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Pediatric and adult otorhinolaryngological publications: Trends over 15 years (1993–2007)☆

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ABSTRACT

Objective: The aim of this study was to determine the trends in otorhinolaryngological (ORL) publications from 1993 to 2007.
Methods: In order to retrieve as many ORL-related articles as possible we used two strategies of literature analysis. Both were based upon ORL Medline articles from 1/1/1993 to 31/12/2007. In the first strategy, we attempted to retrieve as many ORL articles as possible from all Medline recorded journals (ORL-specific and non-ORL-specific journals indiscriminately); we thus used the key words: "otorhinolaryngology or ears or nose or throat". In the second strategy, we attempted to retrieve ORL-related articles in ORL-specific journals only; we thus evaluated all Medline articles from 1/1/1993 to 31/12/2007 from all 83 ORL journals reviewed by Medline. In both strategies we limited the search to "all adults" (i.e. adult ORL) and "all children" (i.e. pediatric ORL). We repeated the search by each time using one limit according to publication types as classified by the Medline, and collected the total number of publications per year for the 15 years of the specified period. We used regression analysis to determine the effect of year of publication upon the number of publications of each type.
Results: Using either strategy, there was a steady increase over time both in pediatric and adult ORL in total publications, with a sharper rise in the number of adult publications. Both strategies led to very similar findings, to a few exceptions. There might be a shift of ORL publications toward ORL-specific journals.
Conclusions: New medical information available to ORL specialists increases over time, increasing academic burden. The field of pediatric ORL has had a significant yearly increase of published studies but not to the same extent as the field of adult ORL.

1. Introduction

In view of the enormous amount of new medical publications, the practicing otorhinolaryngology (ORL) specialist faces the tremendous challenge of keeping abreast with the developments of his/her field of expertise [1,2]. The number of journals that deal with a specific field of medicine increases over the years and Internet makes them readily accessible [2]. Several effective engines allow rapid searches for medical articles. The National Library of Medicine offers the Medline as a free service. The Medline classifies publications as clinical trials (CTs), editorials, letters, meta-analyses, practice guidelines, randomized controlled trials (RCTs), reviews, or others (such as case reports, etc.).

The aim of this study was to determine the trends in otorhinolaryngological publications from 1993 to 2007.

2. Methods

We used the following Internet address: http://www.ncbi.nlm.nih.gov/entrez in order to evaluate all Medline articles registered from 1/1/1993 and until 12/31/2007. We focused upon the fields of pediatric and adult ORL. We used two strategies of literature analysis, both based upon ORL Medline articles. In the first strategy, we attempted to retrieve as many ORL articles as possible in the Medline literature (both ORL-specific and non-ORL-specific journals). In order to do so, we searched for the following key words: otorhinolaryngology or ears or nose or throat. This strategy allows screening both ORL-specific and non-ORL-specific journals indiscriminately, but may not be able to retrieve *all* ORL-related articles because of the choice of the key words. In the second strategy, we aimed to retrieve all ORL-related articles in the ORL-specific literature only. In order to do so, we first used the Web-of-Science

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listing of ORL journals, which allowed us to retrieve 109 such journals. Among them, 83 journals are systematically reviewed in the Medline; thus, the second strategy was based on a review of these 83 journals exclusively. Predictably, the latter strategy misses all ORL-related articles published in non-ORL-specific journals, but includes all ORL article published in an ORL-specific journal recorded in Medline. In both strategies we limited the search, using Medline's own limits to "all child" (0–18 years) or "all adult" (19 years and above). We repeated the search on each type of publication in each age category, and recorded the total number of publications per year for the 15 years of the specified period. As mentioned in the Introduction section, we used Medline's own classification of articles as CTs, RCTs, meta-analyses, editorials, letters, practice guidelines, reviews, and case reports. In order to verify that the categorization and tagging offered automatically by Pub-Med was accurate, we used a random sample of 10 studies each year; in 100% of the cases, Pub-Med's categorization was found to be accurate. There are however obvious overlaps: for instance, all RCTs are also listed as CTs; some papers, based on a case report and a review of the literature, are listed both among reviews and case reports.

Statistical analyses. The Minitab version 15.0 (State College, PA) was used for statistical analyses. We used Pearson regression analysis to determine the effect of advancing year of publication upon the number of publications of each type. A p-value of <0.05 was considered significant.

3. Results

During the 15-year evaluation period, Medline registered an increasing number of medical articles, from 417,323 in 1993 to 770,631 in 2007. We were able to retrieve 63,206 ORL publications (pediatric and adult combined) using strategy 1 and 56,690

Table 1
Publication types by year, retrieved using strategy 1. Data are expressed as *N*. The number in parenthesis represents the percentage of publications within the category considered that relates to either pediatric or adult fields.

Year	Total	Reviews	Clinical trials	Editorials	Letters	Meta-analysis	Practice guide lines	RCTs	Case reports
1993									
Pediatric	1446	128 (47%)	115 (43%)	3 (75%)	37 (47%)	1 (50%)	1 (50%)	99 (46%)	363 (33%)
Adult	2258	145 (53%)	154 (57%)	1 (25%)	41 (53%)	1 (50%)	1 (50%)	117 (54%)	721 (77%)
1994									
Pediatric	1478	133 (47%)	133 (38%)	4 (50%)	32 (48%)	3 (100%)	1 (100%)	75 (41%)	315 (28%)
Adult	2544	152 (53%)	217 (62%)	4 (50%)	35 (52%)	0 (0%)	0 (0%)	109 (59%)	805 (72%)
1995									
Pediatric	1670	142 (46%)	141 (36%)	3 (100%)	48 (52%)	2 (33%)	1 (50%)	78 (36%)	422 (34%)
Adult	2568	164 (54%)	248 (64%)	0 (0%)	44 (48%)	4 (67%)	1 (50%)	137 (64%)	834 (66%)
1996									
Pediatric	1556	131 (45%)	158 (36%)	2 (40%)	23 (33%)	2 (25%)	0 (0%)	88 (36%)	379 (31%)
Adult	2632	162 (55%)	282 (64%)	3 (60%)	47 (67%)	6 (75%)	0 (0%)	157 (64%)	838 (69%)
1997									
Pediatric	1709	151 (42%)	157 (36%)	2 (67%)	31 (40%)	1 (33%)	1 (50%)	89 (40%)	433 (33%)
Adult	2839	205 (58%)	274 (64%)	1 (33%)	47 (60%)	2 (67%)	1 (50%)	133 (60%)	883 (67%)
1998									
Pediatric	1649	155 (41%)	181 (35%)	3 (75%)	26 (36%)	1 (33%)	1 (100%)	90 (35%)	419 (31%)
Adult	2958	227 (59%)	334 (65%)	1 (25%)	47 (64%)	2 (67%)	0 (0%)	169 (65%)	937 (69%)
1999									
Pediatric	1829	144 (42%)	192 (35%)	5 (62%)	43 (49%)	8 (67%)	1 (50%)	97 (35%)	431 (32%)
Adult	3044	201 (58%)	370 (65%)	3 (38%)	45 (51%)	4 (33%)	1 (50%)	181 (65%)	904 (68%)
2000									
Pediatric	1993	196 (51%)	189 (37%)	5 (71%)	24 (32%)	4 (44%)	2 (67%)	100 (40%)	474 (33%)
Adult	3278	190 (49%)	328 (63%)	2 (29%)	52 (68%)	5 (56%)	1 (33%)	153 (60%)	966 (67%)
2001									
Pediatric	1840	165 (45%)	169 (36%)	5 (100%)	26 (35%)	4 (57%)	1 (14%)	93 (37%)	431 (30%)
Adult	3216	200 (55%)	301 (64%)	0 (0%)	49 (65%)	3 (43%)	6 (86%)	157 (63%)	1015 (70%)
2002									
Pediatric	1957	155 (45%)	195 (36%)	3 (60%)	44 (52%)	3 (75%)	2 (67%)	109 (37%)	446 (30%)
Adult	3369	193 (55%)	348 (64%)	2 (40%)	41 (48%)	1 (25%)	1 (33%)	182 (63%)	1045 (70%)
2003									
Pediatric	2020	156 (47%)	200 (35%)	3 (60%)	30 (41%)	5 (71%)	1 (100%)	105 (38%)	471 (30%)
Adult	3592	173 (53%)	374 (65%)	2 (40%)	44 (59%)	2 (29%)	0 (0%)	170 (62%)	1075 (70%)
2004									
Pediatric	2162	184 (45%)	211 (36%)	4 (67%)	46 (45%)	4 (57%)	3 (100%)	115 (39%)	489 (30%)
Adult	3746	226 (55%)	381 (64%)	2 (33%)	57 (55%)	3 (43%)	0 (0%)	179 (61%)	1160 (70%)
2005									
Pediatric	2407	166 (44%)	234 (35%)	6 (67%)	39 (37%)	9 (50%)	3 (60%)	124 (37%)	551 (31%)
Adult	4256	212 (56%)	428 (65%)	3 (33%)	65 (63%)	9 (50%)	2 (40%)	213 (63%)	1249 (69%)
2006									
Pediatric	2485	161 (46%)	225 (35%)	7 (54%)	41 (32%)	15 (54%)	1 (100%)	134 (38%)	498 (26%)
Adult	2537	192 (54%)	413 (65%)	6 (46%)	86 (68%)	13 (46%)	0 (0%)	221 (62%)	1401 (74%)
2007									
Pediatric	2475	135 (47%)	215 (34%)	4 (44%)	45 (38%)	7 (47%)	2 (67%)	126 (36%)	473 (27%)
Adult	4449	155 (53%)	417 (66%)	5 (56%)	74 (62%)	8 (53%)	1 (33%)	221 (64%)	1279 (73%)