



## Governmental Role for the Control of Antimicrobial Resistance : Case Study of Korea

### **Gun-Jo Woo**

Division of Food Microbiology  
Korea Food & Drug Administration, Korea

The resistance of microbes to antibiotics draws deep concern internationally although the resistance level differs from countries. Recently, since the international trade and travel have been become very active, the antimicrobial resistant microorganisms are easy to spread out from one place to another, and the antimicrobial resistance is not limited to a problem of any certain nation or region any more. Therefore, the developed countries have to have great concern for the public health of their people and also the antimicrobial resistance status of other nations including developing countries at precautionary level. WHO strongly alarmed the current crisis and recommended a cooperative strategy at international level to provide a framework of intervention to slow the emergence and reduce the spread of antimicrobial resistant microorganisms under the “Global Strategy for Containment of Antimicrobial Resistance (2001)”.

Unfortunately, Korea is faced with very serious situation in antimicrobial resistance matter. Korea has been positioned at top rank in a global statistical survey for antimicrobial resistance rate of infectious pathogens against various antibiotics including penicillin. To solve this problem, profound research and investigation in Korea have been continuously conducted mainly in tertiary hospitals and partially in livestock husbandry sector. However, the outcome and information obtained from those studies have not been timely shared and not properly used nationwide, and furthermore every endeavor to resolve the current crisis was not achieved at national level. A press release by Korea Consumer Protection Board (KCPB) in July 2002 brought the antimicrobial resistance situation in Korea up to the front of Korean government and consumers. KCPB found that 93% of *E. coli* isolated from meat, fish, and vegetables were resistant to at least one kind of antibiotic, and 12% of them were proven to be resistant to over 4 kinds of antibiotics. It triggered Korean government to carefully reconsider the antimicrobial resistance problem in Korea and forced to take a governmental step forward. Therefore, the Office for Government Policy Coordination has called an inter-governmental meeting immediately in which Korea Food and Drug Administration (KFDA), Ministry of Health and Welfare, Ministry of Agriculture and Forestry, and Ministry of Maritime Affairs and Fisheries attended, and decided to take practical measures against antimicrobial resistance problem not only in clinical sector, but also in agriculture, livestock husbandry, and fishery area.

From the outcome of the meeting, the inter-governmental new project named as 「Korea National Antimicrobial Resistance Management Plan」 has been launched in February 2003. This is a comprehensive and administrative long-term project carried out by KFDA, and other related governmental bodies and organizations have been participating in this project for the next ten years. Development of national strategy to decrease the current antimicrobial resistance in Korea is the mission of this project. In detail, this project is composed of the following subjects. Firstly, an advisory committee, “Board of National Antimicrobial Resistance Expert” has been organized. Experts from Korean government, academia, medical college, pharmaceutical and animal drug companies, and NGO’s in

Korea are participating in this Board. Its function is providing advice for the establishment of comprehensive national management plan, suggestion for effective ways for carrying out the plan, evaluation of relevant research projects or investigation studies, and construction of information and surveillance network. Secondly, the management system of antibiotic resistance in the clinical sector in Korea will be established based on various research results including investigation of appropriate antibiotic usage for human disease cure, and also national antibiotic resistance monitoring program for patients and healthy people. Thirdly, the management system of antibiotic resistance in livestock husbandry and fishery cultivation sector will be established based on investigation of antibiotic usage for infectious disease cure and growth promotion purpose, monitoring of antibiotic resistance rate or residual level from meat and fishery, and the investigation study to find out the contamination rate and pathway from each cultivation area and surrounded circumstances. Fourthly, a prevalence study for antimicrobial resistant rate and residual level from various food products will be performed since it is assumed that the resistant microorganisms have been widely spread out to our environment. The outcome will be used as an educational material for food processing or manufacturing area. It can be also utilized for framing management scheme and the amendment of antimicrobial agent standards in food products. Fifthly, national information and surveillance network linking inter-government and related organizations will be constructed. All the information and data about antimicrobial resistance from prevalence, surveillance, and epidemiological study are gathered, shared, and used. Lastly, education and public relation program for some specific groups relating to antibiotic abuse such as clinic, pharmaceutical industry, livestock farming, and fishery cultivation as well as consumers will be operated. This program will focus on providing correct information and precautionary measures about antimicrobial resistance to public.

As operating this project, we make a consortium consisting of government, academia, industry, hospitals, research institutes, and consumer board. We know that the visible outcome would not be obtained in a short period, thus it is planned as a 10-year long-term project. It might be taken longer time. All the participant groups involved in this national project have a sense of mission and responsibility to cope with the current antimicrobial resistance crisis in Korea. More importantly, the antibiotic producers and users, administrative and governmental parties, and consumer groups should take actively part in the action plan for the success of this project. KFDA will try its best to provide correct and objective information, secure sufficient budget, perform education and public relation activities, and revise laws and ordinances for the reduction of antimicrobial resistance if needed. Hopefully, this national project will practically contribute to pull Korea down to a lower rank in international statistical survey of antimicrobial resistance as well as to decrease global antimicrobial resistance problem to some extent. We wish to make and hand over safe environment free from antibiotic resistance problem to our next generation, which is also our responsibility.