

Antimicrobial Resistance

Taking action to conserve life-saving medicine

"A post-antibiotic era means, in effect, an end to modern medicine as we know it. Things as common as strep throat or a child's scratched knee could once again kill."

-Dr. Margaret Chan, Director General of the World Health Organization
Keynote Address, Conference On Combating Antimicrobial Resistance, Copenhagen, Denmark (March 14, 2012)



The development of Penicillin in the early 20th century has prevented thousands, even millions of people from dying of bacterial infections. As the century progressed, a wealth of better medicines led to stronger weapons against malaria, tuberculosis, and other communicable diseases. By the end of the millennium, new medicine meant that even HIV could become more of a chronic disease.

But if the world does not move now to preserve the ability to treat infectious diseases that played such a key part in increasing life expectancy and improving

human health, the 21st century may see the reversal of that progress.

Infections caused by resistant microorganisms often fail to respond to conventional treatment, resulting in prolonged illness, greater risk of death and higher costs. For example, Tuberculosis strains resistant to Isoniazid and Rifampicin (multidrug-resistance — MDR-TB) require treatment courses that are much longer and less effective. The World Health Organisation (WHO) estimates that there are about 6,30,000 MDR-TB cases in the world. The greatest challenge is that new resistance

mechanisms have emerged, making the latest generation of antibiotics virtually ineffective.

Experts from WHO identified two major problems behind this resistance. First, people may have taken medicine unnecessarily or not as they should be taken. Second, the medicine have not always been top quality. The natural reaction of bacteria, viruses and other pathogens is to fight back against the medicines people take to get rid of them. If people do not take medicine long enough or if the drugs are not strong enough, resistant pathogens can survive and spread. This, in turn,

means that people can remain ill longer and may be more likely to die.

Misuse of medicine in people is not the only problem, however. The development of antimicrobial resistance is also driven by widespread use of antibiotics in livestock to promote growth and prevent illness. The spread of antibiotic resistance in livestock contributes to the spread of resistance in humans through food-borne illness and other routes of infection. The spread of resistance is further exacerbated by travel and population movement, making it easier for drug-resistant forms of a disease to spread to more people, and from one location to another.

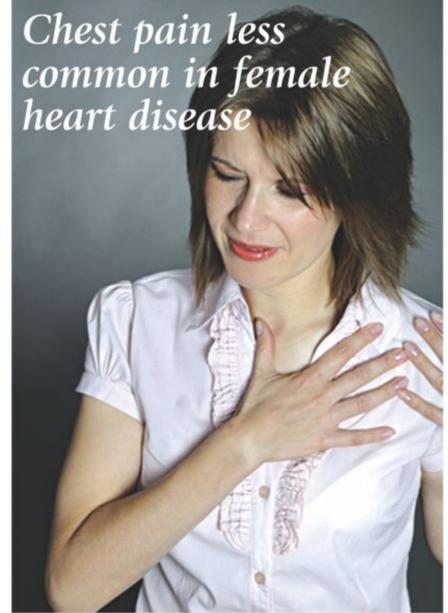
Conserving our existing anti-infective medicine is only one of many areas of action needed. The WHO is therefore recommended the following actions:

- Raising awareness of antimicrobial resistance so that more people involved in care-giving to both people and animals and in agriculture sectors can ensure that these medicines are used properly and appropriately.
- Providing guidance and technical expertise to improve infection prevention and control in health-care and community settings.
- Strengthen surveillance for early detection and their laboratory capacity for better, quicker analysis of drug resistance and its impact on the population.
- Collaborating with other organisations, academia, civil society and industries that can join efforts to tackle the antimicrobial resistance threat.

Source: World Health Organisation

DID YOU KNOW?

Chest pain less common in female heart disease



Chest pain is the classical symptom that usually directs diagnostic evaluation for heart attack. But as many as 35% of patients do not report chest pain.

A new study in the journal JAMA Internal Medicine has found that women with the heart condition known as acute coronary syndrome are less likely to have chest pain than men, which could raise their risk of misdiagnosis.

Acute coronary syndrome, which includes unstable angina and heart attack, is an umbrella term for conditions where blood supply to the heart muscle is suddenly blocked, according to the American Heart Association.

Women are more likely to be misdiagnosed in the emergency departments and have a higher risk of death compared to patients who report chest pain.

Thus they recommended health care providers should maintain a high degree of suspicion for heart attack in young patients, particularly women, given that one in five women with diagnosed do not report with chest pain. However, they could not identify the reasons for the sex differences in acute coronary syndrome symptoms.

For both sexes, the most common symptoms besides chest pain were weakness, feeling hot, shortness of breath, cold sweat and pain in the left arm or shoulder. Among patients without chest pain, women had more of these other symptoms than men.

HEALTH bulletin

A new cognitive enhancer discovered by young Bangladeshi researchers



STAR HEALTH REPORT

Recently a group of young researchers of the Department of Pharmacy, University of Asia Pacific, has published their discovery of a noble cognitive enhancer in the Journal of Ethnopharmacology (Elsevier) that has been able to attract attention of international communities across the globe, says a press release.

The group of researchers was led by Muhammad Shahdaat Bin Sayeed, Lecturer, Department of Pharmacy of University of Asia Pacific. This work has been referred in MDlinx (a specialty site that works from a list of psychiatry journals judged by expert physician readers to be the most important sources of articles for practicing physicians), GreenMedInfos (the world's most widely referenced, open accessed, natural medicine database) and several other influential referenced sites.

American Health Life-style magazine, Prevention (one of the largest magazines in the world, with a 2.8 million circulation, editions around the world, and over 10

million readers a month) has interviewed Muhammad Shahdaat Bin Sayeed and featured this invention in its October 2013 issue.

He also received Association of Commonwealth Universities (ACU) Early Career award to present this research in the "International Conference on Natural Products and Health 2013 in Singapore.

Initially the study aimed at finding a noble cognitive enhancer from traditional sources and finally devised an inventive way of preparing a nutraceutical made of black seed (Kalijira in Bangla or *Nigella sativa L.*) prepared with a special manner with the aid of modern pharmaceutical tools.

The experimental studies on healthy men in their 50s tested markedly better on measures of memory, attention and cognition than placebo-popping counterparts.

The research group developed customised neurophysiological testing module for Bangladeshi population and applied this module for testing memory, attention and cognition.

The more complex a task was

more significant difference was observed. However, heart, liver, and kidney function was unaffected by black seed preparation in the brief study period, joining other clinical trials that have declared black cumin safe for humans.

The inventors attributed black cumin's antioxidant, anti-inflammatory, and neuron-protecting properties for the apparent brain-boosting results.

The study claims that the black seed preparation might not increase memory in young people, but it can slow the progression neurodegenerative diseases like Alzheimer's disease in elderly people through putting the brakes on the breakdown of the neurotransmitter acetylcholine which is a well-established pharmaceutical method for improving memory.

Additionally this preparation is superior to the fact that it is made of food supplement, not of any synthetic drug what normally accompanies several side effects. This preparation is likely to be available in the market of Bangladesh very soon.

Vitamin B supplements may guard against stroke

Taking vitamin B supplements may help reduce your risk of stroke, a new review published in the journal Neurology shows. Overall, vitamin B supplements reduced the risk of stroke by 7%, but did not appear to reduce the severity of strokes or the risk of death from stroke.

Most steroid skin creams likely safe during pregnancy

Expectant mothers can use corticosteroid creams for irritated skin without putting their fetus at risk, except for large amounts of very strong creams, a new study published in JAMA Dermatology suggests.

In general, using those ointments during pregnancy was not linked to babies' chances of having cleft palate, being born early or small or any other measured negative outcome, researchers found.

Dr Muhit selected as a world leader in eye health

STAR HEALTH REPORT

Dr M A Muhit, Honorary Executive Director of Child Sight Foundation (CSF) and Pro-Vice Chancellor of the University of South Asia has been selected as Eye Health Leader for his vision and potential to lead the eye health sector around the world, says a press release.

The International Agency for the Prevention of Blindness (IAPB) recently published the names of 20 such leaders around the world who will work together to eliminate avoidable blindness and support the needs of those with permanent sight loss in the future.

Dr Muhit, an eminent researcher has developed and guided the largest childhood cataract campaign anywhere in the world that provided free sight restoring cataract surgery for over 10,000 blind children in Bangladesh.

He was also awarded the Distinguished Services Award by the Asia Pacific Academy of Ophthalmology (APAO) and received the Gold Medal from the Ophthalmological Society of Bangladesh (OSB) for enormous contribution to eliminate childhood blindness in Bangladesh.



Knowing for better living

In Bangladesh . . .

53.61% children suffering from pneumonia belong to the age group of 1 to 5 years !

Prevent air pollution

Keep your home clean and free from dust

Avoid smoking in front of children

Do not cough or sneeze in front of children

Ensure adequate nutrition for children

Consult your Doctor



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