



2nd ICHMS & 2nd 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, 9th-10th December 2016
The Alana Hotel and Convention Center

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**The 2nd International Conference of Medical & Health Sciences
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**Chair person of The 2nd International Conference of Medical and
Health Sciences and The 2nd 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 2nd 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, 1st December 2016

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

**The 2nd International Conference of Medical & Health Sciences
and
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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, 1st December 2016

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

**The 2nd International Conference of Medical & Health Sciences
and
The 2nd Life Sciences Conference 2016**

Rector of Universitas Muhammadiyah Yogyakarta



Assalaamu'alaikum Wr. Wb.

Ladies and Gentlemen,

Welcome to the 2nd International Conference on Medical and Health Science in conjunction with the 2nd 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.

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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

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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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**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)
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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)
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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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**SPEAKER OF
INTERNATIONAL CONFERENCE**

ICMHS-P-1-22

Baby Blood Vessel Detection-Based Touch Sensors

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Abstract

Health is a basic need of every human being. Therefore, the necessary means of adequate health services. Hospital Sultan Imanudin is one of the important places for people who experience the disorder on the health of injecting. At the hospital is stored a variety of problems, such as injecting the baby nurses are still having trouble finding the baby's blood vessels. Therefore there should be a tool that helps find out and see the baby's blood vessels. So the tool can help and ease the nurse injected babies who are need help. Health facilities and infrastructure increased steadily improved. The Government is increasingly encouraging potential place health services by improving the quality of services at hospitals and clinics. Any private party indirectly contributed in the improvement of the quality of health care. This can be seen with more and more health clinics emergence that penetrated not only in the city, even to the remote villages. Growing number of places the more health services also need health equipment. Each place health services will also meet the needs of medical instruments, which have a wide range of usability and to improve the quality of his service. Developments in the field of health services requires a reliable technician-technician to maintain, repair and calibrate these health tools. Seen from the medical personnel often need to find trouble when blood vessels are Older Baby to do the injection or infuse. Medical personnel are often several times to detect the baby's blood vessels and even not rarely the needles already logged in but turned out to be wrong. As a result of blood vessels can rupture the Toddler. This research is the design tool of blood vessel Detection based toddler Touc sensors that can penetrate the skin of newborn children. Besides being able to penetrate the skin of newborn children, this tool is designed so that the baby can feel safe and comfortable. This tool easy to carry where where. The results of this research show that this tool can find and know the blood vessels veins toddlers With this tool, early childhood or toddler feel safe and comfortable. This tool easy to carry with the voltage supply 9 volt.

Keywords: LED, Blood Vessels, Veins, Efficient

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INTRODUCTION

Health is a basic need of every human being, especially for the citizens of Indonesia. By because it must be in need of infrastructure and facilities adequate health care. In addition, the tool needs medical instrumentation also has an important role to improve the quality of technical services in maintaining, repairing and calibrating medical devices. Sultan Imanudin hospital is one of the important places for residents in the area who has a defect of her health especially when performing the injection. Medical personnel is still often difficult to make when looking for the baby's blood vessels, especially when the injection or infusion injection. Medical personnel often several times to detect the baby's blood vessels and even less so the needle has entered but obvious one reslt can hurt the baby's blood vessels.

In Indonesia, the handling of the case of the installation of its own infuse medical workers are still many who think easy and feel familiar, but if examined according to standard SOP (Standard Operational Procedures) are still many shortcomings when performing the injection. According to (Alexxander et al, 2010 in nurzanah 2011) installation of infusion based on the recommendation of The Infusion Nursing Standards of Practice can be retained for 72 hours after installation, while on "The Center Of Disease Control" (CDC) recommends that the infusion must be moved every 72-96 hour.

The impact of treatment time for intravenous injection specifically for babies still fairly using conventional means. As for how that is done by medical personnel also has disadvantages such as the use of x-rays, or other tools. For tools such as x-rays or other tools are also still has shortcomings in addition to costs that do not cost a tool that is only available in certain service center. Given these problems not only in a large hospital but also in remote areas also need extra handling.

This became the basis for the design of a prototype detector innovate baby's blood vessels based touch sensors, as a detector of blood vessels that can be operated by medical personnel who are experienced and new. Safe for healthy, portable, inexpensive, and the detection results can be served quickly. With these tools in medical workers can expect to feel safe and comfortable when taking intravenous injection, in addition to the medical personnel patient also can feel safe and comfortable. The tool is easy to carry because the system mini portable.

The program aims to assist hospital nursing job in locating veins in children infant to simplify entering the infusion needle in the baby because the baby's blood vessels is still very less detectable and is not too obvious.

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MATERIALS AND METHODS

For a review can be obtained findings are objective So what singer research will be carried out on with Stages From the Beginning to the End As shown in Figure 1. below Singer:

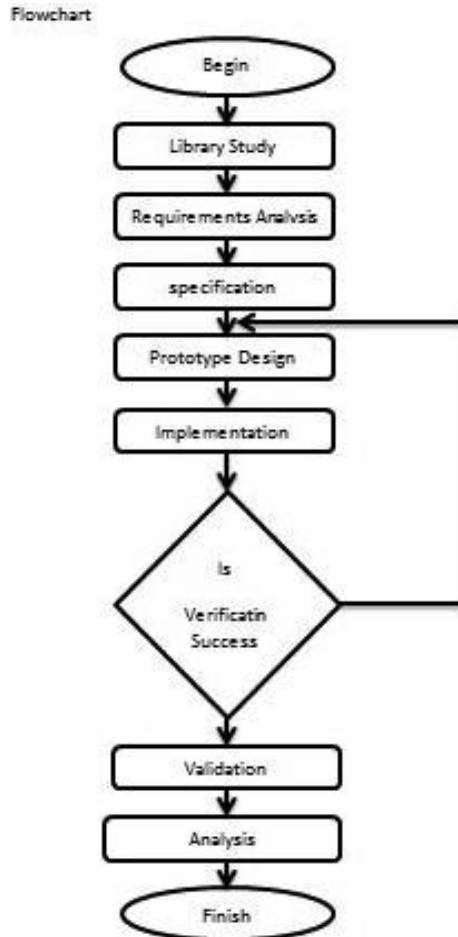


Figure 1. Stages of the research

Analysis of Needs to create a detection system of blood vessels in the baby needed a Led which can penetrate the skin. Led the set light intensity using a touch sensor system, the output of the sensor will emit a stable light intensity value and can penetrate the skin and then intravenously baby will be obvious.

In designing the baby's blood vessels detector touch sensor-based, there are some important part in the design, namely the hardware and electronic software the two images below

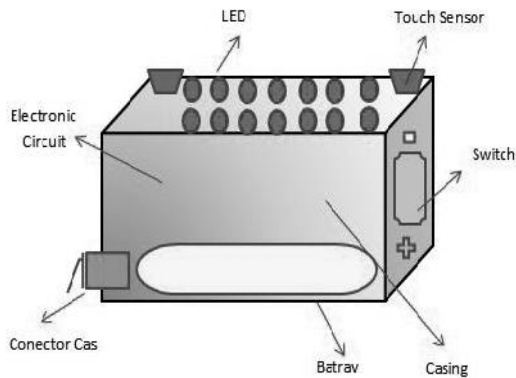


Figure 2. The hardware and software of research

Implementation. If the requirements analysis, specification and design of equipment is correct and clear, then the next stage is the implementation of which is the realization of the works which will be observed and analyzed the performance of the appliance.

Procedure Design Validation Tool. In this stage in doing a thorough system testing, including functional testing and system robustness. Functional testing done to determine that the system can work well in accordance with the principle works. Durability testing capacity relates to the ability of power, touch and accuracy sensor light intensity in the work, how sensitive the sensor is sensitive when touching the skin. From this validation in conformance know the results of the design with the analysis.

Design Prototype



Figure 3. Components of the Design Prototype Detection of the Baby's Blood Vessels has been Completed Based Touch Sensor Designed 100%

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How The Tool Works.

Block diagram of how the tool works that will be built in this study is given in Figure 4. Here.

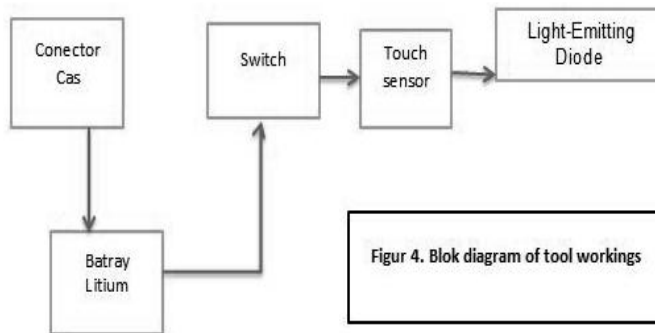


Figure 4. Diagram of how to the tool works



Figure 5. Pictures of The Test Results Before Their Detection Devices



Figure 6. Pictures of Test Results After Their Detection Devices

CONCLUSION

Baby blood vessel detection device based touch sensor can detect blood vessels clear and can be directly used as an alternative to blood vessels detection of infants with high levels of efficiency and with relatively low costs.

In the future these tools can be tested in several accredited laboratories and hospitals are far from fasilitan medical devices in order to obtain evidence that more and more that this tool can be used properly and with low side effects.

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