



Report for Pharmacology International December 2015 issue: Workshop on Drug Utilization methods in Botswana July 2015 supported by IUPHAR and also its clinical division

THE MEDICINES UTILIZATION RESEARCH IN AFRICA (MURIA) GROUP: IUPHAR CO-ORGANIZED A WORKSHOP IN BOTSWANA FOR PROMOTION OF RATIONAL USE OF MEDICINES

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(Approved for publication in Pharmacology International)

The improper use of medicines is a major cause of poor therapeutic effect as well as adverse drug reactions, and has considerable financial consequences (1-4). In the present era of global economic recession, there is a need for a judicious use of resources to cater for all citizens in developing countries. Therefore, the promotion of the Rational Use of Medicines (RUM) should be a healthcare priority in African countries. Still there is limited information on how appropriate medicines are prescribed and used in Africa (5).

In order to progress research on RUM, a planning meeting to establish collaboration across countries in Africa met in Port-Elizabeth in South Africa in January 2015. Professor Ilse Truter at The Nelson Mandela University was the host of the meeting that was initiated together with representatives from the IUPHAR Subcommittee. The meeting drew participants from South Africa, Botswana, Kenya, Namibia, Nigeria, Swaziland, Sweden and the United Kingdom. African delegates discussed their current research on drug utilization while the European participants (Jaran Eriksen and Brian Godman) reviewed ongoing cross-country projects in African countries (5). The discussion in Port-Elizabeth centered on the needs for an interdisciplinary and multinational group of healthcare professionals to foster drug utilization research in Africa. Subsequently the **Medicines Utilization Research in Africa** (MURIA) group was formed. The promotion of RUM in Africa is to be achieved through training, collaboration, sharing of information and facilitation of access to data across Africa. This meeting started the planning of a 2.5 day training workshop and symposium targeting African scientists to be hosted by the University of Botswana in July, 2015 co-organized by MURIA, University of Botswana, Karolinska Institutet in Sweden and IUPHAR.

This first MURIA workshop (1.5 days) and symposium (1 day) was made possible by funding from the Swedish Research Council, the University of Botswana, the Ministry of Health in Botswana and IUPHAR and its clinical division. The meeting took place at the University of Botswana from 27th to 29th July 2015. The meeting was opened by the Honourable Minister for Health Dorcas Makgato of the Republic of Botswana (Figure 1). She dwelt on the emerging problems of antimicrobial resistance and emphasized the need to promote RUM of especially antibiotics, anti-TB drugs and antiretrovirals (ARVs). She also addressed the issue of non-communicable diseases and the importance of generic medicines in the reduction of healthcare costs and improving access to medicines (6). The delegates included 103 physicians, pharmacists and other healthcare professionals from the academia, medical aid schemes and government agencies from 8 African countries and from Australia, Saudi Arabia, Sweden and United Kingdom. Participants were researchers from universities, practicing physicians and pharmacists, representatives from ministries of health and national agencies in the healthcare

sector. As many as 20 pharmacists from regional pharmacy service units across Botswana took part in the meeting.

The workshop, which was interactive, provided choices for both introductory or advanced workshops on drug utilization methods and research. The introductory group dealt with topics such as sources of drug utilization data, drug classification systems such as the Anatomical Therapeutic Chemical/Defined Daily Dose (ATC/DDD) concepts, use of DDDs/1000 inhabitants/day (DIDs) to assess drug utilization across countries and standard drug use indicators. The different approaches of influencing RUM (education, economics, engineering and enforcement) were also discussed. The main issue dealt with by the advanced group included antibiotic drug utilization research, assessment of antibiotic prescribing, use of qualitative methods in drug utilization research, challenges for comparative cross-national and pharmacoconomics studies in Africa. The use of questionnaires and household surveys for drug utilization research was highlighted during the second day of the workshop. Other topics discussed were the importance of ethics and practical challenges in drug utilization research, use of databases in the exploration of drug safety, importance of communications in drug utilization research as exemplified by high level of adherence to the “Wise List” by physicians in Sweden (7).

The workshop was followed by a symposium during one day with 18 oral and 18 poster presentations. The theme of most oral and poster presentations centered around the utilization of antibiotics, the adverse effect profile of ARVs, antihypertensives, anticonvulsants, medication adherence and generic medicines (6). Based on these presentations, the participants agreed to focus on collaborative drug utilization research in the following disease conditions: HIV/TB, malaria, central nervous system and non-communicable diseases (diabetes mellitus, hypertension, cancer). Research collaboration in the area of generic medicines, drug utilization using databases and

economic aspects of drug use was also discussed. Interested participants were tasked to drive the various topics identified. The African e-Infrastructures discussion and collaboration forum of the African Pharmacology Science Gateway (www.sci-gaia.eu/) will be used to facilitate access to resources and interactions which enhance research and capacity building across Africa (8). Membership of MURIA Group (www.muria.nmmu.ac.za/) is open at no cost to professionals from the Academia, healthcare institutions and Regulatory Bodies. The next meeting is planned to July 2016. The Gaborone meeting has the potential to become the starting point for introduction of drug utilization methods and studies across African countries to improve RUM, which will necessarily broaden the impact of clinical pharmacologists in African countries.

References

1. Fadare J, Olamoyegun M, Gbadegesin BA. Medication adherence and direct treatment cost among diabetes patients attending a tertiary healthcare facility in Ogbomosho, Nigeria. *Malawi Med J* 2015;27:65-70.
2. Jain S, Upadhyaya P, Goyal J, Kumar A, Jain P, Seth V, et al. A systematic review of prescription pattern monitoring studies and their effectiveness in promoting rational use of medicines. *Perspect Clin Res* 2015;6:86-90.
3. Uzochukwu BS, Onwujekwe OE, Okwuosa C, Ibe OP. Patent medicine dealers and irrational use of medicines in children: the economic cost and implications for reducing childhood mortality in southeast Nigeria. *PLoS One* 2014;9:e91667.
4. Godman B, Finlayson AE, Cheema PK, Zebedin-Brandl E, Gutiérrez-Ibarluzea I, Jones J et al. Personalizing health care: feasibility and future implications. *BMC Med* 2013;11:179.
5. Massele A, Godman B, Adorka M, Fadare J, Gray A, Lubbe M, et al. Initiative to progress research on medicine utilization in Africa: formation of the Medicines Utilization Research in Africa group. *Expert Rev Pharmacoecon Outcomes Res*. 2015;15:607-10.
6. Massele A, Burger J, Katende-Kyenda NL, Kalemeera F, Kenaope T, Kibuule D, et al. Outcome of the first Medicines Utilization Research in Africa group meeting to promote sustainable and rational medicine use in Africa. *Expert Rev Pharmacoecon Outcomes Res* 2015;16:1-4.
7. Gustafsson LL, Wettermark B, Godman B, Andersen-Karlsson E, Bergman U, Hasselstrom J, et al. The 'wise list'- a comprehensive concept to select, communicate and achieve adherence to recommendations of essential drugs in ambulatory care in Stockholm. *Basic Clin Pharmacol Toxicol* 2011;108:224-33.
8. Eriksen J, Gustafsson LL, Taylor S, Nungu A, Masimirembwa C. The African Pharmacology Science Gateway. Poster presented at Botswana Symposium July 29, 2015. Available at www.muria.nmmu.ac.za/Botswana-Workshop-and-Symposium-27-29-July-2015. (Accessed November 2, 2015)

Figure 1: *Honourable minister of Health in Botswana Dorcas Makgato gave the inauguration speech for the MURIA Workshop and Symposium arranged in*

collaboration with IUPHAR on July 27 to 29, 2015 at the University of Botswana in Gaborono. (Photo Lars L Gustafsson)



Figure 2: *Participants at the first MURIA Workshop and Symposium co-organized by IUPHAR Subcommittee for Clinical Pharmacology in Developing Countries in Gaborone, Botswana, July 27-29, 2015 (Photo Lars L Gustafsson)*

