

Pencegahan dan Terapi Medikamentosa pada Batu Saluran Kemih

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TERBIT MINGGU PERTAMA TIAP BULAN

Medika

Jurnal Kedokteran Indonesia



■ ARTIKEL KONSEP

Travel Medicine on
Pregnancy

■ FOKUS

Terapi Non-farmakologis pada
Osteoporosis dan Osteoarthritis

■ ARTIKEL PENYEGAR

Meropenem, Antibiotik Handal
Lawan Infeksi pada Bayi & Anak

ISSN 0126-0901

No.06, TAHUN KE XXXVIII, JUNI 2012

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Fenomena Gizi Ganda Membayangi Kesehatan Anak Indonesia

Awal Juni adalah waktu yang tepat untuk merenungkan nasib anak bangsa, sesuai momentum hari anak internasional yang jatuh setiap tanggal 1 bulan ini. Untuk itu, marilah kita menoleh sejenak, bergotong royong merampungkan berjuta masalah yang melingkari generasi penerus kita ini. Salah satu yang utama adalah permasalahan gizi ganda.

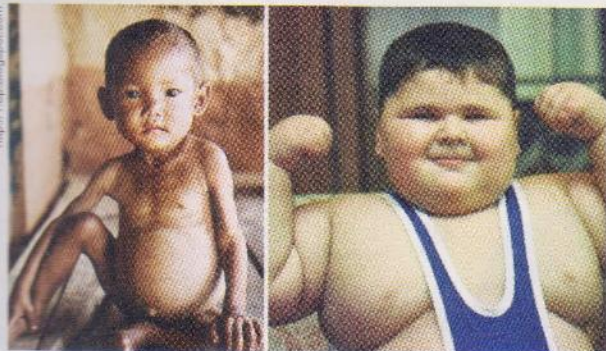
Penyebab utama kematian anak di Indonesia hingga saat ini masih dipegang oleh penyakit infeksi, yaitu pneumonia dan diare. Yang sering luput dari perhatian kita, malnutrisi sebenarnya ada di balik semua itu. *Global Strategy for Infant and Young Child (IYCF) 2003* bahkan secara tegas menyatakan bahwa 60% dari 10,9 juta kematian balita di dunia disebabkan oleh malnutrisi. Malnutrisi inilah yang membuat daya tahan anak menjadi suboptimal dan rentan terkena infeksi.

Lebih lanjut, fenomena gizi ganda di Indonesia semakin mencuat ke permukaan. Di satu sisi, Indonesia harus memerangi status gizi buruk yang menjadi dasar timbulnya berbagai penyakit infeksi, di sisi yang lain terdapat masalah kelebihan gizi yang menjadi penyebab meningkatnya prevalensi penyakit akibat gaya hidup dengan beragam komplikasi sistemik saat anak beranjak dewasa.

Permasalahan gizi kurang di Indonesia sebenarnya sudah dimulai sejak masa kandungan. Ketika berada di dalam kandungan, janin bergantung sepenuhnya pada asupan nutrisi ibu. Itulah sebabnya, ibu hamil dengan kekurangan energi kronis (KEK) berisiko 5 kali lebih besar melahirkan bayi dengan berat badan lahir rendah (BBLR) dibandingkan ibu hamil dengan status gizi yang baik. Depkes melaporkan prevalensi ibu hamil dengan KEK masih tinggi, yakni mencapai 16,7% pada 2003. Hal ini diperkirakan berkorelasi dengan 350 ribu bayi BBLR yang lahir di Indonesia setiap tahunnya.

Bukan hanya KEK masalah gizi yang dialami ibu selama hamil. Anemia defisiensi besi (ADB) juga menjadi masalah tersendiri. Bukanya, 50% ibu hamil di Indonesia mengalami ADB. Padahal, selain berkontribusi dalam hal tingginya angka kematian ibu, ADB juga meningkatkan risiko BBLR.

Di sisi ekstrem lainnya, terdapat bukti bahwa prevalensi kelebihan berat badan



Gizi kurang

Gizi lebih

(*overweight*) dan obesitas meningkat sangat tajam di seluruh dunia, termasuk di kawasan Asia Pasifik. Sayangnya, hingga saat ini belum ada data nasional mengenai obesitas pada anak. Namun, beberapa survei lokal dapat kita jadikan patokan. Prevalensi obesitas pada anak SD mencapai 9,7% di Yogyakarta dan 15,8% di Denpasar.

Angka-angka di atas seyogyanya menjadi gendang pengingat bagi kita bahwa obesitas dan segala implikasinya adalah ancaman serius bagi kesehatan anak. Obesitas dapat menyebabkan beberapa penyakit kronis pada anak, meliputi diabetes melitus tipe 2, dislipidemia, steatosis hepatic, gangguan gastrointestinal, dan obstruksi saluran napas. Selain itu, obesitas juga menyebabkan gangguan psikososial dan menurunkan kepercayaan diri anak.

Baik gizi kurang maupun gizi lebih masih menjadi bayang-bayang menakutkan dalam kesehatan anak di Indonesia. Peran praktisi medis sangat diharapkan dalam hal ini, mulai dari edukasi hingga penatalaksanaan malnutrisi. Mari berbenah diri dan berpartisipasi aktif dalam mencari solusi fenomena gizi ganda ini. Bersediakah Anda?

Medika
Jurnal Kedokteran Indonesia



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Rekening Bank a/n PT. Medika Media Mandiri :

BANK CENTRAL ASIA KCU Wahid Hasyim,

Jl KH. Wahid Hasyim No.183 A-B, Jakarta Pusat 10240,

No. AC: 028 311 2541

Diterbitkan Oleh :

PT. Medika Media Mandiri

Surat Izin Usaha Perdagangan (SIUP) Kecil :

Nomor : 06047-01/1.824.271. Tanggal 7 Maret 2012

ISSN 0126-0901 Rekomendasi Departemen Kesehatan

R.I. No. 803/VIII-Birhukmas/1975.

Tanggal 14 Agustus 1975.



<http://lifepregnancy.com>

Travel Medicine on Pregnancy

Introduction

Human activities in modern era nowadays is very complex, in term of bisnis or job requirement. These condition create travel across countries unavoidable even for a pregnant woman.

Eventough travel medicine is in advance stage, but 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 travel medicine.

Reproductive-aged women who may be planning both pregnancy and international travel 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. 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.¹ Preconceptional immunizations are preferred to vaccination during pregnancy, because they decrease risk to the unborn child. Planning for vaccination in pregnancy with killed or recombinant vaccines or planning for vaccination post partum with live-attenuated vaccines is appropriate. This offers an opportunity for protection of the neonate for the first 6 to 12 months of life.² 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.

According to the American College of Obstetrics and Gynecology, the safest time for a pregnant woman to travel is during the second trimester (18-24 weeks), when she usually feels best and is in least danger of spontaneous abortion or premature labor.³

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. In general, pregnant women with serious underlying illnesses should be advised not to travel to developing countries. Reproductive-aged women who may be planning both pregnancy and international travel should consider preconceptional immunization, when practical, to prevent disease in the offspring.⁴

Under IATA guidelines, pregnant women can be allowed to fly depending on their past history, number of fetuses carried and weeks of gestation. For example, an uncomplicated single pregnancy may be accepted in weeks 36 to 38, if the flying time doesn't exceed four hours. But a complicated multiple pregnancy may not be accepted beyond 32 weeks (aircrew are not midwives and there is no paediatric intensive care on the plane). But many airlines will not carry pregnant women after 36 weeks. Airlines normally refuse to fly pregnant women who have previously given birth prematurely (pre-term) or have had blood clots in the veins of their legs.⁵

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

Preparation for Travel During Pregnancy

Travelers intending to visit a destination in a developing country should consult a travel medicine clinic or medical practitioner before the journey. This consultation should preferably take place 4–6 weeks before the journey, particularly if vaccination(s) may be required.⁶ Once a pregnant woman has decided to travel, a number of issues need to be considered before her departure.

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- An intrauterine pregnancy should be confirmed by a clinician and ectopic pregnancy excluded before beginning any travel.
- Health insurance should provide coverage while abroad and during pregnancy. In addition, a supplemental travel insurance policy and a prepaid medical evacuation insurance policy should be obtained, although most may not cover pregnancy-related problems.
- Check medical facilities at the destination. For a woman in the last trimester, medical facilities should be able to manage complications of pregnancy, toxemia, and cesarean sections.
- Determine beforehand whether prenatal care will be required abroad and, if so, who will provide it. The pregnant traveler should also make sure prenatal visits requiring specific timing are not missed.
- Determine, before traveling, whether blood is screened for HIV and hepatitis B at the destination. The pregnant traveler should also be advised to know her blood type, and Rh-negative pregnant women should receive the anti-D immune globulin (a plasma-derived product) prophylactically at about 28 weeks gestation. The immune globulin dose should be repeated after delivery if the infant is Rh positive.

<http://cdn.stylishandtrendy.com>



General Recommendations for Travel

A pregnant woman should be advised to travel with at least one companion; she should also be advised that, during her pregnancy, her level of comfort may be adversely affected by traveling. With increasing altitude, the pressure volume relationship for gases results in expansion of gas trapped in body cavities. Difficulty in equalizing pressure in the middle ear and sinus cavities most often occurs during descent from altitude. Hyperplasia of tissue in the nasal cavity and pharynx during pregnancy may accentuate this problem. Intestinal gas expansion at altitude could cause additional discomfort in late pregnancy due to abdominal crowding. For this reason, it is prudent to avoid gas-producing foods in the days before a scheduled flight.⁷ Pregnant women should always use seatbelts while seated, as air turbulence is not predictable and may cause significant trauma. The wearing of seat belts in both aircraft and cars is recommended for all pregnant women. They should be worn, as far as possible, low over the pelvis. For pregnant

women, the risk of damage from wearing a seat belt is considered to be less than that caused by not wearing one⁽⁵⁾. The air humidity in the cabins of passenger aircraft is kept at only 8 per cent — so pregnant women should drink plenty, particularly on long flights.⁵

Common advice includes prophylactic mobilization, fluid intake, leg exercises, and use of prophylactic acetylsalicylic acid and compression stockings in the first trimester of pregnancy.⁸

Greatest Risks for Pregnant Travelers

Motor vehicle accidents are a major cause of morbidity and mortality for pregnant women. When available, safety belts should be fastened at the pelvic area. Lap and shoulder restraints are best; in most accidents, the fetus recovers quickly from the safety belt pressure. However, even after seemingly mild blunt trauma, a physician should be consulted.

It is important to note that there is a background risk of birth defects (3%) and miscarriage (15%) in the first trimester. Studies on pregnant cabin crewmembers have suggested that there is a slightly increased risk of spontaneous abortion among female cabin crewmembers who continue to work during their early pregnancy. However, this result may not be extrapolated to pregnant passengers who do not travel as frequently during their early pregnancy.⁹

Pregnant women should be advised that the best preventive measures are to avoid potentially contaminated water and food, as with other enteric infections.

Scuba diving should be avoided in pregnancy because of the risk of decompression syndrome in the fetus.

Specific Recommendations for Pregnancy

Air Travel During Pregnancy

Commercial air travel poses no special risks to a healthy pregnant woman or her fetus. The American College of Obstetricians and Gynecologists (ACOG) advises that healthy women with uncomplicated pregnancies may travel observing the same safety measures as the general population. The safest time for a pregnant woman to travel is between 18 and 24 weeks, when the most common obstetric problems are least likely to occur.⁸ The lowered cabin pressures (kept at the equivalent of 1,524-2,438 meters [5,000-8,000 feet]) affect fetal oxygenation

minimally because of the favorable fetal hemoglobin-oxygen dynamics. If required for some medical indications, supplemental oxygen should be arranged in advance. Severe anemia, sickle-cell disease or trait, or history of thrombophlebitis are relative contraindications to flying. Pregnant women with placental abnormalities or risks for premature labor should avoid air travel.¹⁰ Each airline has policies regarding pregnancy and flying; it is always safest to check with the airline when booking reservations, because some will require medical forms to be completed. Domestic travel is usually permitted until the pregnant traveler is in week 36 of gestation, and international travel may be permitted until weeks 32-35, depending on the airline.⁸ A pregnant woman should be advised always to carry documentation stating the expected day of delivery.

Airport security radiation exposure is minimal for pregnant women and has not been linked to an increase in adverse outcomes for unborn children to date.¹¹ A pregnant passenger may request a hand or wand search rather than being exposed to the radiation of the airport security machines.

An aisle seat at the bulkhead will provide the most space and comfort, but a seat over the wing in the midplane region will give the smoothest ride. Because aircraft seating is usually cramped and passengers tend to remain immobile for long periods, there is the risk of lower extremity edema, thrombophlebitis, and deep venous thrombosis. Pregnancy significantly increases this risk due to obstruction of the vena cava from uterine compression, dependent lower extremities, and altered clotting factors.⁷ A pregnant woman should be advised to walk every half hour during a smooth flight and flex and extend her ankles frequently to prevent phlebitis. The safety belt should always be fastened at the pelvic level. Dehydration can lead to decreased placental blood flow and hemoconcentration, increasing risk of thrombosis. Thus, pregnant women should drink plenty of fluids during flights.

For pregnant flight attendants and pilots, working air travel is restricted by most airlines by 20 weeks gestation.¹⁰

Travel to High Altitudes During Pregnancy

Acclimatization responses at altitude act to preserve fetal oxygen supply, but all pregnant women should avoid altitudes higher than 3,658 meters (12,000 feet). In addition,

altitudes higher than 2,500 meters (8,200 feet) should be avoided in late or high-risk pregnancy. Pregnant women who must travel to high altitude should postpone exercise until acclimatized.

With increasing altitude, the pressure volume relationship for gases results in expansion of gas trapped in body cavities. Difficulty in equalizing pressure in the middle ear and sinus cavities most often occurs during descent from altitude. Hyperplasia of tissue in the nasal cavity and pharynx during pregnancy may accentuate this problem. Intestinal gas expansion at altitude could cause additional discomfort in late pregnancy due to abdominal crowding. For this reason, it is prudent to avoid gas-producing foods in the days before a scheduled flight.⁷

Land Travel during Pregnancy

Whether going by car, bus, or train, it is generally safe to travel while pregnant; however, there are some things to consider that would make the trip safer and more comfortable :

- If traveling with car, it is essential to buckle-up and use the lap and shoulder belts for the best protection. The lap belt is wear low on the hipbones (always below growing belly) and snugly. The shoulder belt should not wear under the arm, but place it across the center of chest. The air bag must never be turn off because the safety benefits of the air bag outweigh any potential risk to the mother and the baby.
- If traveling with public transportation such as train and bus, the safest thing is to remain seated while the bus / train is moving and when the pregnant woman need to get up while in motion, hold on-



<http://www.bimcbail.com>



to the railings or seats at all times when walking around to avoid injury from sudden stops or bumps.

- Although it is generally safe to travel while pregnant it is better to limit the amount of hours on the road to 5-6 hours, if possible. Being cooped up in a vehicle for long periods of time can be incredibly tiring, even when the mother not expecting.
- The pregnant woman can take advantage of rest areas for short 5-10 minute walks or at least to get out and stretch to keep blood circulating properly and to keep legs from cramping up. Bring a pillow (or two) along to make travel more comfortable and wear loose, stretchy clothes and comfortable shoes for additional comfort along the way while traveling.

Sea Travel during Pregnancy

Most cruise lines have a much earlier cut-off period for pregnant travelers than airlines do. Usually, the pregnant woman can travel through 26 weeks, given there are no pregnancy complications. Some cruise lines won't allow pregnant women to board past 24 weeks. So, the pregnant woman must ask about restrictions before making reservations. The pregnant woman should keep in mind that the motion of sea travel may very well upset stomach during pregnancy, especially if this is the first time. Traveling by sea is generally safe for women while they are pregnant, but there are a few considerations to make the trip safer and more comfortable :

- Check with the cruise line to ensure that there is a health care provider on board in case there are any complications.
- Review the route and port-of-calls to identify if there is access to any medical facilities if needed.
- Make sure any medications for seasickness are approved for women who are pregnant and that there is no risk to the developing baby.
- Seasickness bands use acupressure to help prevent upset stomach and may be a good alternative to medication.
- If possible, choose for a larger ship. They tend to be the most stable which may help tremendously with warding off seasickness.

Food and Waterborne Illness During Pregnancy

It is especially important for pregnant women to adhere strictly to food and water precautions in developing countries because

the consequences may be more severe than diarrhea and may have serious sequelae (e.g., toxoplasmosis).

Suspect drinking water should be boiled to avoid long-term use of iodine-containing purification systems. Iodine tablets can probably be used for travel up to several weeks, but congenital goiters have been reported in association with administration of iodine-containing drugs during pregnancy. Oral rehydration is the mainstay of therapy for travelers' diarrhea. Bismuth subsalicylate compounds are contraindicated because of the theoretical risks of fetal bleeding from salicylates and teratogenicity from the bismuth. The combination of kaolin and pectin may be used, and loperamide should be used only when necessary. The antibiotic treatment of travelers' diarrhea during pregnancy can be complicated. Azithromycin or an oral third-generation cephalosporin may be the best options for treatment if an antibiotic is needed.

Malaria During Pregnancy

Malaria in pregnancy carries significant morbidity and mortality for both the mother and the fetus. Pregnant women should be advised to avoid travel to malaria-endemic areas if possible. Women who do choose to go to malarious areas can reduce their risk of acquiring malaria by following several preventive approaches. Because no preventive method is 100% effective, they should seek care promptly if symptoms of malaria develop. Pregnant women traveling to malarious areas should 1) remain indoors between dusk and dawn, if mosquitoes are active outdoors during this time; 2) if outdoors at night, wear light-colored clothing, long sleeves, long pants, and shoes and socks; 3) stay in well-constructed housing with air-conditioning and/or screens; 4) use permethrin-impregnated bed nets; and 5) use insect repellents containing DEET as recommended for adults, sparingly, but as needed. Pyrethrum-containing house sprays may also be used indoors if insects are a problem. If possible, remaining in cities or areas of cities that are at low (or lower) risk for malaria can help reduce the chances of infection. Pregnant travelers should be under the care of providers knowledgeable in the care of pregnant women in tropical areas (12). For women taking malarial prophylactic medications in anticipation of travel, no data link these medications to congenital malformations, so CDC does not

<http://www.modernpregnancytips.com>



recommend that women planning pregnancy need to wait a specific period of time after their use before becoming pregnant.⁴

For pregnant women who travel to areas with chloroquine-sensitive *Plasmodium falciparum* malaria, chloroquine has been used for malaria chemoprophylaxis for decades with no documented increase in birth defects. For pregnant women who travel to areas with chloroquine-resistant *P. falciparum*, mefloquine should be recommended for chemoprophylaxis during the second and third trimesters.¹⁰ For women in their first trimester, most evidence suggests that mefloquine prophylaxis causes no significant increase in spontaneous abortions or congenital malformations if taken during this period.¹⁰

Because there is no evidence that chloroquine and mefloquine are associated with congenital defects when used for prophylaxis, CDC does not recommend that women planning pregnancy need to wait a specific period of time after their use before becoming pregnant.¹⁰ Doxycycline and primaquine are contraindicated for malaria prophylaxis during pregnancy, because both may cause adverse effects on the fetus.¹⁰

Malaria must be treated as a medical emergency in any pregnant traveler. A woman who has traveled to an area that has chloroquine-resistant strains of *P. falciparum* should be treated as if she has illness caused by chloroquine-resistant organisms. Because of the serious nature of malaria, quinine or intravenous quinidine should be initiated, and the case should be managed in consultation with an infectious disease or tropical medicine specialist. The management of malaria in a pregnant woman should include frequent blood glucose determinations and careful fluid monitoring; these requirements may necessitate intensive care supervision. Besides prophylaxis, barrier measures such as use of clothing to reduce skin exposure, avoidance of mosquito feeding periods at dawn and dusk, and use of insect repellents and mosquito netting for sleep are highly recommended.⁷

Immunizations

As pregnancy is considered to be an immunologically competent status, a full and unaltered response to immunization is expected.¹ However, given the theoretical risks to the fetus following administration of vaccines, it is essential that the obstetrical care provider counsel the pregnant woman

with respect to the risks and benefits of vaccines, as well as potential exposure to the diseases the vaccines are expected to prevent.²

Risk to a developing fetus from vaccination of the mother during pregnancy is primarily theoretical. No evidence exists of risk from vaccinating pregnant women with inactivated virus or bacterial vaccines or toxoids. The benefits of vaccinating pregnant women usually outweigh potential risks when the likelihood of disease exposure is high, when infection would pose a risk to the mother or fetus, and when the vaccine is unlikely to cause harm.

Vaccination against diseases in the first category are basic ones that everyone should receive. Although there is not unanimity in the medical community worldwide, these vaccines, in general, include measles, mumps, rubella, diphtheria, pertussis, tetanus, H. influenzae, and polio. Bacille-Calmette-Guerin (BCG) vaccination is also administered in many countries.⁷

Given the possible risks, live and live-attenuated vaccines should not be given in pregnancy unless there are special circumstances and the benefits clearly outweigh the theoretical risks. For example, if a pregnant woman must travel to an endemic area for yellow fever, the vaccine may need to be administered, even though it is a live attenuated vaccine, when the risk of exposure is high and the travel cannot be postponed.²

The following information is intended for women who may require immunizations during pregnancy. Pregnant travelers may visit Indonesia where diseases eliminated by routine vaccination in the developed countries are still endemic and therefore may require immunizations before travel.

Women who are pregnant or planning to become pregnant should not receive the varicella vaccine. Nonimmune pregnant women should consider postponing travel until after delivery when the vaccine can be given safely. Varicella zoster immune globulin (VZIG) should be strongly considered within 96 hours of exposure for susceptible, pregnant women who have been exposed. However, VZIG may not be readily available overseas.⁴

For travelers going to countries with a high prevalence rate, the HAV vaccine (administered at least 4 wk prior to departure) should be considered for prophylaxis. (HAV vaccine is effective in children 2 yr of age or older.) Immune globulin can also be given

with the first vaccine dose in the event of emergency travel to a high risk area. Because of the vaccine's short term efficacy, a booster dose should be given 6-24 mo after the first dose.⁷

No data are available on the use of either typhoid vaccine in pregnancy. The Vi capsular polysaccharide vaccine (ViCPS) injectable preparation is the vaccine of choice during pregnancy because it is inactivated and requires only one injection. The oral Ty21a typhoid vaccine is not absolutely contraindicated during pregnancy, but it is live-attenuated and thus has theoretical risk. With either of these, the vaccine efficacy (about 70%) needs to be weighed against the risk of disease.⁴

If traveling to or transiting regions within a country where the disease is not a current threat but where policy requires a yellow fever vaccination certificate, pregnant travelers should be advised to carry a physician's waiver, along with documentation (of the waiver) on the immunization record. In general, pregnant women should be advised to postpone travel to areas where yellow fever is a risk until after delivery, when vaccine can be administered to the mother without concern of fetal toxicity. Travelers with infants <9 months of age should be strongly advised against travelling to areas within the yellow fever-endemic zone.⁴

BCG vaccine, used outside the United States for the prevention of tuberculosis, can theoretically cause disseminated disease and thus affect the fetus. Although no harmful effects to the fetus have been associated with BCG vaccine. Skin testing for tuberculosis exposure before and after travel is preferable when the risk is high.⁴

Because of the increased risk for influenza-related complications, women who will be beyond the first trimester of pregnancy (>14 weeks gestation) during the influenza season of their travel destination should be vaccinated, when vaccine is available. Further, those with chronic diseases that increase their risk of influenza-related complications should be vaccinated, regardless of gestational dates. Data from influenza immunization of >2,000 pregnant women have not demonstrated an association with adverse fetal effects⁽⁴⁾. ■

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