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Editorial

Quality of drug information for healthcare professionals: The ARCA acronym

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The latest conference of the European Society of Clinical Pharmacy brought into the arena certain unsolved issues regarding drug information. In the 'Information Age', it is not so easy to talk about the quality of information. It seems that what professionals need is to have substantial information available, and then they will be able to make decisions based on their ability to find, select, analyze and apply that information. Unfortunately, the 'Information Paradox' explains that information may be lost not only in black holes[1] but also in clinical practice.[2] To solve this problem, filtering drug information may not be the best solution. A number of questions appear: Who filters? Based on what criteria? What are the consequences of ignoring certain drug-information sources? When information sources are filtered on the basis of evidence-based generation, authors have to clearly answer these questions; otherwise, the difference between filtering and censorship is unclear. Even systematic reviews and guidelines, parts of the so-called filtered information, have been critically analyzed, and some of them could not pass the test. This uncertainty means that assessing the quality of drug information sources is of crucial importance.

Quality is a multifaceted condition and should be divided into different attributes that can be objectively evaluated. These attributes are often independent, and one can score high while others score low. In the late 1990's, four attributes were suggested to define the quality of drug information sources: accessibility, reliability, completeness, and applicability.[3]

Accessibility is the ease of obtaining the information when needed. There are many definitions of information for professionals, but they all share this point in common: information is a piece of knowledge that the professional requires in a specific moment to make a specific decision. Thus, not accessing the information when required implies making a poorly informed decision. Accessibility, as an indicator of the quality of medicines information, encompasses timely access. Although the internet has facilitated this aspect, certain issues remain to be solved. Developing countries may have limited access to the internet in clinical practice.[4] One future challenge should be access to information on time and on site, that is to say, at the point of care. This ability will require an important evolution in mHealth.[5]

Reliability is the ability to offer confidence regarding information's truthfulness. A professional cannot expect 100% certainty regarding information. Even when using filtered information obtained through systematic reviews, the highest quality of evidence in the initial versions of GRADE[6] was defined as "further research is very unlikely to change our confidence in the estimate of effect". Although small, a chance exists that information with the highest quality of evidence is not the complete truth. However, to rely on an information source means to rely on its content, usually because the professional relies on the transmitter. While the internet has improved accessibility, it may open the door to many reliability issues.[7]

Completeness is the condition of being complete, which further includes being updated. Incomplete information is an issue not only because the practitioner may lack of the information required to make a decision but also because of selective underreporting. "Selective underreporting … is more widespread and more likely to have adverse consequences for patients than the publication of deliberately falsified data".[8] Selective underreporting was the major flaw identified in the drug monographs produced by the pharmaceutical industry.[9] The consequences of selective underreporting extend beyond individual decisions: they may bias evidence generation.[10]

Applicability refers to the capacity of the information to be useful and help to solve the problem that generated the information demand. One might think that with access to reliable and complete information, one could make the appropriate decision to help to improve a patient's health. However, several analyses of the European Summaries of Product Characteristics, a highly accessible, reliable and quite complete medicines information source, demonstrated that their information is not sufficiently applicable for making clinical decisions.[11] Let us consider the phrase "use with caution" associated with the use of a given drug in a pregnant woman: what does this phrase mean for a non-teratologist? Which are the medicines we can use

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without caution? And should that woman use that medicine, or not? That answer is the applicable information that the professional was looking for.

Thus, measuring the quality of information on a drug or medicine is a complex task that could be facilitated by evaluating the four attributes of the ARCA acronym (accessibility, reliability, completeness, applicability) in a drug-specific information source.

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