



WORLD OCEAN CONFERENCE

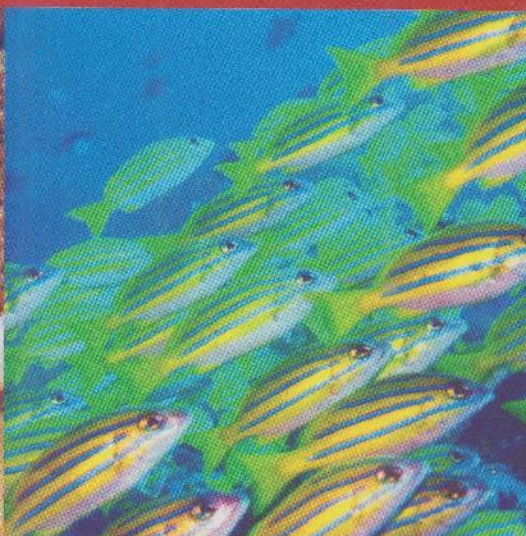
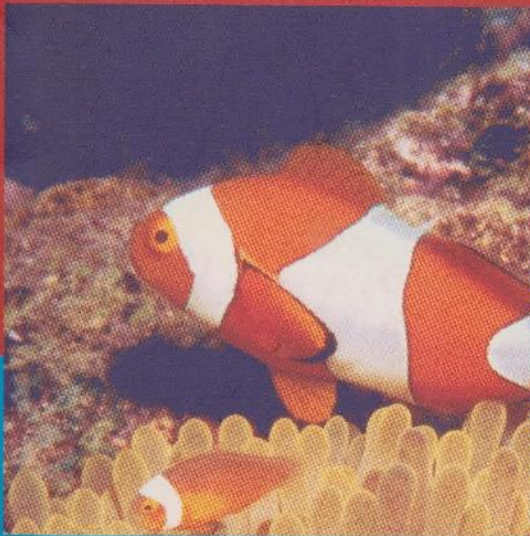


CORAL TRIANGLE
SUMMIT 2009

WORLD OCEAN CONFERENCE SIDE EVENT

INTERNATIONAL SYMPOSIUM
ON OCEAN SCIENCE,
TECHNOLOGY AND POLICY

MAY 12-14, 2009
MANADO, NORTH SULAWESI
INDONESIA

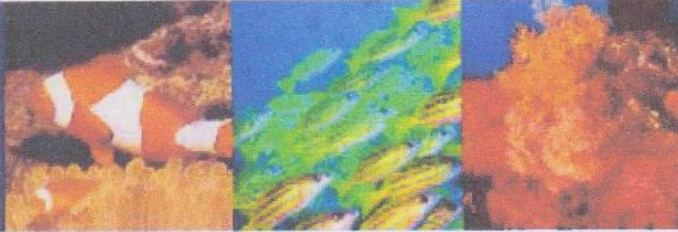


ABSTRACTS

CHAPTER IV-D MARINE HEALTH AND BIOMEDICALS

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30 January 2009

To: John Wantania, M.D., SpOG

Faculty of Medicine-Sam Ratulangi University, Manado City, North Sulawesi
Province, Indonesia

Subject: Acceptance of Abstract

Dear Sir/Madam,

Abstract for the International Ocean Science, Technology and Policy Symposium.

The above matter refers.

I would like to thank you for confirming your attendance to the International Ocean Science, Technology and Policy Symposium 2009 which will be held in Manado from 12 – 14 May 2009.

The Scientific Committee is pleased to inform you that your paper entitled:

Marine Health On Pregnancy

has been accepted for Oral Presentation as an Invited Speaker. We only cover the symposium registration fee and accomodation for the paper presenter. The committee will not cover your airfare.

This letter is considered as symposium invitation and could be used for visa application. On behalf of the local organizing committee, I would like to take this opportunity to officially welcome you to the symposium.

We thank you for your support and are looking forward to meet you in Manado in May 2009.

Sincerely Yours

Victor PH Nikijuluw

WOC, Symposium Coordinator

Hyperbaric Medicine: Safety Regulations and Infrastructure Support

Guritno

*Post Graduate Course in Occupational Medicine,
Faculty of Medicine, University of Indonesia, Jakarta, Indonesia*

The sub-aquatic or underwater environment is significantly different from the natural environment for humans. The underwater environment causes stresses to man due to changes in hydrostatic pressure, changes of density, partial pressure of breathing media gas, flora and fauna, and other environmental conditions. These changes in hydrostatic pressure, density, and partial pressure of breathing media gas cause physiological strains on the body (heart and blood vessels, lungs, central nervous system, ear). Adaptation failure during diving activities can cause pathological conditions such as barotrauma, gas intoxication and decompression or gas emboli. To prevent these pathological conditions, it is important to meet standard health prerequisites, to have the required diving skills and instruments, to observe safety regulations, and the infrastructure support should be available at the diving site.

Let's Make the Oceans a Safer Place: Minimum Medical Education Standards for Physicians in Recreational Diving and A Plea for International Certification of Diving Physicians

Dr. Jan-Jaap Brandt Corstius

Scott Haldane Foundation, Institute for Diving Medical Education, The Netherlands

Millions of recreational scuba divers dive in the oceans around the world. Though scuba diving is not an exceptionally dangerous activity, the number of diving accidents and fatalities is still considerable. Research projects give some idea about the causes of diving accidents. Too often, poor physical and/or mental fitness plays a major role in diving fatalities. In many countries, a diving medical examination is not mandatory for recreational divers. Though there is a clear need for skilled and well trained diving physicians, diving and hyperbaric medicine has not been incorporated in the standard education curriculum for medical students. To create sufficient well-trained and certified diving physicians, post-graduate education programs in diving medicine can fill this gap. To guarantee minimum quality, it is necessary to formulate criteria which need to be met by physicians in order to become certified diving medical examiners. This paper presents several examples of these criteria and education programs. It is important to reach international agreement about these criteria and the education programs to implement them. This can lead to a worldwide recognition of certified physicians in recreational diving and make the oceans a safer place for scuba divers.

Marine Health and Pregnancy

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In today's modern world, human activities have become highly complex, whether for work or for business, and especially for pregnant women, who should exercise greater care and vigilance when traveling, driving, or diving. Since as many as 50% of pregnancies are unplanned, women of reproductive age should consider getting immunization as part of their routine check-ups. Pre-conception immunizations are preferred to vaccination during pregnancy because they decrease the risk to the unborn child.

Marine Health on Pregnancy

John Wantania, Gahrani

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Medical Faculty of Sam Ratulangi University
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Abstract

Human activities in modern era nowadays are very complex, in term for business purposes or job requirement. These conditions create responsibility of their duty unavoidable even for a pregnant woman, such as how to have safety diving or travelling during pregnancy.

Marine health related to pregnant woman when travelling between countries often raise problems, such as immunization or pandemic diseases, which create consideration and exceptions to run routine preventative for marine health medicine. As we know in Indonesia has two seasons which rich of island might infect traveler diseases.

Since as many as 50% of pregnancies are unplanned, reproductive-aged women should consider maintaining current immunizations during routine check-ups in case an unplanned pregnancy coincides with a need of marine health. Preconceptional immunizations are preferred to vaccination during pregnancy, because they decrease risk to the unborn child.

Keyword: marine health, pregnancy

Introduction

Marine mean a general term for things relating to the sea or ocean. Research on marine health had given many benefit things especially regarding seafood for good outcome on pregnant women. Marine health now is an advance in medicine have helped avert many pregnancy- and delivery-related complications, these benefits are not always available at sea. Roughness of sea waters can affect pregnant females because their altered centre of gravity makes them less stable on their feet, and so they are prone to falls, injuries and sometimes premature contractions and labor.(1)

In modern era nowadays, human activities are very complex, in term for business purposes or job requirement. These conditions create responsibility of their duty unavoidable the sea even for a pregnant woman, such as how to have safety diving or shipping traveler during pregnancy. Understanding marine pregnancy will allow a crew to better assist in pregnancy cases onboard.

Beneficial of Marine Health on Pregnancy

It's well known that fish and seafood had many beneficial nutrients such as fish oil and minerals like calcium, chloride, potassium and iodine. But it can also harmful contaminants such as mercury, as we knew in Jakarta Indonesia by a previously government, there was trough out many becak where containing many metal materials to the Sunda Kelapa Sea. Both can affect brain development, fish and other seafood provide fatty acids including one called DHA, which important to the structure of the brain, but mercury is known to harm brain development. Because of the concerns about mercury pregnant women (and infants) have been discourage from eating large quantities of certain fish.

In prospective cohort study by Olsen SF et al in year 2006, reported the routine consuming seafood during pregnancy compare to pregnant women never consuming fish in the first two trimesters of pregnancy was an extremely strong risk factor to prevent preterm delivery and also associated with reduced risks of elective delivery and postterm delivery. (2)

In a follow-up study of 341 Massachusetts by Oken E et al in year 2008, reported mothers and their infants, researchers examined how much fish the mother ate during their second trimester (a period critical brain formation) and how much mercury they had accumulated. When the children turned 3 years of age, they were given test to measure visual motor abilities and other test to measure receptive vocabulary, which strongly related to intelligence. The author reported that mothers who ate the most fish had children with the highest test score, and mothers who had the highest mercury level had children with poorer test scores. When both the amounts of fish and mercury were consider together, the researchers discovered no overall adverse effect on child development with higher levels of fish intake indeed, eating fish more than twice a week was linked to improved child performance on testing. (3)

The mystery of sea and deep sea still has many things no research yet and many people in Asia were believed it good for treatment and diagnostic of the diseases. There was reported study using a marine fish meal provides a simple and acceptable method for confirmation of diagnosis of suspected trimethylaminuria in children, with the effects being cleared more quickly than with a choline load test.(4)

The Impact of Marine Health during Pregnancy

Beginning around 1950 with the introduction of practical scuba equipment, a few women began diving for recreation, for scientific work, and a few even for commercial purposes. Many medical practitioners did not understand about the risk of diving during pregnancy. Some of these women divers wondered about diving during pregnancy. Some early observations with pregnant animals indicated that there might be no problem. But in 1978, a group at a Texas university got some pregnant sheep which were close to term, put Doppler bubble-detection devices on the umbilical vessels of the fetus, sewed things up, and put the mothers in the chamber. In the depths and dive-durations at 60ft./60minutes that do not normally require decompression stops on ascent and most of the fetuses showed a lot of bubbles on decompression even though their mothers appeared normal.(5)

There is reason for a lot of concern about the possibility of causing developmental defects. No one is likely to conduct the sort of study of female divers during pregnancy. From the ethical standpoint, such a study would be indefensible no matter what it showed or how important it seemed at the time.

The advice to a diver who is or may be pregnant is to stop diving. The decompression isn't the only factor in diving that might harm a fetus or the mother. The altered centre of gravity makes them less stable on their feet, and so they are prone to falls, injuries and sometimes premature contractions and labor. Rupture of membrane is another common caused even prior to 37 weeks age of gestation, this event can cause premature labor and cause internal infection rates increased.

The other main issues affecting pregnancy are morning sickness, caused by hormonal changes, affects pregnant females to different degrees. Seasickness can compound morning sickness, making the sea journey intolerable for some, while not affecting others.

In multivariable study reported male and female during Gulf War veterans on the seaside did not significantly differ in risk for ectopic pregnancies, stillbirths, or miscarriages when compared with non deployed veterans of the same era. Even some study also reported their results suggest an association between service in the War and adverse reproductive outcomes for both male and female veterans during the 4 years after the war. In the USA, Congressional pressure, there's no way to deal with the problem of crew attrition because of pregnancy. In Indonesia, there is no policy yet regarding the activities of pregnancy women in the sea like sailor or shipping traveler. (6,7)

Travelling during Pregnancy

Marine health related to pregnant woman when travelling between countries often raise problems, such as immunization or pandemic diseases, which create consideration and exceptions to run routine preventative for marine health medicine. As we know in Indonesia has two seasons which rich of island might infect traveler diseases.

Otherwise, pregnant women who may be planning both pregnancy and international shipping traveler should consider preconceptional immunization, when practical, to prevent disease in the offspring. Since as many as 50% of pregnancies are unplanned, reproductive-aged women should consider maintaining current immunizations during routine check-ups in case an unplanned pregnancy coincides with a need to travel. Preconceptional immunizations are preferred to vaccination during pregnancy, because they decrease risk to the unborn child. A woman should defer pregnancy for at least 28 days after receiving live vaccines (e.g., MMR, yellow fever), because of theoretical risk of transmission to the fetus (8). However, no harm to the fetus has been reported from the unintentional administration of these vaccines during pregnancy, and pregnancy termination is not recommended after an inadvertent exposure. Vaccination of susceptible women during the postpartum period, especially for rubella and varicella, is another opportunity for prevention, and these vaccines should be encouraged and administered (even for breastfeeding mothers) before discharge from the hospital.

According to the American College of Obstetrics and Gynecology, the safest time for a pregnant woman to travel also shipping traveler is during the second trimester (18-24 weeks), when she usually feels best and is in least danger of spontaneous abortion or

premature labor. A woman in the third trimester should be advised to stay within 300 miles of home because of concerns about access to medical care in case of problems such as hypertension, phlebitis, or premature labor. Pregnant women should be advised to consult with their health-care providers before making any travel decisions. Collaboration between travel health experts and obstetricians is helpful in weighing benefits and risks based on destination and recommended preventive and treatment measures. Table lists in below relative contraindications to international travel during pregnancy. In general, pregnant women with serious underlying illnesses should be advised not to travel to developing countries.(9)

Potential contraindications to international travel during pregnancy

Obstetrical Risk Factors	General Medical Risk Factors	Travel to Potentially Hazardous Destinations
<ul style="list-style-type: none"> • History of miscarriage • Incompetent cervix • History of ectopic pregnancy (ectopic with current pregnancy should be ruled out before travel) • History of premature labor or premature rupture of membranes • History of or existing placental abnormalities • Threatened abortion or vaginal bleeding during current pregnancy • Multiple gestation in current pregnancy • Fetal growth abnormalities • History of toxemia, hypertension, or diabetes with any pregnancy • Primigravida at ≥ 35 years of age or ≤ 15 years of age 	<ul style="list-style-type: none"> • History of thromboembolic disease • Pulmonary hypertension • Severe asthma or other chronic lung disease • Valvular heart disease (if NYHA class III or IV heart failure) • Cardiomyopathy • Hypertension • Diabetes • Renal insufficiency • Severe anemia or hemoglobinopathy • Chronic organ system dysfunction requiring frequent medical interventions 	<ul style="list-style-type: none"> • High altitudes • Areas endemic for or with ongoing outbreaks of life-threatening food- or insectborne infections • Areas where chloroquineresistant <i>P. falciparum</i> malaria is endemic • Areas where livevirus vaccines are required and recommended

A pregnant woman who visits Indonesia should pay attention on travel medicine for developing country diseases, such as typhoid fever, malaria and tuberculosis. Indonesia has two seasons which might infect traveler with influenza cause by several viruses.

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