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New online map of Global Midwives Associations

The International Confederation of Midwives (ICM) has launched its online interactive map of Global Midwives Associations. This map displays the reach of the ICM worldwide. Globally, ICM supports 500,000 midwives who are members of 131 autonomous midwives associations in 113 countries.

Using the map interactively it is easy to click on countries and find the midwifery association, the percentage of midwives who are members of the association, the midwifery educational institutions and information about midwives' regulation.

Overall, there are over 7000 midwifery educational institutions and 1.1 million midwives in these 113 countries. Worldwide, there are far more midwives if it is considered that there are approximately 80 countries who have yet to join the Confederation or to establish a midwives association.

http://internationalmidwives.org/assets/components/map/index.html.

WHO and UNICEF Global breastfeeding scorecard 2017

Breastfeeding is one of the most effective investments a country can make to ensure a healthy and thriving population. It protects children from many illnesses, increases IQ and promotes a strong bond between mother and infant. It is a powerful practice, and one that has huge implications for a country's future prosperity.

WHO and UNICEF have established recommendations for breastfeeding practices. Although every mother decides herself how to feed her child, this decision is strongly influenced by economic, environmental, social and political factors. The Global Breastfeeding Scorecard analyses indicators on how countries protect, promote and support breastfeeding through funding or policies. Worldwide, performance on recommended policies and programmes for breastfeeding is poor. No country is highly compliant on all indicators, illustrating that substantial progress on all fronts is needed. As a result, most children in the world are not fed in a way that meets these breastfeeding recommendations.

In recognition of this, the Global Breastfeeding Collective, a partnership led by UNICEF and WHO, has set targets for all of the indicators listed, as well as four critical breastfeeding practices, to be met by 2030. The first of these is 70% of newborns to be breastfed within an hour of birth, a target that midwives can help to meet.

The Global Breastfeeding Scorecard stands as an urgent call to action for policy makers and practitioners worldwide. Hundreds of thousands of lives could be saved each year and numerous ill-health conditions be prevented if countries committed to changing policies and providing greater funding to support breastfeeding. Societies could ensure a healthier, more productive workforce by investing in such simple practices.

The Scorecard, including country profiles and world maps to display data, was released at the start of World Breastfeeding Week alongside a new analysis demonstrating that an annual investment of only US$4.70 per newborn is required to increase the global rate of exclusive breastfeeding among children under six months to 50 per cent by 2025. 'Nurturing the Health and Wealth of Nations: The Investment Case for Breastfeeding' is co-authored by the Global Breastfeeding Collective, WHO, UNICEF and others.

http://www.who.int/nutrition/publications/infantfeeding/global-bf-scorecard-2017/en/.

http://www.who.int/nutrition/publications/infantfeeding/global-bf-collective-investmentcase.pdf?ua=1.

Human milk sugars may protect against group B strep

In babies, group B streptococcus (GBS) infection can result in severe illnesses such as sepsis, pneumonia and meningitis.

There are two main types of GBS disease in babies: those that occur in the first week of life (early-onset) and those that occur up to age 3 months (late-onset).

Human milk contains sugars that may protect against GBS. The scientists behind the discovery suggest that the sugars might also prevent biofilms, which are a particularly stubborn form of infection.

The study is the first to show that carbohydrates in human milk could work against biofilms, say the researchers, from Vanderbilt University, Nashville, TN, USA.

If their findings are confirmed, the sugars might form part of antimicrobial treatments for babies and adults. They might also reduce reliance on some common antibiotics, says senior investigator Professor Steven Townsend.

The team recently presented the study at the American Chemical Society's 254th National Meeting & Exposition, held in Washington, DC, and they reported it in the journal *ACS Infectious Diseases*.

In their study report, the researchers explain that GBS can infect the fetal membranes during pregnancy. Another route of infection from the mother is thought to be from the vagina during childbirth.

Much of the success in reducing early-onset infection is the result of giving women who test positive for GBS in their last trimester a course of antibiotics during labour. This does not necessarily prevent late-onset cases, however.

Around 10 years ago, researchers discovered that in a few late-onset cases of group B strep in babies, the route of infection appeared to be

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via breast milk, despite the fact that it also has antibacterial properties. However, because most babies do *not* become infected, the Vanderbilt University team decided to explore if human milk might also contain some compounds that specifically protect against GBS.

Townsend explains, "As carbohydrate chemists, we knew that milk carbohydrates are protective against other bacteria, so we figured there would be a chance they would be active against GBS, too.".

He and colleagues set up a pilot study wherein they collected samples of breast milk from five donor mothers. They did not know whether the donors were positive or negative for GBS.

The team then separated out oligosaccharide compounds - a group of complex sugars - from the human milk samples and used them to grow GBS.

The results showed that sugars from the breast milk of one donor nearly wiped out all the cultured bacteria. Sugars from another donor had a moderate effect, the other three minimal effect.

The researchers found that in the case of the effective sample, the sugars also destroyed GBS biofilms. (Bacteria form biofilms - which can be very hard to treat - by surrounding themselves with a 'gooey' excreted substance).

The team is currently testing human milk samples from another 12 donors to see if they produce the same results.

The results so far show that two of the samples are active against both microbial and biofilm forms of group B strep. Another two appear to work for microbial but not biofilm forms, while a further four work against biofilm but not microbial forms.

Initial findings also suggest that some of the samples contained sugars that make GBS more vulnerable to erythromycin, penicillin, and other antibiotics.

Should further research confirm their findings, these human milk sugars could form part of treatment for bacterial infections in both adults and babies. They might also help to reduce our reliance on antibiotics.

https://www.acs.org/content/acs/en/pressroom/newsreleases/2017/august/sugars-in-some-breast-milk-could-help-protect-babies-from-group-B-strep.html.

Environmental health policies for women's, children's and adolescents' health

Experts from WHO's Department of Public Health, Environmental and Social Determinants of Health have summarised environmental health risks that especially affect women and children in a recent paper. Exposures to environmental contaminants create greater risks for children's developing bodies and cognitive functions. According to the 2016 World Health Organization (WHO) estimates, modifiable environmental risk factors cause about 1.7 million deaths in children younger than five years and 12.6 million total deaths every year.

Although the *Global strategy for women's, children's and adolescents' health (2016–2030)* was launched during the UN Sustainable Development Summit 2015, governments rarely recognise the sustainable development agenda as a transformative factor for health. The sustainable development goals (SDGs) offer opportunities for countries to create healthier environments for women, children and adolescents.

For instance, household air pollution from dirty fuels and inefficient cookstove technologies was estimated to have caused around 4 million premature deaths in 2012 and was responsible for more than half of deaths due to childhood pneumonia.

Improving access to reliable electricity and clean water in health-care facilities can also help reduce maternal and newborn mortality, as such infrastructure is a critical determinant of quality of care. A review of health-care facilities in 11 sub-Saharan African countries showed that an average of 26% of facilities had no electricity whatsoever. Another review of 54 low- and middle-income countries found that 38% of health facilities lack clean drinking water. Ensuring that health-care facilities have access to power and water is a minimum requirement for attracting women to facilities and providing quality services for safe childbirth.

Air pollution is just one of the routes by which environmental contaminants affect children's development, both *in utero* and in the early years of life. Estimates show that about 200 million children worldwide fail to reach their full potential due to, among other things, toxic exposures to lead and mercury, either directly or through water, foods and waste. Both mercury and lead negatively affect the nervous system of the developing fetus and slow the cognitive development of young children.

While noncommunicable diseases now constitute two-thirds of the environmentally-related health burden, controlling environmentally-related infectious diseases also remains a challenge.

Infectious diseases continue to present significant risks for the unborn child and for young children whose adaptive immune systems are under-developed. For example, unplanned urbanisation, often characterised by poor housing and deficient environmental services for water, waste and sanitation, is a factor in vector-borne disease transmission.

The Zika virus can cause congenital Zika virus syndrome, including microcephaly. Urban planning that reduces vector breeding sites and improves house-screening measures, may help protect women and children from bites and reduce transmission risks of vector-borne diseases.

Numerous recent health sector resolutions pave the way for closer alignment between women's and children's health and economic development goals. For instance the 2015 World Health Assembly (WHA) resolution: *Health and the environment: addressing the health impact of air pollution* explicitly recognised the impacts of air pollution on vulnerable groups, calling for greater leadership by the health sector.

Awareness-raising is also important for motivating the public and politicians to tackle environment and health risks. The global Breathe Life campaign (www.breathelife2030.org), which addresses public health and climate change goals simultaneously, is promoting awareness about air pollution by providing a platform where cities can commit to WHO air quality goals, and share best practices and progress. The platform also educates the public about air pollution and actions to take.

Using the SDGs to make cities healthier, promote cleaner air and water, and ensure clean, reliable energy access in climate resilient health-care facilities will reduce pollution-related deaths and illnesses, particularly among women and children. Therefore, interventions addressing environmental health risks should be integral to the vision of the global strategy.

Neira M et al. Department of Public Health, Environmental and Social Determinants of Health, WHO. Bulletin of the World Health Organization 2017;95:604-606. http://dx.doi.org/http://dx.doi.org/10.2471/BLT.16.171736

How the human immune system changes as pregnancy progresses

Preterm birth is the leading cause of death in children under the age of 5, according to the World Health Organization (WHO). In 2015, this resulted in nearly 1 million deaths worldwide. Globally, the number of preterm births is on the increase. Those who survive can face life-long complications.

In a study exploring the role of the immune system in pregnancy, and potentially in preterm birth, Dr. Brice Gaudilliere - an assistant professor at Stanford University in California, USA - and colleagues built a comprehensive model of how human immune cells behave during a normal pregnancy.

The process of pregnancy was formerly likened to organ transplantation. Scientists thought that the maternal immune system had to be