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Comment on: Antifungal therapy: drug–drug interactions at your fingertips

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Sir,

We are writing in response to an article entitled ‘Antifungal therapy: drug–drug interactions at your fingertips’, which was published online on 8 November 2015.¹ The article highlights the compilation of adverse drug–drug interactions (DDIs) with antifungal medicines as a knowledge database. They describe the construction of a database online and the development of a smartphone app to access the data for paired DDIs and antifungal drugs.

The paper has omitted to mention a similar and pre-existing database, which was developed and made available online in 2012, using similar data sources.² It also omitted reference to two smartphone apps for assessing DDIs with antifungal medicines, which have been available since early 2013.^{3,4} All these are free resources; both apps, named ‘Antifungal Interactions’, are available for Android or iOS platforms. The apps and the database have been presented at several international conferences.^{5,6}

There are of course differences in some content and in the presentation of the app by Lempers and Brüggemann¹ and our apps,^{3,4} but there are also some other important points to highlight:

- (i) We have developed two apps—one designed for patient use (Antifungal Interactions Patient³) and one for healthcare professionals (Antifungal Interactions Pro⁴) with user information suitably targeting each group.
- (ii) The Antifungal Interactions^{3,4} apps use a red-orange-green traffic-light system to alert the user to the severity of a potential DDI.
- (iii) In addition, we have included data for the recently registered antifungals isavuconazole and terbinafine, and we list interactions separately for amphotericin B and AmBisomeTM. The few interactions with anidulafungin will be added at the next update.

Antifungal DDI databases are important for clinicians and patients, since, of a total of 2116 interactions, we have identified 409 severe, 976 moderate and 731 mild DDIs with antifungals.

Transparency declarations

D. W. D. holds founder shares in F2G Ltd, a University of Manchester spin-out antifungal discovery company. In the last 3 years, he has been paid for talks on behalf of Astellas, Gilead, Merck and Pfizer, and has current grant support from the National Institute of Allergy and Infectious Diseases, the National Institute of Health Research, the North West Lung Centre Charity, the Medical Research Council, Astellas and the Fungal Infection Trust. All other authors: none to declare.

References

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Antifungal therapy: drug–drug interactions at your fingertips—authors’ response

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Sir,

Hereby we respond to the comment by Bartholomew *et al.*¹ on our article.² The comment focuses on the omission of a similar database and two smartphone apps (one for patients and one for professionals). All these resources facilitate the assessment of drug–drug interactions with antifungal medications.

The main goal of our article was to share best practice on the development of a comprehensive, easily accessible, real-time knowledge base. During the years of development of Fungal Pharmacology before its launch in January 2015, we gained a lot of experience on how to construct such a resource efficiently.

This development process involves exploring, constructing, consulting, publishing and tracking, as is shown in detail in figure 1 in our article.² With this, we reach out to every healthcare practitioner worldwide to develop a similar knowledge base in other or comparable therapeutic areas. The purpose of our article was to share our lessons learned, particularly as it took a lot more effort than first foreseen and as timelines were longer than initially projected.

We acknowledge the presence of another interaction checker (both web site and app) and that these tools share a similar

overarching objective compared with the knowledge base developed by our institute (Fungal Pharmacology) to provide clinically relevant information on antifungal drugs and drug–drug interactions to healthcare practitioners with varying levels of expertise and resources worldwide. We believe the authors have done a nice job and we recommend colleagues to use this tool in a similar way we intended to use it.

Managing drug interactions is a complex task and often relies on translation from experimental settings or theoretical considerations. Obviously, we will consult the interaction checker to see if we can further improve our knowledge base, ultimately improving patient safety and strengthening health systems.

Transparency declarations

None to declare.

References

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