



TAKE ANTIBIOTICS OFF THE MENU

Solving the perpetual problem of drug misuse
by livestock farmers will require more than law

STORY: ARUSA PISUTHIPAN

As a pig-farm owner in Nakhon Pathom, Sithichai Suksomboon spent hundreds of thousands of baht each month on antibiotics to keep over 1,000 pigs in his possession healthy and disease-free. Little did he realise that by doing so, he was gradually putting himself in really bad shape.

"I inherited an industry-scale pig farm from my dad, so I thought it my job to keep them animals strong," he recalled. "I mixed powdered antibiotics with pig food. Although I was wearing a surgical mask as protection, the chemicals found their way in. I breathed them without knowing they were turning me into a bag of bones."

Sithichai called a neighbourhood hospital his second home when he began paying two visits a month. His body and joint pain shouted for treatment and could not be cured by oral medication. His condition was severe enough to require injections.

In the end, Sithichai went bankrupt. But strangely, at such a financial dead-end, he became physically robust.

"My farm had to be downsized. I had no money to buy antibiotics for my pigs so I fed them with fermented banana stems," Sithichai said. "At the beginning, a lot of pigs got sick because they didn't receive antibiotics as before, but they slowly became immune. I became healthier too. Now I haven't seen my doctor in a whole year."

"Antibiotics are more detrimental to pig farmers than to consumers. But as a pig-farm operator, we shove poisons down consumers' throats."



A livestock official inspects a pig farm in Nakhon Pathom for the antibiotic colistin.

His pig farm is now recognised as one of the very few in Nakhon Pathom that take an antibiotic-free approach.

The use of antibiotics, especially colistin, in animal farming has become a big public-health issue in Thailand, after making newspaper headlines earlier this year when several farms were found to have used the medication to prevent pigs from catching diseases.

When it comes to treating infectious illnesses in humans, doctors consider colistin a last-resort antibiotic because of its serious side effects on the kidneys. But the misuse and overuse of colistin in pigs can leave drug residue in pork. Antibiotic overuse is also likely to lead to the colistin-resistant genes known as MCR-1 and MCR-2, currently found in 40 countries.

A study in China reported in 2015 that the genes have been detected in humans, animal meat, vegetables and the environment. The colistin-resistant gene can pass its drug-resistant capacity to other genes in the body, making them resistant to certain medications.

Speaking on World Consumer Rights Day earlier this month, the president of the Foundation for Consumers, Chanpen Wiwat, said people think the misuse of antibiotics has nothing to do with them. But the problem is very close to their lives.

"Animal farming has used tremendous amounts of antibiotics, which leave drug residue in animal meat. Even in seafood, antibiotics have been found. According to Thailand's Food and Drug Administration reports from 2010 to 2014, six types of antibiotics were detected in food, even in meats labelled as hygienic," said Chanpen.

The misuse of antibiotics has been known to cause resistance, a global public-health threat. Last month, the World Health Organization (WHO) released a list of 12 bacteria that pose the greatest threat to human health because they are resistant to antibiotics and require the development of new drugs. Each year, an estimated 700,000 people around the world die due to drug-resistant infections.

If left unattended, the WHO predicts that such infections will kill 10 million per year by 2050, the majority of them in Asia and Africa.

In Thailand, figures from the Ministry of Public Health reveal that the country spends 10 billion baht a year on antibiotics. Approximately 100,000 Thais are reported to fall prey to drug-resistant infections per year; of these, 38,000 die. A study conducted in 2010 in over 1,000 hospitals countrywide found five infections resistant to many antibiotics, including urinary-tract infection, gastrointestinal-tract infection and respiratory-tract infection. A random test to screen for antibiotics in pork has recently been carried out by the Foundation for Consumer Protection, with 15 samples of pork tenderloin collected from six Bangkok fresh markets, eight retail malls and one online source.

According to Saree Ongsomwang, secretary-general of the Foundation for Consumer Protection, two samples were found to contain around 20mg and 42mg per kilo of the antibiotic chlortetracycline. This, however, does not exceed the Ministry of Public Health's threshold, which allows no more than 200mg per kilo of pork. Late last year, another random examination was carried out, with 18 samples collected from fast-food products from 16 retail malls and two convenience stores. One made-to-order roast-chicken sandwich was found to contain 13.73mg of doxycycline, which again did not breach the Ministry of Public Health's regulation.

"The misuse of antibiotics has been treated as a point of concern among consumer-rights organisations worldwide," said Saree. "Using the medication in animal farming inappropriately is likely to lead to antibiotic resistance. Antibiotic residue in animal meat cannot be detected with the naked eye. But laboratory test results like this will not just effect how consumers choose their products but also how manufacturers produce them. When we know which products are safe and unsafe, we know which manufacturers we should support."

In Thailand last year, the Department of Disease Control found a 63-year-old man with the colis-

tin-resistant gene MCR-1, while two other Thais with the MCR-1 were detected by foreign researchers. According to the National Bureau of Agricultural and Food Standards, in 2015 China detected pigs and humans with MCR-1. From 2010 to 2015, the gene was found in humans, pigs and chickens in 16 countries including Thailand. Also, from 2004 to 2014, a team of veterinary researchers from Chulalongkorn University investigated 17 pig farms in Nakhon Pathom, Ratchaburi and Chon Buri, and found both colistin-resistant bacteria and the MCR-1 in varying degrees.

Seeing this as an urgent public-health concern, the Department of Livestock Development last month agreed to implement stricter control of colistin use in animals, by first prohibiting veterinarians to mix colistin with animal food for disease prevention, while colistin is allowed only when no other antibiotics prove effective. Any use of colistin in animal farming must be reported to the Department of Livestock Development by veterinarians.

Apart from such actions by the state, Chanpen said collaboration and understanding by people is key to ending this public-health headache.

"The goal is proper use of antibiotics," she said. "Farmers must not use antibiotics to accelerate animal growth or as disease prevention. At the same time, consumers must choose to buy only from reliable sources. Organisations involved must also lend a hand by keeping an eye on what's going on with strict law enforcement."

Niyada Kiatying-Angsulee of Chulalongkorn University's Drug System Monitoring Mechanism Development Centre under the Faculty of Pharmacy said that in tackling this concern, the solution lies in human management.

"The human is the most significant part of the pie because we are the cause and also the cure," she said. "So to put an end to all this antibiotic misuse, what we need is collaboration from ministries, consumer education, support, awareness, understanding and the right attitude, plus of course a little bit of law."



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