

A Content Analysis of the *Journal for Vascular Ultrasound*: Challenges and Opportunities

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Abstract

The Quality Improvement and Research Committee of the Society for Vascular Ultrasound has recognized the *Journal for Vascular Ultrasound* to promote quality improvement, research and scholarly initiatives of the Society. An understanding of the content and character of its published articles and its status amongst journals on vascular ultrasound will be useful to this mandate. This project aims to identify the scope of *Journal for Vascular Ultrasound* and its implications for the Society membership. *Journal for Vascular Ultrasound* Volumes 40 to 42 (2016-2018) were reviewed to identify the number of articles published, the type of scholarly work, and the vascular ultrasound domains represented. The findings were compared with major databases and a targeted list of journals with vascular ultrasound content. In addition, bibliometric parameters specific to *Journal for Vascular Ultrasound* were identified and compared with other journals. The *Journal for Vascular Ultrasound* published 71 articles over the 3 years; 100% were vascular ultrasound topics. The most frequent activities were 35 cases, 20 research, and 5 guidelines. The topics were 19 venous, 18 carotid, 7 arterial, 2 aorta, 1 education, and 10 unusual findings, and 4 other studies. In the 312 targeted journals, 4792 articles were published in 2018; 135 were relevant to vascular ultrasound. The maximum vascular ultrasound content in any one journal, other than *Journal for Vascular Ultrasound*, was 20% (range = 0-20, median = 8%). The impact of *Journal for Vascular Ultrasound*, by the H-score of 11 and SJR of 0.12, ranks the *Journal for Vascular Ultrasound* in the lowest 10% of surveyed journals. Of the citable *Journal for Vascular Ultrasound* articles, only 6% were cited in bibliometric analysis. The *Journal for Vascular Ultrasound* has the highest percentage of content of vascular ultrasound of targeted journals. Case reports represent the bulk of *Journal for Vascular Ultrasound* published work. Citations and impact remain low. None of the targeted journals have very much content in vascular ultrasound. These findings suggest a variety of challenges and opportunities for the Society.

Keywords

vascular ultrasound, bibliometrics, journals, research, publications, impact factor

Introduction

The Quality Improvement and Research Committee (QIRC) of the Society for Vascular Ultrasound (SVU) has the mandate to coordinate, organize, and promote scholarly activities within the SVU. Such activities include quality improvement projects and research initiatives related to vascular ultrasound (VUS). The aim the Committee is to facilitate such projects and encourage presentation and publication of the results for the benefit of the profession. In general, presentations may take place through the SVU annual meeting or at any other academic venue. The further dissemination of the work can be through publication in any of the scientific journals relevant to the field. QIRC has recognized the *Journal for Vascular Ultrasound* (JVU), the official journal of the Society (SVU), as the vehicle to promote quality improvement, research, and other scholarly initiatives of the Society and its members. As such, an understanding of

the content and character of its published articles helps to guide submissions and allow timely publication in an appropriate journal. In addition, individual investigators may have academic benefit from the status of JVU among other journals that publish articles on VUS. Such information will be useful to further the mandate of QIRC and the mission of the Society. This project aims to identify the scope of JVU and its implications for the Society membership.

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Methods

JVU Volumes 40 to 42 (2016-2018) were reviewed in detail to identify the number of articles published, the type of scholarly work, and the VUS domains represented. The 3 authors independently reviewed the Table of Contents of each issue and parsed the articles. Specific parameters that were collated included the number of articles and the percentage that represented VUS topics. The specific type of article included Case Reports, Original Research, Guidelines, and Other. In addition, the topic for each article was identified. These included venous, carotid, arterial, aorta, education, and unusual findings. The data were tabulated in an Excel spreadsheet for further analysis. The findings were compared with data from a survey of major databases of scientific journals (Web of Science, Google, and SCOPUS) and a targeted list of journals which were expected to have VUS content over the same timeline with detailed analysis for the year 2018. The database surveys queried for "VUS," "arterial duplex," "carotid duplex," and "venous duplex"; specific English-language journals were identified from the articles that returned from the surveys. The 3 authors independently developed lists of target journals containing VUS content. Bibliometric parameters specific to JVU were identified and compared with other journals. These included the rank, impact factor, H-score, h5-index, and SCImago Journal Rank (SJR) and percentage of articles cited from JVU.

Results

The JVU published a total of 71 articles over the 3 years. For each of 2016, 2017, and 2018, 23, 23, and 25 articles were published, respectively; 100% were VUS topics. The most frequent activities were 35 case reports (50%), 20 original research (28%), 5 guidelines (7%), and 11 other (16%). The topics were 19 venous (27%), 18 carotid (25%), 7 arterial (10%), 2 aorta (3%), 1 education (1%), and 10 unusual findings (14%), and 4 other (6%) studies. In the 312 targeted journals, 4792 articles were published in 2018; 135 (2.8%) were relevant to VUS. The maximum VUS content in any one journal, other than the JVU, was 20%, with a range of 0% to 20%. Despite its predominance in VUS content, the impact of JVU, by the H-score of 11, h5-index of 5, and SJR of 0.12, ranks the JVU in the lowest 10% of surveyed journals. Of the citable JVU articles, only 6% were cited in bibliometric analysis. Of note, case reports were rarely cited. It was not possible to specifically determine the importance of an individual VUS article in contributing to rankings of individual journals. It was observed, however, that clinical practice consensus guidelines had high citation scores. The Vascular Surgery Aneurysm Guidelines published in 2018 in the *Journal of Vascular Surgery* showed 126 citations and 330 captures over 18 months.

Discussion

The QIRC of the SVU was formed by the Board in 2017, in keeping with the strategic direction and mission of the SVU.

The QIRC mandate is to promote quality improvement and research within SVU and facilitate such scholarly activities both within and outside the Society by the members of SVU. Its direction includes coordinating and/or organizing these types of activities for SVU members. In addition, this is complemented with educational initiatives around scholarly activities through webinars and a "frequently asked questions" roster online. These are works in progress. The committee has identified specific research projects and is developing protocols and obtaining ethics approval for them. It has also identified proposals and applied for funding from outside agencies.

The QIRC has identified presentation opportunities for VUS-based studies at the Annual Meeting of the SVU and elsewhere. It is also promoting publication of scholarly work through journals appropriate to VUS content. The JVU is the official journal of the SVU and has been recognized as the vehicle of choice for communicating study results from QIRC projects and other academic work of Society members. A knowledge of the characteristics of the Journal allows for an understanding of the challenges and opportunities presented to the Society, the JVU Editorial Board, and the SVU membership.

There are recognized characteristics of a journal targeted for submission of an article for publication.^{1,2} Essentially, the most appropriate journal in which to publish a specific study relates to a target audience interested in the content, style, and depth of the work. To fit, important characteristics of the journal include a content base and article type that are consistent with the article being submitted. For VUS, this would include topic areas related to the anatomy, physiology, and pathology being studied. The anatomic spheres include venous, arterial, aortic, renal, carotid, mesenteric, renal, or other specific anatomic regions. The JVU publishes content in all spheres on a regular basis. Venous and carotid topics were most commonly represented over the time range studied, with 19 (27%) venous and 18 (25%) carotid studies. Arterial studies are also frequently published, with 7 (10%) articles. Aortic, renal, and mesenteric are underrepresented, as are studies on education, training, quality improvement, and accreditation/registration topics. It was not known whether this distribution represents the variety and quality of work submitted for review. The SVU publishes standards on its website rather than in the JVU; hence, this material is not included. Basic science topics and physics and instrumentation papers are rarely included. Only 1 article related to point-of-care ultrasound (POCUS) over the 3-year period³; as an emerging focus, more material in this area may be appropriate. The JVU Instructions to Authors⁴ notes that all areas of VUS work will be considered; hence, this is not a conscious editorial preference but more likely represents the content and nature of submitted articles. Compared with the VUS content in other journals, the anatomic sites are similarly represented, but there is more content on aortic and mesenteric studies in other journals. This may demonstrate a challenge to the JVU to attract a broader spectrum of material and an opportunity for the QIRC to promote study in underrepresented spheres.

As well, the target journal for a manuscript submission should have a publication record of accepting material that is consistent with the article type.^{1,2} This may represent scientific articles, case reports, consensus guidelines, or other types of work. For the submitting authors, the content scope and article types are described in the “Instructions for Authors” and will guide submission of appropriate material. The JVU accepts a broad range of article types, similar to other journals. Publication of original scientific work and consensus reports are accepted by the JVU and the other journals.

The JVU publishes a large number of case reports; this represents approximately 50% of the article type. Some journals, however, rarely publish case reports, as the impact of such articles tends to be lower and they are seldom cited.⁵ The inclusion of case reports in the JVU provides a forum for presentation of unusual pathology or novel techniques. In addition, this type of article is viewed as an avenue for publication without the cost, time, or resource commitment of more formal projects. Given that there has been a marked increase in the number of journals publishing case reports and that many of these are pay-for-publication journals that, in some cases, may represent a “gray-zone” of publishing, there is still a place of case reports in higher ranking journals.⁵ Some publishers and societies, such as the Society for Vascular Surgery, have split off a separate journal for case reports to protect this avenue of scholarly reporting while maintaining a higher impact factor for their main journal. An allowance for this type of article in the JVU provides an opportunity for the journal and QIRC to promote such work.

The “Instructions for Authors” of the JVU² states that it accepts original scientific articles and case studies; these were represented in this analysis. It also notes that book and technical reviews, viewpoints, and letters to the editor are considered; none were identified in this study. The journal promotes Continuing Medical Education (CME) tests and provides credits for these activities; this component was not assessed in this study.

In addition, the review of the table of contents and a parsing of published articles in the JVU and other journals expected to contain VUS studies give a sense of the type of material considered and published and appropriate to each journal. The JVU has 100% VUS content; of this, approximately 50% are case reports. Other journals published 0% to 20% VUS content. As such, the JVU is the single best source for a critical mass of VUS content. The merit of this work and the impact of each journal, however, are reflected in bibliometric analysis of each journal. Bibliometric analysis relates a variety of parameters to rank journals.⁶⁻⁸ Using standard parameters, the JVU ranks in the lowest 10% of all journals.⁹ It is generally not clear as to which type of article or what content drives the impact of journals which do not have very much VUS content; their standing may well be determined by non-VUS content. Alternatively, case reports rarely contribute to the impact of a journal.⁵

The status or rank of a journal can be significant to authors and institutions for recognition, funding applications, and promotion. Higher ranked journals generally are preferred for

publication of important work.^{1,2} Review of a survey of major databases⁹ of scientific journals (Web of Science, Google, and SCOPUS) suggests that JVU is not a primary resource for reference and citations. Despite its predominance in VUS content, the impact of JVU, by the H-score of 11, h5-index of 5, and SJR of 0.12, ranks the JVU in the lowest 10% of surveyed journals. Of the “citable” JVU articles, only 6% were cited. It may be that the recent timeline has not allowed sufficient time for more citations but, generally, citations occur early after a publication unless the paper represents a seminal work. It was not possible to specifically determine the impact or citation rate for most of the individual VUS articles in individual journals. It was observed, however, that clinical practice consensus guidelines had high citation scores. For instance, the Society for Vascular Surgery Aneurysm Guidelines published in 2018 in the *Journal of Vascular Surgery* showed 126 citations and 330 captures over 18 months.¹⁰ In consideration of the JVU, the publication of SVU VUS Standards, which are now posted by the SVU on its website, may be helpful in promoting the JVU. Generally, case reports are not highly cited; the JVU has a large percentage of such material. These observations provide a challenge and an opportunity to the JVU to obtain and publish more citable material and for the QIRC to promote this type of scholarly activity, as well.

Conclusions

The JVU has the highest percentage of content of VUS of targeted journals; it covers a broad spectrum of topics. It is the official journal of the SVU and is recognized and promoted by the QIRC of the SVU as the most appropriate target for publication of scholarly work in VUS. Case reports represent the bulk of JVU published work. Although the content appears to be appropriate, citations and impact remain low. None of the targeted journals nor the major databases are specific to, nor have much content in, VUS. These findings suggest a variety of challenges and opportunities for the Society, the Journal, and QIRC in developing the role for the JVU to serve the membership.

Declaration of Conflicting Interests

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