

Antibiotics, one of the greatest blessings of modern medicine, threaten to become a curse to many due to large-scale inappropriate use. Aryanti Radyowijati's and Hilbrand Haak's review on determinants of this inappropriate use is more than timely and may prove extremely useful in combating the problems linked to indiscriminate prescription, dispensing and global use of antibiotics.

Antibiotics have much in common with other medicines that are used outside professional observation and control. However, the one aspect that makes their inappropriate use extra problematic, if not dramatic, is drug resistance. In 1968, biologist Garret Hardin wrote his famous article, 'The Tragedy of the Commons,' in which he remarks that people's pursuit of their own interests leads to the destruction of their common good. Hardin's "mythical" metaphor, which he uses for his argument, is the medieval common pasture in English communities. As each herdsman tries to keep as many cattle as possible on the commons, they eventually destroy the pasture and are left with nothing. This 'tragedy of the commons' can be applied to countless aspects of our present global society, including the over-prescription of antibiotics. The individual advantages that physicians, nurses, pharmacists, drug sellers, and sick people derive from the inflated use of antibiotics leads to a serious problem in the public domain of health and health care: the development of resistant strains of pathogens. And in a society whose members are becoming increasingly more individualistic, the plain message that people should restrict their use of antibiotics for the good and well-being of others is unlikely to carry much weight.

The review by Aryanti Radyowijati and Hilbrand Haak is a valuable guide to the limited amount of available literature on the use of antibiotics. They focus on those that attempt to understand practices within their wider context. Harmful practices may appear beneficial to insiders for social, cultural, political, or economic reasons. Future damage does not always outweigh today's advantages. What has been proven irrational and reprehensible from a biomedical point of view may carry a perfectly rational social logic for those steeped in the daily struggle for survival.

This review is particularly valuable because it points not only at 'irrational' beliefs and questionable practices by 'lay' members of local communities, such as parents, merchants and traditional healers, but it also draws attention to 'irrational' and harmful practices carried out by actors of the medical profession, or those closely affiliated with it. 'Culture' is not only a feature of populations living outside academia. All aspects of a culture—its beliefs, values, and emotions, its way of transmitting ideas, its pursuit of political and economic interests, its egocentrism and ethnocentrism, and its sense of superior identity—also apply to professional and scientific groups within a society. Physicians, nurses, primary health care workers, and pharmacists have their own reasons for inappropriate use and dispensing of antibiotics. They perceive advantages in practices, which, strictly speaking, conflict with their own canons.

Medicines are an attractive commodity. They are in constant demand and are considered indispensable and essential to daily function. Moreover, they are small and can easily be transported, even by sellers on foot or bicycle. Medicines, labeled as prescription only (including antibiotics), are sold without prescription, even in the formal sector. They are for sale in drugstores, general shops, kiosks and market booths, and peddlers bring them to remote villages and homesteads. Nichter and Nichter (1996) refer pessimistically to this behavior as the pharmaceuticalization and commodification of health:

The proliferation of commercially produced pharmaceuticals and a concurrent rise in medicine consumption is a concrete expression of health commodification. It entails the commodification of health to a point where medicine fixes to life's immediate problems, increasing 'appeal' to the public. Health commodities do not have to be pushed, they are demanded.



Aryanti Radyowijati and Hilbrand Haak conclude that limited information is available on 'why people use antibiotics.' I agree with them. But I would like to draw attention to the wealth of information on 'why people use antibiotics' that is available from in-depth case studies. These studies, mainly carried out by anthropologists, are less well known to health professionals. People draw antibiotics, originally 'foreign' objects, into their own world by clothing them with explanations and meanings from their own culture—a phenomenon that is sometimes called 'cultural reinterpretation.' Other terms for this process are 'bricolage,' 'creolization,' and 'pidginization.' One of the earliest examples of this cognitive process is Michael Logan's (1973) description of how Maya people in Guatemala classify antibiotics in accordance with their general hot/cold cosmology. Penicillin is seen as a 'cold' medicine and is used for various diseases that they classify as 'hot,' but which are immune to antibiotic treatment according to biomedical observers. More recent examples can be found in case studies of Ghana (Senah 1994 and 1997), the Philippines (Tan 1999) and Thailand (Sringernyuang 2000). The explanatory power of these studies should not be underestimated and in the current situation, policy makers may not have another choice than to take qualitative research on antibiotic use more seriously.

Viewed from the perspective of the 'Tragedy of the Commons,' the biomedical inappropriate use of antibiotics in all countries of the world, not only the poorer ones, may eventually lead to its own destruction. It is of critical importance that we start learning what is really going on.

Sjaak van der Geest
Medical Anthropology
University of Amsterdam

References

- Hardin, G. 1968. The Tragedy of the Commons. *Science* 162: 1243-48.
- Logan, M.H. 1973. Humoral Medicine in Guatemala and Peasant Acceptance of Modern Medicine. *Human Organization* 32: 385-95.
- Nichter, M. & M. Nichter. 1996. *Anthropology and International Health: Asian Case Studies*. Amsterdam: Gordon & Breach.
- Senah, K.A. 1994. "Blofo Tshofa": Local Perception of Medicines in a Ghanaian Coastal Community. In: Etkin, N.L. & M.L. Tan (eds) 1994. *Medicines: Meanings and Contexts*. Quezon City, Philippines: Health Action Information Network, pp. 83-102.
- Senah, K.A. 1997. *Money Be Man: The Popularity of Medicines in a Rural Ghanaian Community*. Amsterdam: Het Spinhuis.
- Sringernyuang, L. 2000. Availability and Use of Medicines in Rural Thailand. Ph.D.: University of Amsterdam
- Tan, M.L. 1999. *Good Medicine: Pharmaceuticals and the Construction of Power and Knowledge in the Philippines*. Amsterdam: Het Spinhuis.
- Whyte, S.R., S. van der Geest & A. Hardon 2002. *Social lives of medicines*. Cambridge: Cambridge University Press. (in press).