Pediatric Orthopaedic Society of North America Annual Meetings Consistently Optimize Academic Value for Attendees

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INTRODUCTION:

The annual meeting program committees for orthopaedic subspecialty societies now receive more abstract submissions while conference durations remain similar. This study estimated the quality of the Pediatric Orthopaedic Society of North America (POSNA) annual meeting by analyzing abstract acceptance and publication characteristics.

METHODS:

Abstracts featured in recent POSNA annual meetings (2017-2020) whereby presentations had three subsequent years to reach publication were reviewed to determine annual acceptance rates, publication status, country of origin, study type, level of evidence, journal impact factor (JIF), and time to publication. The 2021 annual meeting was excluded due to a limited attendance format. Abstracts published with dissimilar results, altered methodology, or lacking the original first author were excluded.

RESULTS:

The abstract acceptance rate during the 4-year study period averaged 32±3% despite the number of submitted abstracts varying per year. Among 1306 included abstracts, 760 (58.2%) were published in peer-reviewed journals. The vast majority (95%) were published after the annual meeting. The JIF of publications averaged 2.8±2.0 without significant variation between years. Featured abstracts were most commonly retrospective (n=510; 67.1%). Podium presentations were published at a significantly higher rate than posters (63.1% versus 51.8%, p<0.001), and had a higher average JIF (2.9±2.3 versus 2.5±1.0, p=0.006). A total of 137 unique journals published abstracts, with *The Journal of Pediatric Orthopaedics* publishing the highest proportion of articles (n=231).

DISCUSSION AND CONCLUSION:

Abstracts featured in the most recently applicable POSNA annual meetings boast high rates of subsequent publication in relevant journals. This implies that the POSNA annual meeting offers strong educational value. When compared to posters and e-posters, podium presentations were more often published and appeared in higher impact journals. However, the prevalence of publication among both podium and poster presentations is encouraging for authors looking to substantiate the educational value of their research.

Table 1: Distribution of Accepted Abstracts at Recent Pediatric Orthopaedic Society of North America (POSNA) Annual Meetings

Year	Meeting Type	Podium	Poster	ePoster	Video	Total	Abstracts Submitted	Abstract Acceptance Rate	Average Level of Evidence
2017	IPOSNA	232	26	21	–	480	Over 1,000	>48%	3.2 ± 0.5
2018	POSNA	169	19	80	–	268	843	31%	3.8 ± 0.7
2019	POSNA	159	30	82	18	291	904	32%	3.9 ± 0.8
2020	POSNA (virtual)	175	–	128	17	320	1061	29%	3.2 ± 0.8

Table 2: Study Type of Published Abstracts per Year

Study type	2017	2018	2019	2020	Average Time to Publication (months)
Basic Science	11	4	7	10	17.3 ± 16.8
Biomechanical/Cadaveric	5	3	3	5	13.9 ± 11.0
Consensus	3	1	-	-	23.3 ± 31.2
Diagnostic	22	-	1	2	21.9 ± 19.1
Economic	2	5	-	1	10.8 ± 10.2
Prospective	16	42	30	17	21.8 ± 16.3
RCT	8	1	2	5	17.6 ± 17.0
Retrospective	147	110	119	134	20.5 ± 17.1
Review	2	4	-	1	9.0 ± 10.8
Survey	5	-	8	5	11.2 ± 9.3

RCT, Randomized Controlled Trial

Table 3: Published article data represented by level of evidence

	I (n=22)	II (n=201)	III (n=101)	IV (n=351)	V (n=1 31)	p-value
Overall time to publication (mean months, SD)	18.31 ± 30.27	19.35 ± 18.08	20.72 ± 18.84	18.95 ± 18.10	11.92 ± 10.81	0.774
Articles published before annual meeting (n, %)	2 (10.1)	3 (1.6)	18 (9.7)	19 (9.3)	1 (7.2)	**0.002**
Articles published within 12 months (n, %)	4 (18.8)	31 (20.7)	118 (50.8)	56 (33.4)	4 (48.2)	0.177
Articles published within 36 months (n, %)	17 (85.0)	87 (88.1)	247 (77.6)	189 (78.6)	11 (84.0)	0.086
Number of authors on published manuscript (mean, SD)	7.10 ± 3.78	8.45 ± 7.74	9.21 ± 7.75	8.13 ± 2.88	8.00 ± 3.58	0.381
JIF (mean, SD)	2.83 ± 1.44	3.17 ± 5.24	2.77 ± 1.13	2.75 ± 1.50	2.30 ± 0.92	0.139

Table 4: Number of Presented Abstracts Published in the Top 10 Accepting Journals

	2017	2018	2019	2020	Total	Average Time to Publication (mean months, SD)
Journal of Pediatric Orthopaedics	67	54	67	43	231	20.8 ± 14.2
Spine Deformity	28	24	10	15	69	19.1 ± 11.9
Journal of Bone and Joint Surgery (American Volume)	12	12	5	14	46	17.8 ± 14.1
Orthopaedic Journal of Sports Medicine	16	7	10	7	34	14.7 ± 18.2
Spine	11	10	6	2	29	19.3 ± 14.7
Journal of Children Orthopaedics	11	3	5	6	26	16.7 ± 17.1
Journal of Pediatric Orthopaedics Part B	11	-	-	7	18	17.4 ± 15.9
American Journal of Sports Medicine	3	4	2	3	17	12.2 ± 18.9
JAAOS	6	3	6	2	17	24.2 ± 14.7
Bone and Joint Journal	5	4	4	3	16	13.9 ± 19.4

JAAOS, Journal of the American Academy of Orthopaedic Surgeons.