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Fate of abstracts presented at Association of Paediatric Surgeons of Nigeria annual meetings

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ABSTRACT

Background: The purpose of this study was to examine the characteristics of abstracts presented at the annual scientific meetings of Association of Paediatric Surgeons of Nigeria and their final publication rate. **Materials and Methods:** All abstracts accepted for presentation at the Association of Paediatric Surgeons of Nigeria meetings from 2004 to 2009 were identified from literature, search engines and other online materials. Abstracts accepted for the meetings but not presented during the meetings were excluded. **Results:** A total of 153 abstracts were examined, of which 52 (34%) resulted in publication in peer-reviewed journals. Median time from presentation to publication was 2 years (range 1–5 years). The median number of abstracts presented per year was 30 (range 25–40). About three quarters of abstracts were presented by consultants (114, 74.5%) and 39 (25.4%) by surgical trainees. Approximately three-quarters of the abstracts were case series (111, 75.8%). Case reports accounted for 22.8% of the abstracts. Thirty-two (39.5%) of 81 retrospective studies, 8/31 (25.8%) prospective studies, and 11/35 (31.4%) case reports were converted to full publication ($P = 0.403$). Abstracts on surgical infection, paediatric surgical oncology, and gastrointestinal tract had the highest publication rates (54.5% [6/11], 46.2% [6/13], and 33.3% [22/66], respectively, $P = 0.237$). The largest numbers of the reports were published in the *African Journal of Paediatric Surgery* (16 of 48; 33%), the *official Journal of the Association*. **Conclusions:** Only a third of presented abstracts were subsequently published in peer-reviewed journals. Effort to encourage the publication rates of presented abstracts by improving quality of research work as well as encouraging preconference submission of full-length articles for accepted abstracts, for publication in a conference supplement of the Association's journal is advised.

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INTRODUCTION

Presentation at conferences constitutes an invaluable method for rapid dissemination of current research findings and medical advances.[1] Although abstracts submitted to scientific meetings do not undergo the same critical peer review process as published articles, they often influence clinical thinking and practice.

Although acceptance of an abstract at a large scientific conference is important, it is publication of this research in a peer-reviewed journal that validates the data and methods.[1] Those who have studied the fate of abstracts from scientific meetings have used the study's subsequent publication in a peer-reviewed journal as a measure of quality.[2,3]

The purpose of this study was to examine the characteristics of abstracts presented at the annual scientific meetings of *Association of Paediatric Surgeons of Nigeria* and their final publication rate.

MATERIALS AND METHODS

All abstracts accepted for presentation at the Association of Paediatric Surgeons of Nigeria (APSON) meetings from 2004 to 2009 were identified from the conference abstract book and related published supplements in *African Journal of Paediatric Surgery*. The presentations were searched for publication in Medline® indexed journals using the PubMed and Google Scholar, using the name of the authors and the title of presented abstract for a successful conversion to a peer-reviewed paper. Relevant journals on the African Journal Online database were also searched. Personal contacts with authors at meetings, E-mail, and telephone contacts were also made with authors to enquire if their previously

presented papers had been published. Abstracts accepted for the meetings but not presented during the meetings were excluded. Only original papers and case reports corresponding to the abstract were selected: letters and editorials were excluded. The concordance between the information contained in the summary of the published article and that cited in the abstract of the meeting presentation was verified. Only published articles that were nearly identical in title, hypothesis, and study design to the abstracts were included as a match. When a full publication was confirmed, the journal, month, and year of publication were recorded. The database was searched till the end of December 2010. A total of 153 abstracts and publications met the study criteria and have been reviewed. Data were analyzed with SPSS 16.0. Chi-squared or Fisher's exact test was used to determine level of statistical significance for categorical variables as appropriate. The level of significance was set at $P < 0.05$.

A limitation of this study is the possibility of omitting articles published in journals that are not accessible through Medline/PubMed, Google scholar, or African Journal online, and contact with some authors did not provide much useful information regarding publication of the abstract.

RESULTS

A total of 153 abstracts were examined, of which 52 (34%) resulted in publication in peer-reviewed journals. Median time from presentation to publication was 2 years (range 1–5 years), mean 23.5 months. The median number of abstracts presented per year was 30 (range 25–40). All the presentations were podium presentations. There was a statistically significant difference in the publication rates between the years of conference ($P = 0.0001$) [Table 1]. For 2009, there was a notable drop in publication rate to 0% (0/25), which may be attributed to insufficient time having passed between the meeting and the evaluation period. There was no statistically significant difference in the publication rates between papers presented by surgical trainees (28.2%, 11 out of 39) and consultants (36%, 41 of 114) ($P = 0.377$). There were 116 (75.8%) original articles, 35 (22.9%) case reports, and others 2 (1.7%). Of the original articles, 95.7% (111/116) were case series. Retrospective studies accounted for 52.9% ($n = 81$) and prospective 20.3% ($n = 31$). Two of the studies were multicentre. There were no basic science or meta-analysis studies. Abstracts on surgical infection, paediatric surgical oncology, and gastrointestinal tract had the highest publication rates (54.5% [6/11], 46.2% [6/13], and 33.3% [22/66], respectively ($P = 0.237$) [Table 2]. Of the 52 abstracts published, 31 were in national journals while 21 were in international peer-reviewed journals. Thirty-two (39.5%) of 81 retrospective studies, 8/31 (25.8%) prospective studies, and 11/35 (31.4%) case reports [Table 2] were converted to full publication ($P = 0.403$). Most publications were in paediatric surgical journals (26/52, 50%), general medical journals (14/52, 26.9%), general surgical journals (6/52, 11.5%), general paediatric journals (2/52, 3.8%), and others (4/52, 7.7%). The largest numbers of the reports were published in the *African Journal of Paediatric Surgery* (22 of 52; 42.3%), the official *Journal of the Association of Paediatric Surgeons of Nigeria* [Table 3].

DISCUSSION

One of the primary purposes of presenting researches at scientific meetings is to disseminate important research findings as soon as possible. However, the validity of

Table 1: Publication rates by conference year

Year of conference	Total No. of abstracts	% Published (No.)
2004	30	56.7 (17)
2006	26	53.8 (14)
2007	40	35 (14)
2008	32	21.8 (7)
2009	25	0 (0)
Total	153	34 (52)

$P = 0.0001$

Table 2: Publication rates by topics and study design

Nature of study	Total No. of Abstracts	% Published (No.)
Topic		
Surgical infections	11	54.5 (6)
Oncology	13	46.2 (6)
Gastrointestinal tract	66	33.3 (22)
General topics	23	26.1 (6)
Paediatric urology	24	20.8 (5)
Surgical education	5	20 (1)
Others	11	54.5 (6)
$P = 0.237$		
Study design		
Retrospective	81	39.5 (32)
Prospective	31	25.8 (8)
Case reports	35	31.4 (11)
Survey	1	100 (1)
Review article	1	0 (0)
Basic science	0	0 (0)
Meta-analysis	0	0 (0)
Multi-centre studies	2	50 (1)
Technical studies (including operative techniques)	4	0 (0)

$P = 0.403$

Table 3: Publication rate by journals and study design

Journal	Retrospective (n = 32)	Prospective (n = 8)	Case reports (n = 11)	Survey (n = 1)	No published
African Journal of Paediatric Surgery	13	4	2	0	19
Journal of Indian Association of Paediatric Surgeons	3	0	2	0	5
Annals of African Medicine	2	1	1	0	4
Annals of Tropical Pediatrics	2	0	0	0	2
Journal of Paediatric Urology	1	1	0	0	2
Nigerian Journal of Postgraduate Medicine	0	0	2	0	2
Paediatric Surgery International	2	0	0	0	2
Pakistan Journal of Medical Sciences	2	0	0	0	2
Sahel Medical Journal	1	1	0	0	2
African Journal of Urology	1	0	0	0	1
East African Medical Journal	0	0	1	0	1
East and Central African Journal of Surgery	0	0	0	1	1
International Journal of Tropical Surgery	0	0	1	0	1
Journal of Medicine and Clinical Practice	0	0	1	0	1
Journal of Surgery and Surgical Sciences	1	0	0	0	1
Journal of Tropical Obstetrics and Gynaecology	0	0	1	0	1
Nigerian Journal of Surgery	1	0	0	0	1
Port Harcourt Medical Journal	1	0	0	0	1
South African Journal of Surgery	1	0	0	0	1
Surgical infection	0	1	0	0	1
Tropical Journal of Health Sciences	1	0	0	0	1

$P = 0.194$

research presented at scientific meetings has been of concern.[4-6] Practicing clinicians who attend meetings may choose to alter their clinical practice based on presented findings.

The accepted tool used by the scientific community to evaluate research quality is the critical peer review process, which occurs when a manuscript is submitted for publication. Articles that stand up to this scrutiny ultimately go on to publication.[7] Final publication of such research work in peer-reviewed journals makes the findings of the research available to a much wider scientific community and would have more impact.

Reported rates of publication of all abstracts in peer-reviewed journals range from 11% to 69%,[1,2,4-10] differing both by meeting and specialty.

Overall, 34% of the abstracts presented at the APSON Annual Scientific Meetings, 2004–2009, ultimately went on to successful publication at a median time from presentation to publication of 24 months. This proportion compares with the reported publication rates following major medical society meetings [Table 4]. Nonetheless, this study showed that 66% of the abstracts presented at the APSON Annual Meeting are unpublished. In a meta-analysis of 11 studies with 2,392 abstracts, Scherer *et al.*[11] reported a mean publication rate of 51% (95% CI, 45 to 57).

One of the goals of scientific research is the dissemination of research findings among peers to expand the body of knowledge.[2] Nguyen[2] in a review of 490 abstracts presented at Orthopaedic Trauma Association meetings between 1990 and 1995 reported a publication rate of 64% with mean presentation to publication time of 16 months. Similar findings have been reported from other discipline.[7,10]

Presentation of research findings to an audience of interest can be accomplished through formal or informal presentations at professional conferences or on a departmental level. However, the quality of a scientific meeting can be quantified by the number of publications arising from the presentations and the status of the journals publishing the research. This allows for further validation and dissemination among scientific community.[12]

That less than half of the research presented at our annual scientific meetings is ever subsequently published should be cause for concern among paediatric surgeons, conference organizers, and the scientific committee. The apparently low publication rate of 34% in this study may be understandable given that APSON is a national, rather than an international meeting and had just held its 9th annual meeting compared with other major scientific meetings that have been existing for decades.

Table 4: Publication rate of abstracts presented at major specialty meetings

References	Specialty	Meeting and year	No. of abstracts	Publication rate, %	Mean time from presentation to publication in months
Roy *et al*.[10]	ENT	Otorhinolarygological Research Society meetings 1978–1995	660	69	22.5
Nguyen *et al*.[2]	Orthopaedics	Orthopaedic Trauma Association, 1990–1995	490	64	16
Hoag *et al*.[7]	Urology	95th America Urological Association, 2000	1, 584	55	17
Carroll *et al*.[5]	Paediatrics	Pediatric Academic Society annual meeting USA, 1998 and 1999	1, 321	44.6	ND
Rao *et al*.[12]	Urology	British Association of Urological Surgeons, 2001–2002	449	42	36
Ng *et al*.[1]	Urology	America Urological Association, 1998–2000	4, 302	37.8	30
Fesperman *et al*.[6]	Urology	Southeasthern America Urological Association, 1996–2005	1, 195	33.5	ND
Oliver *et al*.[9]	Plastic Surgery	British Association of Plastic Surgeons, 1995–1999	370	32	18
Autorino *et al*.[5]	EndoUrology	World Congress Of Endourology, 2000–2001	1, 100	20.5	14.6
Secil e*t al*.[8]	Radiology	Turkish Radiology Congress, 1995–2002	4, 413	11.8	24
Present Study	Paediatric Surgery	Association of Paediatric Surgeons of Nigeria, 2004–2009	153	34	23.5

ND = not documented

Although the publication rate in this study is below average, it compared favourable well with 11.8% publication rate for Turkish radiological association,[8] 20% rate for Endourological Association,[4] 32% for British Association of Plastic Surgeons[9] and 33% for Southeasthern America Urological Association.[6]

The mean time of presentation to publication of 24 months in the present report compares with previous published series.[8-10,11] Recent reviews have, however, been showing lower mean delay from presentation to publication of less than 24 months.[2,4,13] This may be related to availability and increasing use of electronic manuscript submission and peer review systems, which tend to shorten the duration of peer review process and submission to publication time.

The reasons for not publishing abstracts are multifactorial.[14] The peer review process for accepting a paper for presentation at a scientific meeting is markedly different from that for a peer-reviewed manuscript being considered for publication in an indexed journal. In addition, preparation of an abstract requires only a fraction of the effort that manuscript preparation requires. Studies have found that the main reason for failure to convert an abstract into a peer-reviewed paper was "lack of time" for manuscript preparation.[15,16] These findings call for proper time management among researchers. At the same time, scientific committees for meetings should be encouraged to be more selective in evaluating the submitted abstracts in order to optimize the quality of the data presented.

Three-quarter of abstracts evaluated in this study were case series. This is similar to previous published data.[6,17,18] 75% of presentations at major urological meeting is composed of uncontrolled observational studies. In a recent review of four major urology journals in 2000 and 2005, Borawski *et al*.[18] found that 16% and 15% of published clinical studies provided high-level evidence, defined as level I and II evidence combined. These findings suggest that many clinical research studies presented at annual meetings of the APSON may be prone to bias and, therefore, may not be well suited to guide clinical decision making.

Gastrointestinal topic dominated the abstracts presented at APSON meeting, representing 43% of all abstracts presented. Whether this represents a selection bias on the part of the scientific committee or the true distribution of paediatric surgical research focus is not clear. It may be a reflection of general paediatric surgical practice in most African centers. However, there was no significant difference in publication rates based on study design or topic.

Most of the manuscripts, irrespective of study design, were published in AJPS. This is not surprising given the endorsement of the journal by APSON, Pan Africa Paediatric Surgical Association, and other African national paediatric surgical Associations which give this journal a wider coverage and readership among paediatric surgeons in Africa. Although relevance and readership of journals are judged by impact factors,[7] accessibility also contributes to where an author chooses to publish his or her work.

This study has shown that only a quarter of abstracts were presented by trainees. This underscores the value of research among surgical trainee. Trainee needs to be encouraged to present and publish more articles in preparation for a fruitful academic future. Dickerson *et al*.[15] have found that trainee are encourage to prepare abstract when training institutions pay for the cost of travel to national meetings for trainees who are presenting abstracts. Similarly, in the UK, there is pressure on trainees to conduct research and publish, to obtain a position in higher surgical training.[19] These are modalities that are applicable in Nigeria and need further consideration.

Effort needs to be made to improve the publication rates of presented abstracts by improving quality of research work as well as encouraging preconference submission of full-length articles for accepted abstracts, for publication in a conference supplement of the Association's journal.

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