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Research Article

Otolaryngology Societies on Popular Social Media Platforms

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Abstract

Objective: The objective of this study is to investigate the use of social media, including Twitter, Facebook, Instagram, YouTube, and TikTok amongst otolaryngology societies.

Study Design: Online assessment of social media pages and engagement amongst otolaryngology societies.

Setting: Otolaryngology societies and their online engagement with the general community as well as those in the field of otolaryngology. Methods: A list of otolaryngology societies affiliated with Combined Otolaryngology Spring Meetings (COSM)and American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNSF) were compiled. Two reviewers independently accessed popular social media platforms for societal accounts and their online engagement.

Results: There is a wide range of social media participation amongst societies. The American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS) has the highest numbers of followers on Twitter, Facebook, and Instagram. The highest follower count on Twitter and Facebook was followed by the American Otological Society (AOS). The American Laryngological Association had no social media accounts. On YouTube, The American Head and Neck Society (AHNS) had the highest amount of engagement.

Conclusion: Social media usage and a robust online presence can provide patients a source of reliable healthcare information, educational opportunities to residents, and may be used for recruitment. Otolaryngology societies should consider improving their social media presence as a way to educate the public, patients, and future recruits.

Keywords: American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNSF); Combined Otolaryngology Spring Meetings (COSM); Facebook; Instagram; Otolaryngology; Social media; Twitter; Youtube

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Introduction

A Digital July 2020 Global Social Media Overview identified that over half of earth's population utilizes social media. An estimated 3.96 billion people use social media today, which connects to almost 51% of the total global population.[1] Twitter on its own has a potential audience of approximately 326 million, while Facebook has 2.603 billion monthly active users [1]. Instagram's potential advertising reach is roughly 1.08 billion and YouTube has two billion monthly active users. TikTok, a rather new platform has around 800 million monthly active users [1].

Social media has become even more vital in the field of Otolaryngology. At an organizational level it has affected how otolaryngology residency programs educate and advertise to future recruits about their program. Otolaryngology residency programs that are more active and interactive on social media tend to correlate with higher [2] Doximity Residency Navigator reputation scores, a tool built to help medical students make informed residency decisions and to increase transparency in the residency match process [3]. The impact of having an online presence is also evident in academic metrics, as otolaryngology journals with affiliated social media profiles showed increased readership and online effect [4]. Finally, digital communication strategies are becoming increasingly significant in terms of public health, as over 70% of adults use online resources as the basis for health related information [5]. Social media used to be an untapped resource, but now it provides sound medical information to an audience living in era that revolves around the internet. Through the utilization of social media platforms, physicians are educating the public, while also improving clinic reputation, potential patient pool, and doctor-patient interaction.

No current studies have been performed to evaluate and compare the use of social media between otolaryngological societies. This study aims to assess the use of social media by otolaryngology societies on Twitter, Facebook, Instagram, YouTube and TikTok and highlight the differences in utilization of these platforms within the field of otolaryngology.

Methods

A list of otolaryngologic societies affiliated with Combined Otolaryngology Spring Meetings (COSM) [6] and American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNSF) [7] were compiled. The American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) is one of the largest societies representing ENT specialists, with over 13,000 members [8]. Additionally, the American Academy of Facial Plastic and Reconstructive Surgery is one of the largest societies for facial plastic surgery with over 2,200 plastics surgeon members [8]. COSM (Combined Otolaryngology Spring Meetings) is a forum that connects specialists, students, and other healthcare professionals through innovative research and technology. In 2019, there were nearly 900 attendees at the Austin conference [9]. COSM envelopes a variety of societies including the American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS), American Broncho-Esophagological Association (ABEA), American Head

and Neck Society (AHNS), American Laryngological Association (ALA), American Neurotology Society (ANS), American Otological Society (AOS), American Rhinologic Society (ARS). The Triological Society has been active for over 120 years. Active fellowship is granted after presenting a thesis pertaining to otolaryngology to peers and partaking in supporting the developments of various otolaryngologic researches [10]. These various societies were chosen based upon their longstanding and influential position in the world of otolaryngology.

Two reviewers independently accessed Twitter, Facebook, Instagram, YouTube, and TikTok for societal accounts on August 16, 2020. According to Pew Research, in 2019 YouTube and Facebook were two of the most dominating social media platforms with a participating American adult population of 69% and 73%, respectively [11]. Although Facebook remains the most popular platform, YouTube has seen significant growth since 2019. Smaller but substantial shares of Americans use Twitter (22%), and Instagram (37%) [11]. The data collected additionally showed that these social media apps are embedded in users' daily lives, with 70% of Facebook users and 59% of Instagram users frequenting the apps daily [12]. Over the past 5 years, the proportion of seven-in-ten Americans using social media platforms has remained relatively constant [12]. Facebook, YouTube, Instagram, Twitter, and TikTok were selected for this study based on their already large and growing hold on the American population.

Each society's website was also searched for links to Twitter, Facebook, Instagram, YouTube, and TikTok. The month/year joined, followers, accounts following, and date of last post (DOLP) were recorded for accounts on Twitter. The date joined, followers, likes, and DOLP were recorded for accounts on Facebook. The number of posts, followers, accounts following, and DOLP were recorded for accounts on Instagram. The date joined, subscriber count, Total Views, Number of Videos and DOLP were recorded for accounts on YouTube. The number of followers, accounts following, likes, and DOLP were recorded for accounts on TikTok. A distinction was not made whether a unique follower followed a society or societies over a single platform or multiple platforms. Duplicate follower accounts were not identified. O and N online is a journal that was referenced on the American Otological Society website[13] that does have its own affiliated Facebook and Twitter page however since this did not fall under the search criteria for society social media outlets; this was not included as a representative of the society. It is difficult to gauge statistical comparisons between individual platforms. For instance, while YouTube is primarily video content, other social medias like Twitter, contain content that is primarily written in 'tweets'- these also having a limitation of being a finite amount of characters. To our knowledge there is not a formalized statistical metric to compare between the different social media platforms.

Results

The total list consisted of 10 otolaryngologic and affiliated societies. The list included the American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS), American Broncho-Esophagological Association (ABEA), American Head and Neck Society (AHNS), American Laryngological Association (ALA), American Neurotology Society (ANS), American Otological Society (AOS), American Rhinologic Society (ARS), American Society of Pediatric Otolaryngology (ASPO), The Triological Society (TRIO), and the American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS). Posts from the selected social media sites ranged from educational videos and demonstrations to reminders for upcoming events. Additionally, announcements for lectures by renowned surgeons, discussion panels for freshly published research, and different programs' residency details were also shared on these platforms.

Otolaryngological societies had an accumulative 23,948 followers on Twitter, 34,443 Facebook likes, 13,938 Instagram Followers, and 622,327 total YouTube Views. Finally, TikTok has not been utilized by any otolaryngological societies possibly due to its very recent rise to popularity.

On Twitter, the American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) had the most followers at 9,718 and joined in March 2009. The American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS) had the second highest follower count at 7,567 and joined April 2010. Finally, the American Otological Society (AOS) had the third highest follower count at 2,434 and joined October 2011. The American Laryngological Association (ALA), American Neurotology Society (ANS), and American Society of Pediatric Otolaryngology (ASPO) lacked an affiliated Twitter account.

On Facebook, the American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) once again had the most followers at 15,012 and joined April 27th, 2009. The American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS) had the second highest follower count at 11,419 and joined February 9th 2012. The American Otological Society (AOS) had the third highest follower count at 4,056 and joined October 28th 2011. The American Broncho-Esophagological Association (ABEA) had two Facebook pages that were accounted for; the account with more activity was included.

On Instagram, the American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS) had 15,012 followers, 940 posts, with a last post date of August 16th 2020. The American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) had 2,671 followers, 416 posts, with date of last post August 14th 2020. The American Rhinologic Society (ARS) had 1,425 followers, 82 posts, with a date of last post August 14th 2020. It is noteworthy to mention that the only societies that had an Instagram account were the American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS), American Rhinologic Society (ARS), and American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS).

On YouTube, the American Head and Neck Society (AHNS) had 4.25K followers with a total of 509,296 views, 196 videos, and a date of last post of July 22th 2019. The American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) had 1.41K subscribers, 111,496 total views, 107 videos, and a date of last post of July 13th 2020. The American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS) had 56 subscribers, 1,436 total views, and a date of last post of May 30th 2020.

It is noteworthy to mention that The American Laryngological Association (ALA) and American Neurotology Society (ANS) lacked any associated social media accounts under any of the aforementioned platforms (Figures 1-4).

Discussion

There is a wide range of social media participation by individual otolaryngology professional societies. The American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS) has the highest

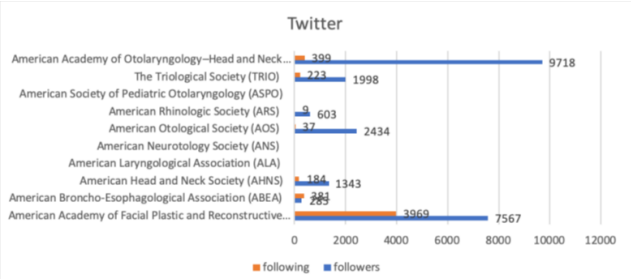

Figure 1: Otolaryngology Societies on Twitter. Orange represents the number of accounts each otolaryngology society follows on Twitter. Blue represents the number of accounts following each otolaryngology society on Twitter.

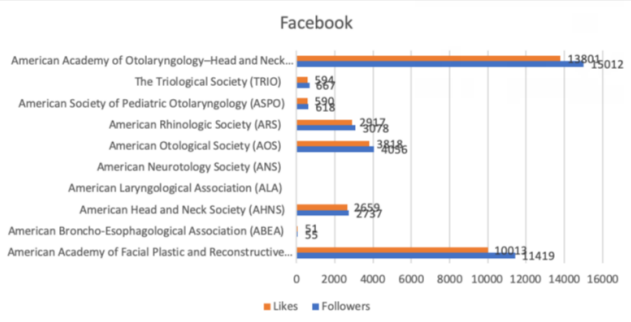

Figure 2: Otolaryngology Societies on Facebook. Orange represents the number of likes each otolaryngology society had on their Facebook page. Blue represents the number of accounts following each otolaryngology society on Facebook.

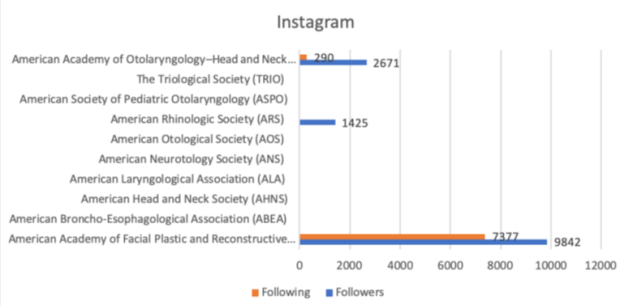

Figure 3: Otolaryngology Societies on Instagram. Orange represents the number of accounts each otolaryngology society follows on Instagram. Blue represents the number of accounts following each otolaryngology society on Instagram.

numbers of followers than any other COSM society on Twitter, Facebook, and Instagram: 7567 Twitter Followers, 11419 Facebook Followers, 9842 Instagram Followers, respectively. The second highest COSM society in terms of follower count on Twitter and Facebook was the American Otological Society (AOS) with 2434 Twitter Followers, 4056 Facebook Followers. Conversely, the American Laryngological Association was found to have no social media accounts. This presents an opportunity in order to educate the public as well as those interested in the field. On YouTube in particular, The American Head and Neck Society (AHNS) had the highest amount of engagement from all other societies with 4.25k YouTube Subscribers, 509,296 Total YouTube Views, and 196 Uploaded YouTube videos.

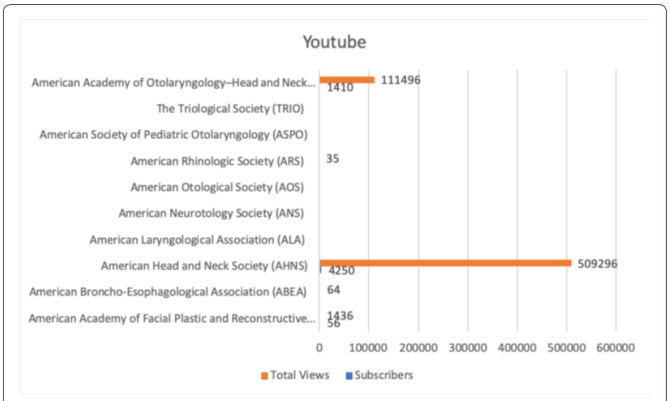

Figure 4: Otolaryngology Societies YouTube. Orange represents the total number of views each otolaryngology society had on YouTube. Blue represents the number of subscribers following each otolaryngology society on YouTube.

The American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS) may be assumed to have an increased social media influence due to its association with cosmetic and visual fields in the broad sense. Although this field focuses on both cosmetic and reconstructive aspects of surgery, plastics seem to have the largest impact on social media [14]. This perhaps, may be attributed to the increased desire from the population to fit the social media persona. Constant screen time with endless images of the standard of beauty contributes to a new occupation with perfecting one's own image [15]. The American Academy of Facial Plastic and Reconstructive Surgery documented an increase in demand for cosmetic plastic surgery procedures directly related to social media photos. The 2019 AAFPRS annual survey outcomes revealing 72% of AAFPRS members reported patients seeking cosmetic procedures to look better for their selfies [16]. Increased demand for procedures such as rhinoplasties, Botox, and face lifts have been significantly more popular as social media continues to advertise countless post-procedure results [16]. This increase is greatly indicative of the power that social media has on its growing population. Studies have shown that Facebook, YouTube, and Instagram are among the most used platforms in educating, engaging, and providing procedural knowledge for those interested in cosmetic surgery [17]. This growing public enthusiasm for cosmetic and reconstructive procedures has strengthened AAFPRS's compulsion to remain interactive and present on their various social media platforms [18].

Social media has previously been utilized by medical centers and hospitals to attract patients. Patients may be informed about the services and treatments provided by a hospital or healthcare provider through social media. It is not uncommon for a patient to look up a healthcare provider online before seeking health related counseling. For patients, a hospital's social media platform could significantly impact their decision about going to the institution [19]. Health care establishments, as well, have been shown to be successful in attracting new patients to their facility by means of social media [20]. The widespread use of social media among patients has provided the means for communication between the population and healthcare providers and institutions. Not only does it allow for access to an organization's information, but social media also serves as a virtual support system that functions outside of the conventional hospital hallways. Many patients and their loved ones have found refuge through various accounts, as they are provided with empathy, encouragement, and ultimately, a network [21] that promotes an outlet for expression and

anecdotes [22]. In one particular study, it was found that roughly 70% of U.S. healthcare institutions utilize social media to interact with patients. These efforts include using platforms to fundraise, promote new innovations, and educate patients [23] Mayo Clinic possesses a Social Media Health Network that is comprised of associates solely focused on creating an environment online in which physicians and patients can connect. This establishment encourages blogs, Twitter discussion posts, seminars, and webinars in order to bridge the gap between health care providers and the general population. On February 22nd, 2021 Mayo Clinic created the #MCSMN Clubhouse, an exclusively audio platform that stays up to date. Participants may join by invitation, and then take part in group dialogues and networking opportunities [24]. These innovative tactics in keeping the medical community in touch with its surroundings through social media and virtual atmospheres may also provide otolaryngology societies the same benefits of increasing community engagement, providing patients emotional support, and the opportunity to market their services to potential patients.

With the incidence of COVID-19, the global pandemic has caused healthcare organizations to shift focus to online modes of communication for telemedicine but also residency program recruitment. Currently, the AAMC is pushing towards video interviews and virtual open houses in regard to medical school applicants, residents, and staff meetings. Most programs in the 2021 Match used video conferencing [25]. In the meantime; residency programs may utilize social media to provide a glimpse of program culture. Programs may use "Resident spotlights" posted on social media pages, as well as Instagram Stories to provide applicants a curated look into the day to day activities of current residents. In addition, residency programs' may use Zoom to host information sessions, meet and greets town halls, and happy hours, to showcase their program strengths. The backgrounds, career interests, and personal lives of current residents including their hobbies, family life, and academic interests post-residency are able be showcased. Applicants may then gauge how diverse a program may be, and whether it is a place they are interested in applying to [26]. On the other hand, there are residency applicants who believe that they won't be able to establish the same rapport with residency programs compared to in person interviews and elective rotations. In a 2020 survey of 85 prospective applicants for the Otolaryngology Match 2020-21, it was concluded that 36.5% did not feel as though residency programs have the ability to make informed decisions of acceptance and rejection due to limited information available. It was also found that 54.1% exhibit less confidence in matching, with female applicants having notably higher odds of diminished confidence in matching [27].

There are many limitations to this study. We gathered information on the presence of active accounts of the various societies/journals, not including the actual content of posts, videos, or discussion boards. Without knowing the substance in each platform, it is unclear as to whether students, educators, or the general public are being targeted. Currently, there is no way to account for the direct educational impact on followers as a result of an otolaryngological society's social media presence. In addition, only 10 otolaryngological societies were evaluated, due to the limited number of organizations present on social media. One limitation is that the popularity of social media platforms is constantly changing as follower counts are evolving with the addition of new platforms and populations. We wanted an overview of social media use by Otolaryngolical societies' at one point in time and thus be able to compare societies. Otolaryngology societies may not necessarily adapt these new platforms as they grow in popularity. For example, TikTok only became available worldwide, including in the United States, after merging with Musical.ly on August 2, 2018. A quick search for 'otolaryngology' or 'ENT' on TikTok may yield individual physicians' personal profiles but not societies.

Conclusion

Social media usage and a robust online presence can help engage patients with a source of reliable healthcare information, provide ongoing educational opportunities to current residents, and be used for resident recruitment. Otolaryngology encompasses a diverse group of subspecialties with diversity in online engagement. The American Academy of Facial Plastic and Reconstructive Surgery had the most engagement from any society on Twitter, Facebook, and Instagram while the American Laryngological Association was found to have no social media accounts. Otolaryngology societies should consider building their social media presence as a way to educate the public, patients, and future recruits. Future studies can be aimed at studying the educational impact of social media presence.

Declarations of Interest

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Supplementary file

	Twitter				Facebook				Instagram				Youtube					Tikt		
	Twitter Joined	Twitter Followers	Twitter Following	Twitter DOLP	Facebook Page Joined	Facebook Followers	Facebook Likes	Facebook DOLP	Instagram Page #posts	Instagram Followers	Instagram Following	Instagram DOLP	YouTube Joined	YouTube Subscribers	YouTube Total Views	YouTube # of Videos	YouTube DOLP	TikTok Followers	TikTok Following	
American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS)	4-2010	7567	3969	8-16-2020	2/9/2012	11419	10013	8-16-20	940	9842	7377	8/16/2020	5/13/2010	56	1436	16	5/30/2020	N/A	N/A	
American Broncho-Esophagological Association (ABEA)	Apr-17	285	381	8/5/2020	3/22/2018	55	51	4/3/2018	N/A	N/A	N/A	N/A	5/2/2019	0	64	3	5/2/2019	N/A	N/A	
American Head and Neck Society (AHNS)	11-2010	1343	184	8-14-20	5/6/2013	2737	2659	7/24/2020	N/A	N/A	N/A	N/A	9/20/2012	4.25K	509296	196	7/22/2019	N/A	N/A	
American Laryngological Association (ALA)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
American Neurotology Society (ANS)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
American Otological Society (AOS)	Oct-11	2434	37	8-13-20	10/28/2011	4056	3818	8/10/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
American Rhinologic Society (ARS)	5-2018	603	9	8-14-20	11/15/2010	3078	2917	8/14/2020	82	1425	0	8/14/2020	2/27/2012	0	35	1	2/27/2012	N/A	N/A	
American Society of Pediatric Otolaryngology (ASPO)	N/A	N/A	N/A	N/A	2/8/2016	618	590	10/5/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
The Triological Society (TRIO)	Triological 6-2014	1998	223	8-16-20	6/18/2014	667	594	8/16/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS)	AAOHNS 3-2009	9718	399	8-15-20	4/27/2009	15012	13801	8/14/2020	416	2671	290	8/14/2020	3/18/2012	1.41K	111496	107	7/13/2020	N/A	N/A	

DOLP = Date of Last Post

O and N online* is a journal that was referenced as a social media outlet

Otology & Neurotology* is a journal that was referenced as a social media outlet

8/16/2020 as the date of review

HERALD

Advances In Industrial Biotechnology | ISSN: 2639-5665

Advances In Microbiology Research | ISSN: 2689-694X

Archives Of Surgery And Surgical Education | ISSN: 2689-3126

Archives Of Urology

Archives Of Zoological Studies | ISSN: 2640-7779

Current Trends Medical And Biological Engineering

International Journal Of Case Reports And Therapeutic Studies | ISSN: 2689-310X

Journal Of Addiction & Addictive Disorders | ISSN: 2578-7276

Journal Of Agronomy & Agricultural Science | ISSN: 2689-8292

Journal Of AIDS Clinical Research & STDs | ISSN: 2572-7370

Journal Of Alcoholism Drug Abuse & Substance Dependence | ISSN: 2572-9594

Journal Of Allergy Disorders & Therapy | ISSN: 2470-749X

Journal Of Alternative Complementary & Integrative Medicine | ISSN: 2470-7562

Journal Of Alzheimers & Neurodegenerative Diseases | ISSN: 2572-9608

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Journal Of Animal Research & Veterinary Science | ISSN: 2639-3751

Journal Of Aquaculture & Fisheries | ISSN: 2576-5523

Journal Of Atmospheric & Earth Sciences | ISSN: 2689-8780

Journal Of Biotech Research & Biochemistry

Journal Of Brain & Neuroscience Research

Journal Of Cancer Biology & Treatment | ISSN: 2470-7546

Journal Of Cardiology Study & Research | ISSN: 2640-768X

Journal Of Cell Biology & Cell Metabolism | ISSN: 2381-1943

Journal Of Clinical Dermatology & Therapy | ISSN: 2378-8771

Journal Of Clinical Immunology & Immunotherapy | ISSN: 2378-8844

Journal Of Clinical Studies & Medical Case Reports | ISSN: 2378-8801

Journal Of Community Medicine & Public Health Care | ISSN: 2381-1978

Journal Of Cytology & Tissue Biology | ISSN: 2378-9107

Journal Of Dairy Research & Technology | ISSN: 2688-9315

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Journal Of Environmental Science Current Research | ISSN: 2643-5020

Journal Of Food Science & Nutrition | ISSN: 2470-1076

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Journal Of Light & Laser Current Trends

Journal Of Medicine Study & Research | ISSN: 2639-5657

Journal Of Modern Chemical Sciences

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