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Research Article

Conversion Rate and Time-Delay from Abstract Presentations at USANZ National Meetings to Manuscript Publication in Scientific Journals

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Abstract

Purpose: USANZ Annual Meeting serves as platform for presenting unpublished research in urology. Among selected abstracts, podium presentations represent most impactful submissions to conferences. A surrogate marker for evaluating the quality and impact of presentations at scientific meeting is rate with which the findings presented at conferences are published as research papers in peer-reviewed journals.

Aim: to assess publication rate of presentations from USANZ ASM annual conference and type of studies likely to be published over a five-year period from 2015 to 2019.

Methods: podium presentations from USANZ ASM Annual Meeting from 2015-2019 were reviewed. Abstracts were assessed for publication, allowing for a minimum 3-year window of publication. Abstract authors were individually searched with key terms being added sequentially until results were generated in PubMed. Abstracts were deemed published if at least 1 author and 1 conclusion matched a manuscript. Theme of abstract, publication rate, time to publication, journal impact factor and characteristics of the study were collected and evaluated.

Results: From 2015 to 2019, 278 abstracts out of the total of 1051 presentations at the USANZ ASM were published in various scientific journals giving a conversion rate of publication at 26.45 %. The mean time to publication was 8.58 months.

Conclusion: approximately one quarter of studies presented at the USANZ ASM conference will be published in Medline-indexed journals. The median time to publication was 8.58 months. Abstracts presentations that were multicentre, cohort size > 100 and prospective in nature are more likely to be converted to scientific publication.

Keywords: Conferences, Publication rate; Urology

Introduction

Scientific congresses provide an opportunity for clinicians and researchers to present latest breakthroughs in the field. The Urological Society of Australia and New Zealand (USANZ) is committed to promoting scientific activities within its community and the Annual Scientific Meeting (ASM) serves as a platform for members of the society, trainees and aspiring urologists to present innovative research in the field of urology. The information presented at these meetings often sparks discussions and impactful work may even influence clinical practice. Presentation of research projects at conferences and publication of scientific work in journals forms part of the requirements for applying to the Australian and New Zealand urology training program. The research presented at urology scientific meetings often serves as the basis of subsequent publication in peer-reviewed journals. One measure for evaluating the quality and impact of these presentations at scientific meeting is the rate at which the abstract presentations get converted to published research in peer-reviewed journals [1]. Thus, presentations at these meetings should be accurate and of a high standard. To ensure high quality and suitability for presentation at USANZ ASM, all submitted abstracts undergo a rigorous screening process by a select group of scientific committee members. Following the committee abstract review process, successful candidates are offered either an oral podium or poster presentation whilst those considered subpar or not suitable, will be rejected. However, not every abstract that gets accepted for presentation will result in published research. There are various factors that can cause authors to not publish their research such as lack of interest or time to prepare manuscripts and the actual quality and relevance of work being presented [2-4].

A previous study completed by Yoon et al. in 2012 on the conversion rates of abstracts presented at the USANZ ASM found a relatively low publication rate compared to international urology congressional conferences [5]. The paper found 29.8 % of conference presentations at USANZ ASM were converted to journal publications. Several mechanisms were proposed in the study by the authors to encourage higher publication rate including a more stringent selection process of abstract presentations by the committee to ensure high quality papers were accepted. Furthermore, it was hypothesised that the initiation of USANZ supplement to the BJU International in 2011 may positively contribute to higher publication rates over time. This paper aims to assess if there has been an improvement in publication rates of abstract presentations from USANZ ASM over the past decade since the initial study and to compare our current publication rates to international urology scientific meetings. We also assess mean time to publication and characteristics of studies that go onto being successfully converted into full-text publication in peer-reviewed journals to provide an insight into publication rates.

Methods

This is a retrospective cohort study of abstracts presented at the USANZ ASM from 2015 to 2019. USANZ ASM conference abstracts were identified from the BJU International USANZ supplement section. Podium oral and poster presentations from USANZ Annual Meeting during the years 2015 to 2019 were reviewed. To identify the publication of abstracts, an extensive PubMed database search was conducted. Search was conducted between 10 September 2022 to 10 October 2022 allowing for at least three-year window for scientific publication. Primary author and keywords from abstract title were used for initial search and further keywords and subsequent or senior authors were added. A presentation abstract was determined to be published if the published article contained same or similar study design, at least one common hypothesis and conclusion and at least one common author. If a matched journal article was found, time to publication in months, journal name and the impact factor was recorded. Any published studies prior to the conference abstract presentation were considered to have been published.

Of the articles published, characteristic of the studies including prospective versus retrospective study, cohort size <100 versus >100 and single centre versus multicentre study were assessed. Theme of the abstract was also recorded to evaluate the likely urological themes that get presented and subsequently published. Comparisons were made between the oral podium and poster presentation group by calculating T and Z scores using Statistical Package for Social Sciences SPSS program. All p values were two-tailed and statistical significance was considered if $p < 0.05$.

Results

Over the 5 year period, the total number of presentations at each USANZ ASM had steadily declined. 2017 had the largest number of oral and total presentations and had the highest proportion of podium oral presentations. During 2015 to 2019 an increase in the proportion of oral abstract presentations was observed from 30.8 % of presentations in 2015 to 60.0 % of presentations in 2019. Conversely, the proportion of poster presentations at the annual USANZ ASM has decreased over the 5 year period (Table 1). From 2015 to 2019, 278 abstracts out of the total of 1051 presentations at the USANZ ASM were published in various scientific journals giving a conversion rate of publication at 26.45 %. The mean time to publication was 8.58 months and there was no significant difference detected across the time to publication over the 5-year period. Over the 5-year period the differences in the publication rate between oral and poster presentations was statistically significant (22.9 % versus 29.7 %, $p=0.0128$). The difference in mean journal impact factor of published articles between the oral and poster presentation groups was not statistically significant ($p=0.0525$).

Year	Number of poster presentations	Number of oral presentations	Total presentations	Total number publications poster (percentage)	Total number publications oral (percentage)	Total number of publications	Total publication rate
2015	155	69	224	30 (19.4%)	23 (33.3%)	53	23.6%
2016	102	114	216	26 (25.5%)	39 (34.2%)	65	30.1%
2017	88	164	252	16 (18.2%)	42 (25.6%)	58	23.0%
2018	74	120	194	18 (24.3%)	40 (33.3%)	58	29.9%
2019	66	99	165	21 (31.8%)	23 (24.2%)	44	26.7%
Total	485	566	1051	111 (22.9%)	168 (29.7%)	278	26.66%

Table 1: Oral and poster publication rates 2015 to 2019.

Characteristics of the studies are published in Table 2. Of the published abstracts, oral presentations were more likely to be prospective compared to poster presentations and the differences observed over the 5-year period was statistically significant ($p<0.0001$). Generally, the oral presentation group had higher number of studies published with a larger cohort size (>100) compared to the poster group. The differences seen between the oral and poster groups was statistically significant ($p<0.0001$). Similarly, podium oral presentation group had higher rates of published multicentre studies compared to poster presentations for most years, the cumulative difference over the 5 years was also statistically significant ($p<0.0001$). Refer to Table 3.

	2015		2016		2017		2018		2019	
Characteristic	**Oral %**	**Poster %**	**Oral %**	**Poster %**	**Oral %**	**Poster %**	**Oral %**	**Poster %**	**Oral %**	**Poster %**
Retrospective	47.83	73.33	69.23	84.62	59.52	62.50	55.00	55.56	56.52	66.67
Prospective	52.17	26.67	30.77	26.92	40.48	37.5	45.00	44.44	43.48	33.33
Cohort size <100	30.43	40.00	17.95	50.00	26.19	62.5	37.50	55.56	30.43	33.33
Cohort size >100	29.57	60.00	82.05	50.00	73.81	37.5	62.50	44.44	69.57	66.67
Single centre	43.48	53.33	25.64	65.38	59.52	75.00	57.50	72.22	57.5	72.22
Multicentre	56.52	46.67	74.36	34.62	40.48	25.00	42.50	27.78	52.17	61.90

Table 2: Study characteristics of published abstract presentations (oral versus poster).

Characteristics between oral and poster presentations during 2015 to 2019	
Characteristic	**p value**
Publication rate	0.0128
Time to publication	0.0525
Impact factor	0.0349
Retrospective	<0.0001
Prospective	<0.0001
Cohort size <100	<0.0001
Cohort size >100	<0.0001
Single centre	<0.0001
Multi centre	<0.0001

Table 3: Statistical significance of difference observed in study.

Depicts the themes of the presentation at the USANZ ASM from 2015 to 2019. Most common themes for presentation were uro-oncology (49.7 %), endourology (10.47 %) and Lower Urinary Tract Symptoms (LUTS)/ Benign Prostatic Hyperplasia (BPH) (7.71 %). The least common themes for presentation included neuro-urology, paediatric urology and andrology. Table 4 depicts the successfully published abstracts by themes.

Discussion

Surgical scientific meetings provide a platform for authors to present novel research and outcomes of clinical trials. Conference abstract presentations usually undergo a screening process although this is not considered peer-reviewed in nature. Publication of abstracts in peer-reviewed journals validates the study methodology and outcomes, as well as implying high quality of research work [6,7]. Hence, a higher publication rate of conference presentations can be considered a surrogate marker for quality and impact of a conference [1,8]. A follow up period of 3 years was decided as previous studies examining publication rates have found most publications occur within 2 to 3 years of a conference presentation [9,10]. The mean time to publication for USANZ ASM presentations between 2015 to 2019 was 8.58 months. The USANZ ASM publication time was comparably faster compared to the American Urological Association podium presentations (12.5 months) [11] but similar to European Urology Association (8.6 months) [7].

Over the 5-year study period, oral presentations cumulatively had a higher publication rate compared to poster presentations and the results were statistically significant ($p<0.0001$). Furthermore, abstracts accepted as oral presentations were also more likely to be published in journals with a higher impact factor ($p=0.0349$). Abstracts are generally selected for an oral podium presentation based on higher quality research or greater scientific interest compared to poster presentations. These characteristics makes studies more suitable for publication and may explain the higher publication conversion rate seen in the oral presentations group. The most common themes for abstract presentations were uro-oncology, endourology and LUTS/BPH (refer to Table 4). Although uro-oncology was the most common theme, uro-oncology abstracts did not translate to higher proportion of publications. A study by Kocaaslan and colleagues found uro-oncology had one of the lowest publication rates at 3.8 % of all urology subsections at the 22nd Turkish National Urology Congress [12]. We hypothesise this is possibly explained by saturation of research within the field of uro-oncology and therefore lack of originality or duplication of work making it a difficult to publish in or requiring high quality studies to meet standard for publication [13]. Interestingly, neuro-urology and paediatric surgery had the lowest number of presentation but made up the highest proportion of published abstracts themes. Perhaps this is because these areas are under-represented in research and therefore of interest to journals as they can enhance readership.

	Total number	Published articles	Percentage publication rate
Uro-oncology	523	143	27.34
Endourology/ stones	110	21	19.09
LUTS/ BPH	81	31	38.27
Functional/ female urology	71	18	25.35
Reconstructive urology/ transplant	48	11	22.92
Paediatric urology	18	8	44.44
Andrology	14	3	21.43
Neuro-urology	4	2	50.00
Other	182	41	22.53

Table 4: Published presentations by theme 2015 to 2019.

There has been a decline over the past decade in the number of USANZ ASM abstracts being successfully converted into peer-reviewed publications. Our study found a cumulative publication rate of 26.7 % from 2015 to 2019. This is 3.1 % lower compared to the study published a decade ago by Yoon and colleagues in 2012 [5]. A similar phenomenon was observed in the publication rates of presented abstracts at the British Association of Urological Surgeons (BAUS) Annual Meeting. A study published in 2016 by Moon and colleagues found publication rates of BAUS presentations had declined over a decade, from 42 % to 24.2 % [14]. Whilst our publication rate is higher than BAUS, USANZ ASM publication rate is comparatively lower when benchmarked against other international urology conferences such as the American Urology Association AUA (up to 51.9 %) [11], the European Association of Urology EAU (47.3 %) [7], International Continence Society ICS Meeting (61.6 %) [15] and Urological Brazilian Meeting (39.0 %) [16]. The differences in publication rate may be a reflection of quality of the congress or quality of studies submitted by authors. It is possible conferences with a higher publication rate have a higher standard set for abstract acceptance, but the methodology of abstract selection is difficult to evaluate and compare [17]. The differences in publication rate observed can be due to myriad of reasons [2]. Dickersin et al. in their paper found 'lack of time' to prepare a manuscript as the main reason cited by investigators for not publishing their abstract [4]. It is also possible while some research is interesting and suitable for presentation at a conference, it may not meet standards for publication. Furthermore, not all authors who submit abstracts to conferences strive for a publication in a scientific journal. For example, authors who are presenting for the purpose of speciality application or trainees presenting as part of their training requirement may prepare abstracts without intention of converting their work into a publication. Thus, it can be argued that lack of publication of abstracts is dependent on author motivation to publish rather than quality of the abstract [7].

Approximately three quarters of work presented at the USANZ ASM does not go on to be published which raises the question if anything can be done to increase the overall publication rate. A systematic review of interventions to increase academic publication rates identified three types of interventions to enhance publication rates of research including writing courses, writing support groups and writing coaches [18]. Implementation of such supports may be useful for authors and could be incorporated into the USANZ ASM program in future years. Furthermore, conference abstracts that do not get published are often referred to as 'lost information' [19]. An example of a factor affecting rate of publication is publication bias, wherein there is a predilection to publish positive results over negative findings [20]. Positive outcome bias has been identified to be problematic in meta-analyses as results can be skewed towards positive outcomes or a certain effect [21]. Previous studies have found that research with positive or statistically significant results are more likely to be accepted by a journal for publication. [22] Presentation and publication of research work with negative findings should therefore be encouraged as they can meaningfully contribute to our knowledge base.

Examination of publication rates prompted us to question which factors increase the likelihood of a conference abstract being successfully published in a peer-reviewed journal. In addition to establishing publication rate and median time to publication, our study analysed characteristics of abstracts that went on to be published. A variety of factors relating to likelihood of publication were analysed within this review (Table 3) and is a strength of our study. Oral presentations had a higher proportion of full-text publications and these abstracts and were generally more likely to be prospective in nature, contained larger study cohorts and were multi centre analyses. The differences between oral and poster abstract publications were found to be statistically significant and can be considered predictors of full publication. These characteristics could be taken into account when selecting presentations for future scientific meetings. Thus, studies such as ours can be used to identify abstracts that are more likely to be published and improve quality of research presented at scientific meetings.

Focusing solely on quality of research or publication rates of a scientific meeting however may be counterproductive. Some authors may seek to present their work at scientific meetings to gain feedback on research projects regardless of its publication potential. Increasing abstract acceptance threshold defeats the purpose of these meetings serving as a platform for researchers to collaborate, seek improvement and feedback on their work within their scientific community. Furthermore, rejection of abstracts may impact publication of work. A study by Weber et al. found authors were discouraged to publish if their abstract was rejected by a meeting [2]. A balance must be achieved by scientific congresses when addressing its publication rate and quality of work presented.

We acknowledge limitations exist in our study. Abstract presentations were considered successfully converted to publication if they were found within PubMed database only. Other studies that have analysed conference publication rates have used similar methods. We did not perform literature search in other databases such as Scopus, CINAHL or Embase, so it is possible papers published in non-Medline journals were missed. This may have resulted in under-reporting of publication rate. Furthermore, the title of the abstracts could have been revised resulting in some published abstracts being missed during the search process. Some abstracts may not have been published within 3 years and in some cases, the presented abstracts serve as on-going studies beyond the time frame of this study criteria. Despite the above limitations, this paper provides a unique insight and further update on previous

study by Yoon et al. [5] into the current scientific rigor on abstract presentation at USANZ ASM. Future research should be aimed at investigating potential publication bias and methods to minimise barriers to scientific publication.

Conclusion

The aim of our study was to establish the publication rate and time-delay to publication for abstracts presented at USANZ ASM from 2015 to 2019 as well as examine study characteristics of successfully published abstracts. This study showed that approximately one quarter of studies presented at the USANZ ASM conference will be published in Medline-indexed journals. The median time to publication was 8.58 months. Abstracts presentations that were multicentre, cohort size > 100 and prospective in nature are more likely to be converted to scientific publication.

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