EMERGING ONLINE TOOLS AND PLATFORMS FOR SCHOLARLY ACTIVITIES

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Abstract

Scholarly activities are increasingly dependent on a wide variety of online tools and platforms. Processing health information on such platforms may enrich research studies and solve some healthcare issues. Health information analyses and online surveys are frequently conducted to test old hypothesis and generate new ones. These studies require thorough understanding of the subject and skilful use of online platforms, including social media. Social media platforms are increasingly employed for retrieving and disseminating research data. Scholarly activities on Twitter and other globally popular social media are now recommended for research, education, and clinical practice. Aggregated social media information and related altmetric data have emerged as reflections of the immediacy effects of online sharing and commenting and as tools to complement citation analyses. Researchers and research managers may use altmetrics to plan their studies and introduce changes to the education process. Securing uninterrupted access to Internet and available online tools may facilitate quality research and other scholarly activities.

Keywords: Research design, Social Media, Periodicals as topic, Survey, Altmetrics, Open Access Publishing

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INTRODUCTION

Scientific research and communication have undergone major changes over the past few months due to the COVID-19 pandemic. In the same period, medical education has also transformed to adjust to the new realities and embrace rapidly advancing digital technologies. Despite several limitations of virtual activities in science and medicine, online communication platforms will stay with us for the foreseeable future to help solve some healthcare issues. Thus, acquiring

digital communication skills and engaging in online scholarly activities are becoming increasingly important for faculty members, researchers, and students. Such skills are required for successfully competing in the academic environment and benefitting from the Open Science global initiative that offers equal opportunities to all those who ethically contribute to the science growth by innovative research, influential publishing, and meaningful increase of citation metrics [1]. By accepting knowledge accumulation and greater societal good as

the main goals of scholarly activities, research and academic institutions across the world may develop strategies to combat current threats to health and wellbeing.

HEALTH INFORMATION ANALYSES

While traditional activities related to bedside patient care and clinical observations are now severely interrupted across most academic institutions, analyses of previously archived clinical data, digitized health information, and online surveys of patients, students, and specialists are becoming essential.

In the time of crisis, the most reliable and validated health information can be obtained from annual statistical reports (yearbooks) of international agencies and local health departments/ministries where medical documentations are digitized and curated to guide global and local healthcare strategies. The annual reports on morbidity and mortality can be processed in cross-sectional analytical studies to reveal monthly and annual trends and prevalence of common diseases and syndromes [2]. Additionally, pooled data from statistical yearbooks of various countries and regions can be analyzed to visualize country-based trends [3]. Understandably, such studies have their inherent limitations primarily due to the lack of data on 'orphan' and some newly defined disease states. Researchers may analyze available ministerial data to justify more focused and detailed observational studies such as those looking at COVID-19-related autoimmune conditions.

ONLINE SURVEY STUDIES

Online surveys are useful for gauging opinion of various stakeholders on procedures and disease states in a short period of time, particularly during the current pandemic. These cross-sectional studies may reveal empirical approaches of a large number of surveyees towards rare and newly defined diseases at a given time period and provide answers to old hypotheses and generate new ones. Designing survey studies require profound understanding of the subject to formulate closed and open-ended questions and comprehensively cover current state and perspectives of diseases. With the advent of advanced online survey platforms such as SurveyMonkey (<https://www.surveymonkey.com/>) and Google Forms (<https://docs.google.com/forms>), designing surveys and analyzing related data have become much easier and graphically more appealing. Furthermore, the growing popularity of certain social media platforms and availability of moderated social media accounts, particularly those of academic journals,

have made it easier to distribute questionnaires to target groups and maximize response rates [4, 5]. The use of popular platforms such as Facebook has allowed covering large groups of surveyees in a short time and providing solutions for public health issues in the COVID-19 pandemic [6, 7].

SCHOLARLY USE OF SOCIAL MEDIA

One of the requirements for optimizing online scholarly activities in the time of crisis is to launch emergency networks and augmenting previously established platforms [8]. While analyses of the frequency, reach, and impact of online mentions on social media, blogs, and news outlets proved valuable for describing new diseases such as COVID-19, these platforms can be viewed as emerging sources of scientific information [9]. Some of the popular social media accounts, which are predominantly used for socializing, entertaining, and maintaining personal ties with family and friends, can be (re)designed to form closed groups of medical students and mentors with own rules of communication, resource sharing, and feedback evaluation [10]. Depending on the availability and popularity of social media, approaches to their scholarly use vary across countries and academic disciplines. For example, Twitter, designed as a microblogging site, is mostly employed by users in Anglophone and developed countries who generate tweets on a variety of issues, follow e-meetings, respond to surveys, to name just a few activities. Twitter journal club meetings are now frequently organized in Anglophone countries as a part of continuing professional development to improve mentees' critical appraisal skills, and as a strategy to build an online community [11, 12]. Instagram is popular amongst specialists who predominantly operate with graphical materials (e.g., otolaryngologists, dermatologists) [13, 14]. Dental students view Instagram, along with other social media sites, as a tool for improving their research skills, improving creative and innovative thinking, and making their learning activities more engaging [15].

Information technology experts may teach medics how to use various video-sharing platforms and to arrange networks for sharing audio-visual materials amongst researchers and educators with special interests [16]. Telemedicine has already been praised as a perspective area in rheumatology, orthopaedics, and rehabilitation amidst the COVID-19 pandemic [17, 18, 19]. Preliminary evidence suggests that telemedicine and telerehabilitation are viable substitutes of traditional face-to-face patient care, allowing to minimize risks of infection spreading while maintaining the quality of outpatient services and ensuring patient satisfaction.

COMPLEMENTARY USE OF ALTMETRIC ANALYSES

With the extensive use of social media for scholarly purposes, several information aggregators have emerged to analyze societal implications of online sharing, disseminating, and commenting. Social attention metrics, particularly the Altmetric Attention Scores (AAS) by altmetric.com, have been proposed to rank trending articles across academic disciplines and facilitate strategic planning for research and research managements [20].

Online studies on social media metrics, or altmetric analyses, complement citation (bibliometric) analyses and open up new avenues for science communication. Researchers with access to altmetric.com and other social media aggregators may enrich their research and reviews with a new dimension of empirical evidence which is largely based on tweets, Facebook mentions, and other public sharing and commenting activities [21]. Journal editors may employ altmetric analyses for evaluating the efficiency of post-publication promotion and, to some extent, prediction of citation metrics [22].

The importance of altmetric analyses becomes evident in the COVID-19 pandemic when social media platforms enable processing and distinguishing the most influential articles much faster than established citation databases like Scopus and Web of Science [23, 24]. The digitization and Open Access movement positively influence the immediacy effect of social media activities [25, 26]. In fact, social media posts with Digital Object Identifiers (DOI) and links to public archiving sites such as PubMed Central attract societal attention to scholarly articles and increase citations across medical and allied health disciplines [27, 28].

CONCLUSION

Online tools and platforms are extensively employed to support research studies, teaching-learning activities, and to aid in solving public health issues. The current pandemic has unequivocally justified the use of established and emerging online platforms for scientific research and education [29]. Acquiring digital skills and exploring functional characteristics of globally popular social media, particularly Twitter, and altmetric information aggregators are now requirements of efficient scholarly work. At the same time, the availability of advanced online tools and critical mass of skilled users cannot serve the purpose with censored and irregular Internet access in some parts of the world [30, 31, 32]. Patchy Internet services may even pose ethical issues for healthcare systems struggling to curb COVID-19 outbreaks. Thus, securing uninterrupted high-speed Internet services and providing access to a variety of online platforms and social media aggregators is warranted to solve complex issues in research, education, and healthcare.

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CONFLICTS OF INTEREST

The authors have no potential conflicts of interest to disclose.

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ҒЫЛЫМИ ҚЫЗМЕТКЕ АРНАЛҒАН ЗАМАНАУИ ОНЛАЙН ҚҰРАЛДАР ЖӘНЕ ПЛАТФОРМАЛАР

Түйіндеме

Ғылыми қызмет қазіргі заманғы онлайн құралдары мен платформаларына тәуелді бола түсуде. Интернеттегі құралдар мен платформалар көмегімен орындалатын медициналық ақпараттық массивтерді өңдеу зерттеудің сапасын жақсартады және денсаулық сақтаудың бірқатар мәселелерін тиімді шешеді. Бүгінгі күні онлайн-сауалнамалар жиі өткізіледі, белгілі гипотезаларды тексеру және жаңаларын жасау үшін халықтың денсаулығы туралы ақпарат талданады. Осы түрдегі зерттеулер тақырыпты терең түсінуді және заманауи онлайн платформаларды, соның ішінде әлеуметтік желілерді шебер пайдалануды талап етеді. Соңғы уақыттарда әлеуметтік желілер платформалары зерттеуден алынған деректерді іздеу және тарату үшін кеңінен қолданылады. Твиттерді және басқа да әлеуметтік желілерді ғалымдарға, зерттеушілерге, дәрігерлерге және басқа да мамандарға қолдану ұсынылады. Әлеуметтік желілерде жинақталған ақпарат және онымен байланысты альтметриялық деректер ғылыми қоғамдастық мүшелерінің онлайн-алмасуларының және пікірлерінің, сондай-ақ дәйексөздік талдауды толықтыратын құралдардың көрінісі болып табылады. Зерттеушілер өз зерттеулерін жоспарлау және оқыту процесіне өзгерістер енгізу үшін альтметрияны қолдана алады. Сонымен қатар, Ғаламторға, заманауи онлайн құралдары мен платформаларға үздіксіз қол жетімділікті қамтамасыз ету жалпы ғылыми зерттеулер мен ғылыми жұмыстардың сапасын жақсартуға көмектеседі.

Түйінді сөздер: Зерттеу дизайны, әлеуметтік желілер, тақырып ретіндегі мерзімді басылымдар, сауалнама, альтернативті көрсеткіштер, ашық басылымдар

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СОВРЕМЕННЫЕ ОНЛАЙН ИНСТРУМЕНТЫ И ПЛАТФОРМЫ ДЛЯ НАУЧНОЙ ДЕЯТЕЛЬНОСТИ

Резюме

Научная деятельность становится все более зависимой от современных онлайн инструментов и платформ. Обработка массивов медицинской информации, выполненная с помощью онлайн инструментов и платформ, повышает качество исследований и эффективно решает ряд проблем здравоохранения. Сегодня часто проводятся онлайн-опросы, анализируются сведения о здоровье населения для проверки известных гипотез и выработки новых. Исследования подобного плана требуют глубокого понимания предмета и умелого использования современных онлайн-платформ, в том числе социальных сетей. Платформы социальных сетей в последнее время активно используются для поиска и распространения данных, полученных в результате научных исследований. Применение Твиттера и других социальных сетей рекомендовано для исследователей, клиницистов и других специалистов. Информация, агрегированная в социальных сетях и связанные с ней альтметрические данные являются отражением протекающих онлайн-обмена и комментирования членов научного сообщества, а также инструментов, дополняющих анализ цитирования. Исследователи могут использовать альтметрики для планирования своих исследований и внесения изменений в учебный процесс. При этом обеспечение бесперебойного доступа к Интернету, современными онлайн-инструментами и платформами может способствовать повышению качества исследований и научной деятельности в целом.

Ключевые слова: Дизайн исследования, социальные сети, периодические издания как тема, опрос, альтернативные метрики, публикации в открытом доступе

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