sup> we know that the social environment around the respondents had implemented Family Nutritional Awareness (Kadarzi) indicators properly so that the mothers will not find the trouble to implement the information because their environment will give positive supports.

Positive support from environment made one of the indicators of Family Nutritional Awareness (Kadarzi) is giving of nutritional supplements show that they have moderate and positive correlation value from before and after the intervention. The percentage of the granting of a nutritional supplement that performed by mothers at Pemulutan already good is about 86% of mothers have given vitamin A supplements to toddlers. As many as 74%, the mothers get vitamin A from Posyandu at Pemulutan. Before the intervention, the mothers in Pemulutan being active to provide vitamin A for their children, this shows that the knowledge and attitudes of the mother before the given intervention is already good.

## CONCLUSION

Respondent knowledge and attitude about family nutritional awareness indicator have weak and positive correlation value, only variable knowledge using iodized salt and attitude weighing weight regularly have moderate and positive correlation value.

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