

# Academic websites containing H1N1 swine flu information need to provide content on therapeutic options including vaccines and neuraminidase-inhibitors for pregnant women: Time for a Policy Statement on web site content

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We retrospectively reviewed 21 National Australian University academic websites for swine flu guidelines for pregnancy and therapeutic measures. This study was conducted at the height of the swine flu epidemic in Australia, August 2009. No detailed information on the use and safety of neuraminidase-inhibitors, across population sub-groups were identified within the content pages of Australian University Websites. Further concern was an absence of information on which antiviral and vaccination treatments are appropriate for pregnant women and breastfeeding mothers. Pregnant women are at high risk of developing severe illness and related complications with the onset of swine flu. It is thus important that pregnant women have access to adequate web site information and updated information advising on appropriate use of anti-viral neuraminidase-inhibiting drugs and treatment, vaccination and options for associated fever and information that they represent a high risk subgroup. This mini-commentary provides useful information and a relevant web link (<http://www.rcog.org.uk/news/swine-flu-alerts>) for inclusion on academic websites to inform pregnant women on effective therapeutic information that can be communicated via university and health web sites even after a swine flu pandemic.

## **Australian University academic websites were reviewed and contained no (swine flu) content on preventive and treatment measures to be undertaken by pregnant women.**

June 2010 The World Health Organization has not altered the global pandemic status from phase 6. Pregnant women of any trimester are at higher risk of both becoming infected and developing greater respiratory complications if infected with swine flu compared to the general population [1]. The World Health Organization has estimated that 7% to 10% of all hospitalized patients are pregnant women in their second or third trimester of pregnancy [1, 2]. Pregnant women are ten times more likely to be admitted to an intensive care unit compared to the general population [1].

Pregnant women left untreated with swine flu, are also at greater risk of fetal malformations, brain damage, particularly if exposed to the virus in the first trimester [1], it is likely that these malformations are as a result of high fevers associated with swine flu. While women in the third trimester, are far more likely to be hospitalized for lung and heart disease than women who recently delivered a child (considered the closest comparison group) [2]. There's also a risk to the fetus in the third trimester if infected. In past pandemics of flu, there were high rates of sti-

llbirth, spontaneous abortion, and premature delivery among pregnant women who had the flu.

Current studies confirm that the neuraminidase-inhibitors oseltamivir is safe to use in pregnancy as there are no known teratogenic effects [2, 3]. Some medical practitioners and pregnant mothers have been reluctant to consider neuraminidase-inhibitors for acute flu like infections in the past [2], not dissimilar to the slow uptake of the swine flu vaccine for preventative measures in population sub-groups at present.

Use of academic websites to convey swine flu treatment and prevention information to pregnant women is a useful and effective means of communication. Studies have found that certain sites which are deemed to be "trustworthy" and credible sources are an effective way for individuals to access health information [5]. Academic websites are widely accessible and they target a wide scope of the population including young educational adults in child bearing years. The purpose of this commentary is to provide suggested information on the use of neuraminidase-inhibitors in pregnant women for swine flu treatment. This treatment policy information can be used for academic websites.

## Description of Treatment in Pregnant women to be included in academic website content:

Each academic website which provides information on swine flu will benefit from a description of the treatment and chemoprophylaxis of the neuraminidase-inhibitors oseltamivir and zanamivir. An emphasis on the importance of seeking treatment and therapeutic intervention early. For example, the neuraminidase-inhibitor treatment should commence within 48 hours of the onset of viral symptoms, within this time therapeutic benefit will be most effective and decrease the risk of severe complications and likely admission to an ICU [1, 2, 3, ]. A Oseltamivir 75mg tablet twice a day is the most effective dose for five days.

Oseltamivir (Tamilflu®) is the preferred anti-viral medication for pregnant women as this has undergone preliminary trials and there are no known teratogenic effects [3]. Oseltamivir is metabolized by the placenta and thus a small and insignificant dose is exposed to the fetus [3].

Anti-viral medications should be purchased only from registered pharmacies and a prescription from a physician is required [6]. A warning of the purchasing of medication online should be disclosed as there is a risk they could be counterfeits and may induce a delay in obtaining the medications [3, 6].

Temperature should be monitored several times a day in pregnant women during flu like symptoms [4]. A fever caused by H1N1 swine flu can be very high, for example, above 39 degrees C. Paracetamol is known to be safe in pregnancy and can be taken to treat a fever. Each dose of paracetamol - one to two 500 milligram (mg) tablets - lasts about four hours, and a maximum of 4g (eight 500mg tablets) can be taken in 24 hours. If paracetamol does not help bring down the temperature, advice on use of a wet towel to tepid sponge while in front of a fan or air-conditioned room is very effective for immediate lowering of temperature.

Vaccination is recommended for this high risk group. The Joint Committee on Vaccination and Immunisation advises that Pandemrix should be given to pregnant women as it gives adequate levels of antibodies after a single dose, rather than Celvapan, which requires a two dose schedule given three weeks apart. Both vaccines are licensed at any stage of pregnancy [7].

**Rationale Statement** The use of neuraminidase-inhibitors can significantly reduce the risk of the onset of severe flu symptoms and potential fatalities in pregnant women as well as fetal abnormalities. Temperature should be monitored and treated. Academic websites which supply adequate information to this high-risk group provide an effective means of communication in regard to the importance of vaccination and acquiring immediate

treatment if flu symptoms occur during a swine flu outbreak and post outbreak [4, 6]. In summary, links to pre-existing sites providing regular updated information for swine flu and pregnancy/ treatment / prevention in the global context such as <http://www.rcog.org.uk/news/swine-flu-alerts> would be useful inclusions on university and health service websites.

## Key points

- Pregnant women and infants are at high risk of contracting swine flu
- All data lend support to the present recommendation to promptly treat pregnant women with H1N1 influenza virus infection with anti-influenza drugs. Strongly recommended that Oseltamivir medication is started within 48 hours of the onset of symptoms.
- Pregnant women are at a higher risk of swine flu related complications including admission to ICU during second and third trimesters.
- Swine flu Vaccination is encouraged for all Pregnant women during any stage of pregnancy
- Infected mothers may breastfeed. Infected mothers should wear a mask while breastfeeding the infant.
- It is important to control temperature with the onset of infection and the use of Paracetamol
- Oseltamivir will not harm the developing fetus
- Because of more data about its safety in pregnancy, the use of oseltamivir is preferred over zanamivir during pregnancy.
- Oseltamivir is considered to be compatible with breastfeeding.
- All websites should have a link to a <http://www.rcog.org.uk/news/swine-flu-alerts>

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