

ANTIMICROBIAL RESISTANCE

World Health Organization defines antimicrobial resistance as the resistance of a microorganism to an antimicrobial drug that was originally effective for treatment of infections caused by it (WHO Media Centre, updated April 2015). Antimicrobial resistance has a broader term as compared to antibiotics resistance, which we commonly read from newspaper. While antibiotics resistance refers to the resistance of bacteria to the drugs that used to treat the infection caused by bacteria only, antimicrobial resistance is the resistance to drugs that are used for infection treatment caused by other microbes as well, such as viruses, fungi and parasites.¹ This group of microorganisms which show resistance to two or more drugs are generally term as “superbugs”.²

It has become a serious threat to global public health today as the antimicrobial resistance is seen and spread all over the world at an unprecedented speed, expedited by global trade & tourism. WHO analysis on current worldwide country situation (year 2013-2014) in response to antimicrobial resistance summarized the challenges of tackling antimicrobial resistance were mainly due to the lack of comprehensive national plans and strategies to fight against antimicrobial resistance, weak surveillance system and laboratory capacity, poor-quality medicines, misuse and overuse of antibiotics or antimicrobial drugs by doctors and public, low public awareness on the danger of antimicrobial resistance & inadequate infection prevention and control programmes (Summary of WHO Worldwide Country Situation Analysis: Response to Antimicrobial Resistance, April 2015).³

While MRSA (methicillin-resistant staphylococcus aureus) has been widespread as once a hospital acquired infection to community infection nowadays, there are two emerging threats that are alarming, according to The Centers for Disease Control and Prevention, USA⁵:

- A. **CRE (carbapenem-resistant enterobacteriaceae)**, a family of germs that are difficult to treat because they have high levels of resistance to antibiotics. One report sited that it could kill almost 50 percent of hospital patients who were infected^{4,5};
- B. **Shigella**, a highly infectious bacteria brought home by international travelers that is now resistant to multi antibiotics⁵.

Following WHO analysis report 2015, while some countries have undertaken the initiatives to combat antimicrobial resistance at national policy level, many are not able to implement a response plan due to low government budget and funding, it is seen especially in many low to middle-income countries. Though government health care policy implementation could be slow, education should come into first place to create public awareness on how doctors and patients could play a fundamental role to improve the situation.³ Below are some guidelines adopted from Business Insider article based on Consumer Reports dated 2nd July 2015 with topic; “Dangerous infections that are resistant to antibiotics are spreading and growing stronger, with dire consequences” and also WHO infographic on Antimicrobial Resistance.

Role of Doctors⁵

- a. Guidelines should be provided to doctors and healthcare practitioners for using antimicrobial drugs rationally.
- b. Proper diagnosis of infection to differentiate between bacterial or viral infection should be done before antibiotics prescription to patients.
- c. Do not prescribe antibiotics to please to patients.
- d. Do not rush into prescribing drugs for mild infection which may clear on its own.
- e. Stop abusing broad –spectrum antibiotics.

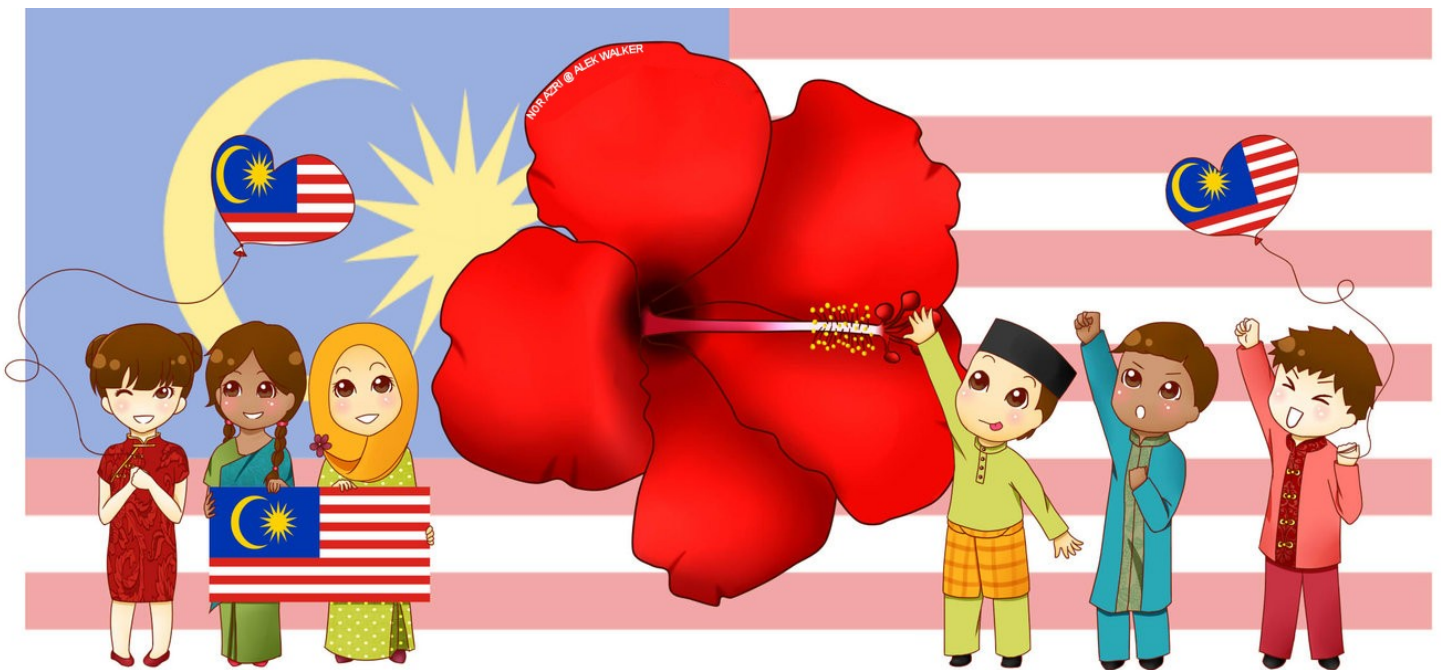
Role of Patients^{5,6}

- a. Do not ask for antibiotics if your doctor does not prescribe to you.
- b. If the bacteria infection symptoms are mild, you should fight off the infection without antibiotics.
- c. Request for targeted drugs by getting doctor to order cultures in order to identify the bacteria that caused the infection and prescribe the antibiotics accordingly.
- d. Complete the full prescription even if you feel better.
- e. Never share antibiotics with others or share leftover prescription.
- f. Reduce the use of antibiotic creams as antibiotics applied to skin can cause resistance as well.
- g. Avoid infections by taking care of personal hygiene, access to clean water and sanitation, and getting up to date on vaccinations.



References

1. World Health Organization, Media Centre_Antimicrobial Resistance_Fact sheet N° 194, Updated April 2015.
2. WebMD Health News: Superbugs: What They Are and How You Get Them, 17th April 2015
3. World Health Organization, Worldwide Country Situation Analysis: Response to Antimicrobial Resistance, Summary, April 2015
4. Centers for Disease Control and Prevention, Patients information about CRE-HAI, Last reviewed and updated on 23rd February 2015
5. Business Insider_Consumer Reports: *Dangerous infections that are resistant to antibiotics are spreading and growing stronger, with dire consequences*, 2nd July 2015
6. WHO infographic on Antimicrobial Resistance 2014



BMS DIAGNOSTICS (M) SDN BHD (485573-V)

19, Jalan 4/62A, Bandar Menjalara, Kepong, 52200 Kuala Lumpur, Malaysia.

Website: www.bmsd.com.my

Email: info@bmsd.com.my

Tel: +603- 6272 0236

Fax: +603- 6277 0750

