

The Level of Study Group Involvement in AIS Presentations at the SRS Annual Meeting from 2008-2020

Maxwell D Marshall*; James F Mooney*; Robert F Murphy*

*Department of Orthopaedics and Physical Medicine 96 Jonathan Lucas St, CSB 708, MSC 622. Charleston, SC 29425, USA.

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***Corresponding Author:** Robert F Murphy, Department of Orthopaedics and Physical Medicine 96 Jonathan Lucas St, CSB 708, MSC 622. Charleston, SC 29425, USA.
Email: murphyr@musc.edu

Abstract

Introduction: Study groups pool data to improve evidence-based research. However, this may inadvertently limit perspectives from those not involved with study groups. We hypothesized that study group Podium Presentations (PP), would comprise a high percentage of AIS PP at the Scoliosis Research Society (SRS) Annual Meeting (AM).

Methods: AIS PP from the final electronic programs for the SRS AM from 2008-2020 were reviewed. Total number of PP, as well as PP with an affiliated study group were tabulated. PP associated with the Harms Study Group (HSG), were aggregated and compared to PP originating from other groups. For each year of the study period, the percentage of PP authored by the HSG was calculated, as was the percentage of PP from non-HSG groups.

Results: There was a total of 275 PP in AIS sessions, and 49 (17.8%) were affiliated with a study group. The HSG was an author for 39 PP (14.2% of the total PP, and 79.6% of all those PP associated with study group), with other study groups accounting for the remaining 10 PP (3.6% of total PP or 20.4% of those affiliated with a study group). The number and percentage of PP affiliated with the HSG varied widely over the study period, consisting of five (31.3%) of the 15 total PP within the AIS session in 2011, and none of the 15 PP within the AIS session in 2014.

Discussion and Conclusion: Study groups involve a high percentage of AIS podium presentations at the SRS AM. Efforts may be necessary to limit the number of presentations from some groups to maximize diversity of input, while maintaining overall research quality.

Introduction

Within academic medicine, annual meetings of specialty societies serve as a forum for disseminating and discussing the most recent research conducted within a particular field of study. Several formats for data presentation exist, including Podium Presentations (PP), paper posters, and electronic posters. Within annual meetings, PP are reserved for the most up-to-date and highest-quality research to be delivered in an oral format to a large in-person audience, with the opportunity for audience questions and discussion. PP allow researchers to receive critical feedback on ongoing studies, while also providing clinicians with the most up-to-date findings available in their field of practice. The Scoliosis Research Society (SRS) was founded in 1966 and has over 1300 active members. The SRS Annual Meeting (AM) is one of the preeminent opportunities to distribute and discuss information regarding pediatric and adult spinal deformity. Over 1,600 abstracts are submitted each year, and roughly 125 are selected for some type of

presentation at each SRS AM [1]. Bram, et al found that from 2005-2019, 20.3% of PP at the SRS AM were the product of a study group and the number of study group-generated PP more than tripled over that 15-year period [2].

Abstracts selected for presentation at the SRS AM are assigned for presentation during an appropriate session based on subject matter. For pediatric orthopaedic surgeons, the sessions of most interest are those dedicated to Adolescent Idiopathic Scoliosis (AIS). It has been observed anecdotally that data from a particular study group, the Harms Study Group (HSG), has been the source of a large number of abstracts selected for presentation during the AIS sessions. In light of this, and in an effort to document the role of study groups in general as the source of information at this specific meeting, we undertook an effort to assess changes in the prevalence of abstracts associated with study groups presented in pediatric spinal deformity sessions of the SRS Annual Meeting. In addition, we looked specifically at the prevalence of presentations based

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on data generated from the Harms Study Group, and how that changed over the review period.

Methods

The final electronic programs for the SRS Annual Meetings from 2008-2020 were reviewed for sessions dedicated to Adolescent Idiopathic Scoliosis. The total number of PP within these sessions, as well as the number with a study group listed as an author or with a study group as a listed source of the patient data, were tabulated for each year of the study period. In addition, PP associated with the HSG were aggregated and compared to PP originating from study groups other than the HSG. For each year of the study period, the percent of PP authored by the HSG was calculated, as was the percent of PP authored by other study groups.

Results

Over the 13-year study period, there were a total of 275 PP in AIS sessions. Of these, a total of 49 PP (17.8%) indicated that the data was collected from members of a specific study group. The HSG was listed as the source and/or members as an author for 39 PP (14.2% of the total PP and 79.6% of all those PP associated with study group), with all other study groups combined accounting for the remaining 10 PP (3.6% of total PP or 20.4% of those affiliated with a study group) during the review period (**Table 1**). When reviewed on an individual basis, the other study groups identified were insignificant contributors to PP, except in 2009, when the SDSG was affiliated with 16 total PP (31.3%) in the AIS session that year (**Table 2**). The other study groups identified were the Spinal Deformity Study Group (SDSG), Complex Spine Study Group (CXSSG), and Minimize Implants Maximize Outcomes Study Group (MIMO).

Table 1

Year	No. of dedicated AIS Sessions	Total no. of PP	No. of HSG PP	% HSG PP	No. of non-HSG study group PP	% non-HSG study group PP
2008	3	37	6	16.2	2	5.41
2009	1	16	3	18.8	5	31.25
2010	3	36	2	5.6	0	0.00
2011	1	16	5	31.3	0	0.00
2012	1	15	2	13.3	2	13.33
2013	1	15	2	13.3	1	6.67
2014	1	15	0	0.0	0	0.00
2015	1	15	1	6.7	0	0.00
2016	1	15	4	26.7	0	0.00
2017	1	15	3	20.0	0	0.00
2018	2	26	1	3.8	0	0.00
2019	2	27	7	25.9	0	0.00
2020	2	27	3	11.1	0	0.00
Mean	1.5	21.2	3.0	14.2	0.77	3.6
Total	20	275	39		10	

Table 2

Year	no. of SDSG presentations	no. of CXSSG presentations	no. of MIMO presentations	No. of non-HSG study group papers	% other study groups
2008	2	0	0	2	5.4
2009	5	0	0	5	31.3
2010	0	0	0	0	0.0
2011	0	0	0	0	0.0
2012	0	1	1	2	13.3
2013	0	1	0	1	6.7
2014	0	0	0	0	0.0
2015	0	0	0	0	0.0
2016	0	0	0	0	0.0
2017	0	0	0	0	0.0
2018	0	0	0	0	0.0
2019	0	0	0	0	0.0

2020	0	0	0	0	0.0
Mean	0.54	0.15	0.08	0.77	3.60
Total	7	2	1	10	

The number and percentage of PP authored by or affiliated with the HSG varied widely over the study period. In 2011, the HSG was listed as an author for five (31.3%) of the 15 total PP within the AIS session. In 2014, the HSG was not listed as an author for any of the 15 PP within the AIS session (**Figure 1**).

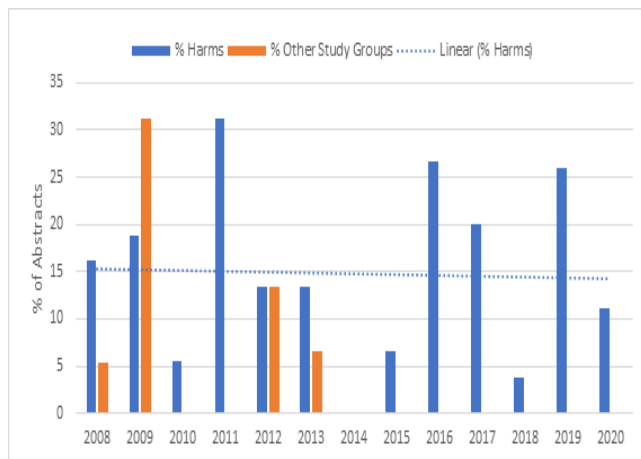


Figure 1: Percent of AIS Session Abstracts with Study Group Citations.

Discussion

The SRS AM is one of the premier venues for the distribution and discussion of new information regarding the management of pediatric spinal deformity. For pediatric orthopaedic spinal surgeons, the sessions devoted to AIS are of particular interest to the opportunity to exchange the latest developments in the field. Due to the importance of academic meetings in the dissemination of information in all areas of medicine, scrutiny of the information within presentations of this type has increased. Authors have analyzed studies' levels of evidence, [3, 4] potential gender biases in acceptance and presentations, [5] rates of eventual publication of studies post-presentation, [6, 7, 8] the prevalence of duplicate presentations of identical content at multiple meetings, [9, 10] as well as changes in the institutional origin of presentations at certain meetings over time [11].

Another area of concern has been the increasing use of data from large, multi-center databases in academic presentations and publications. Data from these sources has been used widely in the adult orthopaedic surgery, particularly in the assessment of total joint arthroplasties [12, 13]. In pediatric orthopaedics, information from large databases has been used primarily regarding spinal deformity management [14] and pediatric trauma care [15]. Despite their broad utilization, multiple authors have reported potential issues with information derived from large multi-center study group databases [16, 17]. Golinveaux, et al urged caution regarding analyses of administrative data based on ICD coding due to concerns regarding accuracy of the information that may affect results or recommendations [18].

Similar to findings published in 2020, regarding presentations at the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting from 2011-2016, [11] Bram et al docu-

mented a statistically significant increase in both number and percentage of presentations affiliated with a study group and/or multi-site collaborations at the SRS Annual Meeting over the period from 2005-2019 [2]. In addition, Harshavardhana and Dormans reported a significant increase in Level of Evidence for SRS PP during a similar time period [3], and Bram et al highlighted the significant increase in Level I or II studies in those presentations affiliated with a study group versus those that papers that were not so associated [2].

As such, it is clear that an increasing number of presentations at the SRS AM regarding AIS are resulting from analysis of data from large databases. Pooling of data in this manner has allowed authors to generate research that may be considered more valuable from a level of evidence and statistical standpoint due to larger sample numbers and possibly secondary to greater access to a more diverse patient population. However, one finding of this study may be of concern.

The SRS currently lists over 1,300 active members, while the HSG lists just 37 members. Based on our analysis over the 13-year study period, over 14% of abstracts presented during the AIS sessions of the SRS AM were generated by members of a study group-from clinical information derived from that study group's data base-which is comprised of less than 3% of SRS membership. In some ways, this is analogous to the findings reported by Murphy, et al, who demonstrated that, despite a rigorous and blinded selection process, approximately 20% of the presentations at the POSNA AM from 2011-2016 were from authors affiliated with two North American, academic Pediatric Orthopaedic programs [11].

This apparent predominance of presentations from the HSG during the study period may be simply a function of the overall high productivity and academic bent of the members of that group, as well as the volume and breadth of the patient data available for review within the associated database. Large, diverse sources of patient information are generally thought to be the best sources of information for medical decision-making, particularly for relatively uncommon clinical diagnoses like pediatric spinal deformity. However, there are concerns, including the level of standardization and quality of the data that has been input into the system. In light of these issues, it may be appropriate to look carefully at the selection processes for presentations at certain meetings, including the SRS, in an attempt to avoid inadvertently limiting other sources of information in favor of a small number of study groups and their affiliated members.

This study contains several limitations. The scope of this study was narrow, focusing only on PP within the AIS sessions at the SRS AM, and it is possible that a similarly conducted review of a more diverse sample of presentations would have yielded different results. Additionally, PP were identified as being the product of a study group by reviewing the listed authors for each abstract. While the more established study groups are regularly listed as an individual author, the same cannot always be said of newly formed study groups. Lastly, names of study groups have changed over time making it difficult to

track them over the years.

References

1. Cho W, Kim D, Chen F, Moon S, & Chang DG. Analysis of Scoliosis Research Society (SRS) Podium Presentations for the Last Seven Years: Implications of an SRS Annual Meeting Abstract Registry. *Spine deformity*. 2019; 7(6):845-856.
2. Bram JT, Nocka HR, Cahill PJ, FlynnJM, & Anari JB. A seat at the table: an invitation to the SRS podium via the study group. *Spine deformity*. 2021; 9(4):905-911.
3. Harshavardhana NS, & Dormans JP. Observational Analysis of Changing Trends in Level of Evidence of Scoliosis Research Society Annual Meeting Podium Presentations in the New Millennium (2001–2013). *Spine deformity*. 2016; 4(3):193-199.
4. Kelley SP, Cashin MS, Douziech JR, et al. Levels of evidence at the Pediatric Orthopaedic Society of North America annual meetings. *J Pediatric Orthop*. 2010; 30:612-616.
5. Sharkey MS, Feinn RS, Tate VV, et al. Disproportionate participation of males and females in academic pediatric orthopaedics: an analysis of abstract authorship at POSNA. 2009-2013. *J Pediatric Orthop*. 2016; 36:433-436.
6. Bhandari M, Devereaux PJ, Guyatt GH, et al. An observational study of orthopaedic abstracts and subsequent full-text publications. *J Bone Joint Surg Am*. 2002; 84-A:615–621.
7. Jackson KR, Daluiski A, Kay RM. Publication of abstracts submitted to the annual meeting of the Pediatric Orthopaedic Society of North America. *J Pediatric Orthop*. 2000; 20:2-6.
8. Varghese RA, Chang J, Miyanji F, et al. Publication of abstracts submitted to the annual meeting of the Pediatric Orthopaedic Society of North America: is there a difference between accepted versus rejected abstracts? *J Pediatric Orthop*. 2011; 31:334-340.
9. Kraeutler MJ, Carver TJ, McCarty EC. An analysis of duplicate presentations at the 2014 through 2016 AOSSM and AANA Annual Meetings. *Orthop J Sports Med*. 2017; 5:2325967117718531.
10. Bhandari M, Patenall V, Devereaux PJ, et al. An observational study of duplicate presentation rates between two national orthopedic meetings. *Can J Surg*. 2005; 48:117-122. 7.
11. Murphy, Robert & Barfield, William & Offerle, Thomas & Osborne, Davis & Mooney, James. Author-reported affiliations on abstracts accepted for the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting: A retrospective review. *Current Orthopaedic Practice*. 2019; 31:1.
12. Patel A, Pavlou G, Mujica-Mota RE, et al. The epidemiology of revision total knee and hip arthroplasty in England and Wales: a comparative analysis with projections for the United States. A study using the National Joint Registry dataset. *Bone Joint J*. 2015; 97-B:1076-1081.
13. Hughes RE, Zheng H, Igrisan RM, et al. The Michigan arthroplasty registry collaborative quality initiative experience: improving the quality of care in Michigan. *J Bone Joint Surg Am*. 2018; 100:e143.
14. Minhas SV, Chow I, Feldman DS, et al. A predictive risk index for 30-day readmissions following surgical treatment of pediatric scoliosis. *J Pediatric Orthop*. 2016; 36:187-192.
15. Nakaniida A, Sakuraba K, Hurwitz EL. Pediatric orthopaedic injuries requiring hospitalization: epidemiology and economics. *J Orthop Trauma*. 2014; 28:167-172.
16. Bohl DD, Basques BA, Golinvaux NS, et al. Nationwide inpatient sample and national surgical quality improvement program give different results in hip fracture studies. *Clin Orthop Relat Res*. 2014; 472:1672-1680.
17. Bohl DD, Russo GS, Basques BA, et al. Variations in data collection methods between national databases affect study results: a comparison of the nationwide inpatient sample and national surgical quality improvement program databases for lumbar spine fusion procedures. *J Bone Joint Surg Am*. 2014; 96:e193.
18. Golinvaux NS, Bohl DD, Basques BA, et al. Administrative database concerns: accuracy of International Classification of Diseases, Ninth Revision coding is poor for preoperative anemia in patients undergoing spinal fusion. *Spine*. 2014; 39:2019-2023.