Sir,

The ultimate aim of scientific research is to systematically generate valid data which is measurable, reproducible, and testable, contributing to the existing knowledge about the subject. The purpose of research will fail if the knowledge gathered is not communicated to the scientific world. Medical journals have been essential in publishing scientific content for centuries. Before the era of internet, scientific publications had limited distribution and reputation of the source was an important determinant of their significance. With the drastic increase in scientific literature in recent years, the scenario has changed over decades. Owing to the plethora of published data with diverse results, it has become imperative to identify the most relevant publications. The introduction of altmetrics is an interesting recent development in scientific society in this aspect.\(^1\)

Citations have been traditionally considered as the recognition of research work. Accordingly, journal impact factor is based on the citation data and publication in journals with high impact factors has been a measure of scientific reputation. However, the fast pace of scientific growth and increasing application of the internet and social media in research have limited its value. Since citation for any publication may take several years to accumulate, it fails to reflect the immediate scholarly activities (i.e., downloads, sharing, comments and discussions, annotations, recommendations, and bookmarking). Altmetrics are a fast emerging concept.\(^2\) It is a novel article level matrix encompassing online activities and interactions between authors and readers which are more likely to reflect the actual impact of a publication than traditional metrics. Unlike traditional metrics, these are not restricted only to journal articles. Research output in any form can have altmetric information.\(^3\) Altmetrics of scientific literature are hosted in a central website (http://altmetrics.org/manifesto/).\(^4\) It is enriched with online tools for tracking and analyzing these online activities [Table 1].\(^5\) The estimation of altmetrics is based on number and nature (more weightage for blogs and journals than tweets) of nonduplicate online mentions and their authors.\(^6\) Several eminent academic publishers are currently providing altmetrics information for articles published in their journals.\(^3,4,6\) Altmetrics are relevant for researchers, publishers, funding agencies, as well as for administrators. Since, it is traceable to a particular publication, scholars can keep a track on their academic growth. Furthermore, it may be conveniently utilized for faculty appraisal or for research funding.\(^7,8\) The real challenge which limits its general use is the difficulty of standardization. While citation in an indexed journal generally indicates utilization of the research knowledge in the citing publication, a high metrics due to mere views or bookmarks does not ensure its use for research purpose.\(^3\) Online activities may be influenced with a mala fide intention to boost these metrics. Moreover, these may not always indicate a positive academic growth, as in the case of controversial publications and retractions. Articles published before July 2011 are likely to show lower altmetrics due to the possible omission of some online activities.\(^6\) However, these novel metrics are in early stage of development and are likely to emerge as an indispensable tool for research assessment in near future.

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Conflicts of Interest
There are no conflicts of interest.

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Table 1:
Popular online altmetrics tools

| Altmetrics tools       | Features                                                        | Web URL                               |
|------------------------|-----------------------------------------------------------------|---------------------------------------|
| ImpactStory            | Collects impact data from various resources and transform into single permalink report | https://impactstory.org/              |
| ReaderMeter            | Provides author-level and article-level statistics              | http://readermeter.org/              |
| ScienceCard            | Provides author-level and article-level statistics              | http://www.sciencecard.org/          |
| PLoS Impact Explorer   | Provides the discussions on articles published by PLoS          | http://www.altmetric.com/demos/plos.html |
| PaperCritic            | Provides feedbacks scientific work and allows open review       | http://www.papercritic.com/           |
| CrowdOmeter            | Uses CiTO to classify citations                                | http://www.crowdometer.org/          |

CiTO=Citation Typing Ontology, URL=Uniform Resource Locator
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### Letters to the Editor

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