Communication on drug safety-related matters to patients: is it even more significant in this digital era?

Jimmy Jose

Safety that represents the type and likelihood of adverse effects of medications is equally important as effectiveness.[1] In public health, communication can be defined as the symbolic exchange of shared meaning, and all acts related to communication can have both a transmission and a ritualistic component.[2] Availability and appropriate provision or gaining of information regarding drug safety-related matters greatly influences the use of medications. Practitioners fail to sufficiently identify the important role of patients in ensuring their own healthcare safety.[3] Patients are no longer just passive recipients of healthcare services or mere beneficiaries of top-down medical information but are active engaged members.[4] Patient safety can be greatly influenced if the right information is not available to the right person at the right time.[3] Patient-centred health communication is becoming a necessity in today's culture.[5] In today's digital era, people are progressively utilising the internet to access health-related information and make health-related decisions.[5] The internet is used as a medium to complement the health information provided by healthcare professionals (HCPs).[6] Similarly, the internet plays a crucial role in obtaining drug safety-related information.[7] In this digital era, the significance of appropriate sharing of information regarding medication safety with patients and the public is discussed in the current editorial.

Patients usually search for safety-related information while starting a new medication or when they experience some problems with a medication in use.[8] They consult physicians, pharmacists, pharmacy inserts, personal contacts, and the internet as sources of drug safety-related information.[3,8,9]

In general, patients search for sources, such as pharmacists or physicians, that they believe are accurate, in depth, and free of economic interest because they are considered not to benefit from patients' medication use.[8] In addition to credible sources, patients use less trustworthy sources such as media sources and marketing sources for obtaining safety-related information.[8] At the same time, numerous patients prefer information to be communicated to them in person.[3] Patients usually use multiple sources and triangulate to confirm or complement what they have learned from one source with evidence from another.[8]

Patients often find it challenging to comprehend and appraise the trustworthiness of online health information.[10] Although the use of the internet and health apps has increased tremendously, their quality is of serious concern.[11] The lack of assurance in the quality and significance of online health-related information could explain why patients search for such information in conjunction with a visit to their clinician.[10] They might have trouble precisely interpreting information about drug safety, and misinterpretation may result in impaired adherence.[8] One study reported that although many people performed these searches to support their decisions, they seldom modified their behaviour and appeared to be generally doubtful about the overall quality of online health information.[10]

If we consider pregnancy-related medication use, information is available on the internet through many sources, each with a different level of reliable content, and the quality of these data is generally unclear for people.[12] Pregnant women require

Correspondence to:
Jimmy Jose
School of Pharmacy, College of Pharmacy and Nursing, University of Nizwa, Birkat Al Mouz, PB 33, PO 616, Nizwa, Sultanate of Oman
jimmy.jose@unizwa.edu.om

jimmy_jose2001@yahoo.com

assistance and direction to access precise and dependable medication-related information.[13] Discrepancies in publicly available information on the safety of medications during pregnancy exist, and data supporting safety claims are lacking.[14] Similarly, a study that evaluated the accuracy of information on intrauterine devices available on the internet reported that many websites had imbalanced information, overstressing problems and understating benefits.[6] Selecting the most suitable website for information regarding a specific health issue can be particularly confusing for patients, and one of the main risks is that people could be acting on wrong, irrelevant, or incomplete information.[10]

The current digital revolution has had a significant effect on how the concerned parties interact with patients.[15] Noticing that less than accurate information obtained by patients from multiple less-credible sources may affect their perceptions and judgements is crucial, and hence, accurate communication between HCPs and patients is vital.[12]

In the present digital era, patients should receive dependable, rational, and vital information on medications from the experts themselves because this would avoid, reduce, or nullify (to a good extent) the negative effect of information obtained from other sources.[16] Effective communication between HCPs and patients regarding side effects of drugs is extremely essential and an imperative component of effective patient–HCP interactions.[16,17] Opinion leader e-patients have reported that the collaboration between technology and healthcare is not sufficient on its own, and human touch and mutual communication cannot be replaced.[18] HCPs, during their interaction with patients, should be wary of the possibility of nocebo effects when they inform patients about side effects.[16] Accordingly, maintaining a balance between the positive and negative effects of sharing information of side effects is essential, which is influenced by controlling information parameters in the form of 'who, what, how much, and how the information is provided'.[16]

In view of the presence of inaccurate information in online posts, health practitioners should be aware of information requirements and, along with adequate communication, should provide patients with dependable resources to help them make an evidence-based decision regarding medications.[12] Medical professionals have a huge responsibility in involving patients as partners in designing care and decision-making. While guiding them about using numerous digital health resources,[19] HCPs should refer individuals to websites that provide accurate, complete, and transparent information.[6,11] All members of the multidisciplinary treatment team should provide consistent, evidence-based messages on safety and efficacy, which will in turn help to arm the patients to combat the risks of messaging from family/friends and potentially from the internet.[20] Providing a combination of verbal and written health-related information that enables the provision of standardised information to patients or significant others is vital as it will improve knowledge and satisfaction on the discussed aspects.[21] Improving the skill set of HCPs to differentiate between high- and low-quality content on the internet is a crucial step, although such an identification may not always be an easy task.[9] Available tools and guidelines can benefit in assessing the quality of online health-related information.[22–24] HCPs need to be aware of the use of these quality-assessing tools and should judiciously use it while searching information for their personal use and introducing patients to online health resources. Furthermore, they should be prepared to explain the use of these tools to an internet-aware general public.[24] Providing patients or public with digital skill support that focuses on helping people approach the internet more critically is required so that they can appraise information and are not overwhelmed by it.[25]

HCPs should acknowledge and encourage the discussion of the patient's online health information-seeking behaviours in their consultations because people are hesitant to mention themselves.[8,26] They may be afraid that clinicians would not consider them seriously, or they believe that the information that they had obtained online would not help the consultation process.[10] Pharmacists, especially during various stages including medication history interview taking, dispensing medications, and subsequent counselling, should attempt to understand what kind of information regarding the drugs in questions is possessed by the patient.

Considering that social media is quickly gaining importance as a source of information for patients, improving the quality of information in these networks is a crucial task.[27] In recent times, drug

regulatory agencies require pharmaceutical manufacturers to screen the internet or digital media under their management or responsibility for potential reports of suspected adverse reactions.[28] Furthermore, they are required to post this information on social media networks and also correct deceptive information posted by others.[28] Credible sources such as regulatory agencies, physicians, and other HCPs should consider using various modes for disseminating realistic, trustworthy content on medication safety.[29] Highlighting the significance of authoritative and quality-controlled websites is urgently required.[10,26]

Despite the concerns of overwhelming and not-so-accurate information on medications in digital sources, inappropriate use by and overdependence of patients on digital sources, and concerns on the ability of patients and caregivers to comprehend and appraise the information obtained from the digital sources, advantages of the availability and use of such tools cannot be overlooked. Essential and effective use of digital healthcare resources provides digital and objective data accessible to both caregivers and patients making them proactive and can lead to an equal level doctor–patient relationship with shared decision making and a democratisation of information and care.[19,26] It allows patients to feel more empowered in their own health-related decisions, increasing access to support groups of patients or individuals with similar sets of concerns and experience.[30] Further, use of digital sources could be beneficial in improving self-care of minor ailments and long-term diseases.[25]

In conclusion, online health-related information sources are an inevitable component of today's healthcare system, and there is no future without acknowledging its influence on patients and HCPs. Information obtained by patients on safety aspects greatly influences patients, especially their medication-taking behaviour. HCPs should acknowledge the potential online health information-seeking behaviour of patients during initiation and follow-ups, and accordingly address their queries using a proactive approach. To ensure that patients receive the available authentic information, HCPs should share important safety-related aspects during interactions. The degree of digital literacy should be considered so that these patients could be directed to find quality and reliable information and accordingly could direct them to access it depending upon the requirement. Pharmacists are primarily responsible in ensuring the safe use of medications, and they should be proactive in understanding the medication safety information-seeking behaviours of patients, the type of information already possessed by them, and consequently should share the necessary information on these aspects.

Conflict of interest statement
The author declares that there is no conflict of interest.

ORCID iD
Jimmy Jose https://orcid.org/0000-0002-3232-4742

References

1. Lynch SS. Drug efficacy and safety. *MSD manual professional version*, https://www.msdmanuals.com/professional/clinical-pharmacology/concepts-in-pharmacotherapy/drug-efficacy-and-safety (accessed 2 February 2020).

2. Rimal RN and Lapinski MK. Why health communication is important in public health. *Bull World Health Organ* 2009; 87: 247–247a.

3. Kaelber DC and Bates DW. Health information exchange and patient safety. *J Biomed Inform* 2007; 40(Suppl. 6): S40–S45.

4. Erikainen S, Pickersgill M, Cunningham-Burley S, *et al*. Patienthood and participation in the digital era. *Digit Health* 2019; 5: 2055207619845546.

5. Seymour B, Yang H, Getman R, *et al*. Patient centered communication: exploring the dentist's role in the era of e-patients and health 2.0. *J Dent Educ* 2016; 80: 697–704.

6. Madden T, Cortez S, Kuzemchak M, *et al*. Accuracy of information about the intrauterine device on the Internet. *Am J Obstet Gynecol* 2016; 214: 499.e1–499.e6.

7. Polimeni G, Russo A, Catania MA, *et al*. Drug safety information through the internet: the experience of an Italian website. *Drug Saf* 2009; 32: 245–253.

8. Kesselheim AS, McGraw SA, Dejene SZ, *et al*. Patient and physician perceptions of drug safety information for sleep aids: a qualitative study. *Drug Saf* 2017; 40: 531–542.

9. Westerlund T, Barzi S and Bernsten C. Consumer views on safety of over-the-counter drugs, preferred retailers and information sources in Sweden: after re-regulation of the pharmacy market. *Pharm Pract (Granada)* 2017; 15: 894.

10. Diviani N, Fredriksen EH, Meppelink CS, *et al*. Where else would I look for it? A five-country qualitative study on purposes, strategies, and consequences of online health information seeking. *J Public Health Res* 2019; 8: 1518.

11. Fernandez-Luque L and Staccini P. All that glitters is not gold: consumer health informatics and education in the era of social media and health apps findings from the yearbook 2016 section on consumer health informatics. *Yearb Med Inform* 2016; 1: 188–193.

12. van Gelder MMHJ, Rog A, Bredie SJH, *et al*. Social media monitoring on the perceived safety of medication use during pregnancy: a case study from the Netherlands. *Br J Clin Pharmacol* 2019; 85: 2580–2590.

13. Marlene Sinclair M, Lagan BM, Dolk H, *et al*. An assessment of pregnant women's knowledge and use of the Internet for medication safety information and purchase. *J Adv Nurs* 2018; 74: 137–147.

14. Peters SL, Lind JN, Humphrey JR, *et al*. Safe lists for medications in pregnancy: inadequate evidence base and inconsistent guidance from Web-based information, 2011. *Pharmacoepidemiol Drug Saf* 2013; 22: 324–328.

15. Weiner JP. Doctor-patient communication in the e-health era. *Isr J Health Policy Res* 2012; 1: 33.

16. Jose J and AlHajri L. Potential negative impact of informing patients about medication side effects: a systematic review. *Int J Clin Pharm* 2018; 40: 806–822.

17. Jose J, Chong D, Lynn TS, *et al*. A survey on the knowledge, beliefs and behaviour of a general adult population in Malaysia with respect to the adverse effects of medicines. *Int J Pharm Pract* 2011; 19: 246–252.

18. Meskó B, Radó N and Győrffy Z. Opinion leader empowered patients about the era of digital health: a qualitative study. *BMJ Open* 2019; 9: e025267.

19. Mesko B, Drobni Z, Benyei E, *et al*. Digital health is a cultural transformation of traditional healthcare. *Mhealth* 2017; 3: 38.

20. Smith SD, Farrugia LL, Harris V, *et al*. Evaluation of the influence of family and friends, and the Internet on patient perceptions of long-term topical corticosteroid use. *J Dermatolog Treat* 2017; 28: 642–646.

21. Johnson A, Sandford J and Tyndall J. Written and verbal information versus verbal information only for patients being discharged from acute hospital settings to home. *Cochrane Database Syst Rev* 2003; 4: CD003716.

22. Dubowicz A and Schulz PJ. Medical information on the internet: a tool for measuring consumer perception of quality aspects. *Interact J Med Res* 2015; 4: e8.

23. Robillard JM, Jun JH, Lai JA, *et al*. The QUEST for quality online health information: validation of a short quantitative tool. *BMC Med Inform Decis Mak* 2018; 18: 87.

24. Wake M and Lisgarten L. Pharmacy on the web: quality information or information overload? *Pharm J* 2000; 264: 220–222.

25. NHS Digital. Why digital inclusion matters to health and social care, https://digital.nhs.uk/about-nhs-digital/our-work/digital-inclusion/digital-inclusion-in-health-and-social-care (accessed 11 February 2020).

26. Arbuckle C, Tomaszewski D, Brown L, *et al*. Exploring the relationship of digital information sources and medication adherence. *Comput Biol Med* 2019; 109: 303–310.

27. Braun LA, Zomorodbakhsch B, Keinki C, *et al*. Information needs, communication and usage of social media by cancer patients and their relatives. *J Cancer Res Clin Oncol* 2019; 145: 1865–1875.

28. Desai S. The impact of social media on drug safety, https://www.sciformix.com/safety-risk-management-blog/the-impact-of-social-media-on-drug-safety/ (accessed 10 December 2019).

29. Hansen C, Interrante JD, Ailes EC, *et al*. Assessment of YouTube videos as a source of information on medication use in pregnancy. *Pharmacoepidemiol Drug Saf* 2016; 25: 35–44.

30. Iverson SA, Howard KB and Penney BK. Impact of internet use on health-related behaviors and the patient-physician relationship: a survey-based study and review. *J Am Osteopath Assoc* 2008; 108: 699–711.