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Research

Knowledge, Attitude And Awareness Towards Role Of Botox In Dentistry And Cosmetic Procedures Among Undergraduate Dental Students In Khammam City

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Abstract

A range of healthcare professionals, including dentists, administer botulinum toxin (Botox) for both cosmetic and therapeutic purposes. In dentistry, it is used for conditions like bruxism, gummy smiles, orofacial pain, muscle spasms and sialorrhea.

AIM: To assess knowledge, attitude and awareness regarding the role of Botox in dentistry and cosmetic procedures among dental students in Khammam.

OBJECTIVE: To determine the knowledge, attitude and awareness regarding botox in dentistry and cosmetic procedures among undergraduate dental students.

METHOD: A cross-sectional survey was conducted among 300 dental students, comprising males 85 (28.3%) and 215 females (71.7%), including 60 first -year BDS students, 65 second- year BDS students, 55 third-year BDS students, 60 fourth-year BDS students, and 60 intern. The survey included 15 questions exploring knowledge, attitude and awareness on role of botox in various dental and cosmetic procedures. Responses were analyzed based on responses using chi-square tests to identify statistically significant differences.

Keywords: Botox, Dentistry, Botulinum toxin, knowledge, Cosmetic procedures, Esthetics, Attitude, dental students.

INTRODUCTION

Botox (Botulinum toxin) is a neurotoxin produced by the bacteria called *Clostridium botulinum*. It's subtypes A and B have been extensively researched and are frequently used in facial rejuvenation treatments. Botox functions by blocking the release of acetylcholine, a neurotransmitter that triggers muscle contraction, leading to temporary muscle paralysis.

Botox has started in 1980 when ophthalmologist Alan B. Scott first used it in humans to treat strabismus. Thereafter, in 2002, it was approved by the FDA for cosmetic use to improve appearance and was accepted for treating axillary hyperhidrosis. Eventually, the use of Botox has grown to include new areas such as facial esthetics, dermatology, dentistry, ophthalmology, gastrointestinal treatment, and orthopedics.

The Botox is mainly indicated for smoothing the appearance of wrinkles on the face, crow's feet, horizontal rhytids, glabellar rhytids, and masseter hypertrophy.

In dentistry, a solid understanding of head and neck anatomy, combined with the minimally invasive technique of Botox injections, enables dentists to successfully learn and administer Botox treatments. The primary application of Botox in dentistry focuses on improving oral aesthetics, such as correcting deep nasolabial folds, radial lip lines, gummy smiles, and black triangles between teeth. Beyond enhancing aesthetics, research highlights several other benefits of Botox in dentistry, including the treatment of conditions like bruxism, sialorrhea, asymmetric smiles, salivary fistulas, oromandibular dystonia, hemifacial spasm, masseter hypertrophy, temporomandibular disorders (TMD), TMJ dislocation, facial myopathies, and myofascial pain.

Common side effects of Botox include swelling, redness, pain, and temporary drooping of the eyelids. Rare side effects may involve headache, malaise, difficulty in swallowing, cervical kyphosis, respiratory issues, generalized muscle weakness and complications due to the spread of the toxin to surrounding areas.

METHODOLOGY

A) study design and area: A cross sectional study was carried out at tertiary care teaching hospital khammam

B) Study population: The health care students including I, II, III, IV years and Interns who responded to the offline paper print questionnaire survey.

C)Study Instrument: A self-administered questionnaire was designed based on knowledge, attitude and awareness of role of botox in dentistry and cosmetic procedures and had a total of 15 questions. Each participant has to fill in their demographic data like name, age, gender and year of study. Participants had to select one option from the answers provided against questions, the questions were based on knowledge, attitude and awareness among dental students.

D) Pilot study: A pilot study was conducted on a group of students to assess the validity and reliability of study

E) Sampling method: The sampling method used is convenience method.

F) Inclusion criteria: The students who were interested in the study and who are willing to participate.

G) Exclusion criteria: students who are not willing to participate are excluded.

H) Organizing the study: The study was designed in a paper-based version of the self-administered questionnaire of 15 questions focusing on knowledge, and awareness.

I) Statistical analysis: Data from the filled questionnaire was conducted in a tabular form in an excel worksheet and evaluated for analysis. The analysis was performed by SPSS version 29.

RESULTS

Out of 300 students majority of them belong to 19 - 25 years of age group. The following are the percentage of students who took part in the survey. I Bds (19.9), II Bds (21.6), III Bds (18.3), IV Bds(19.9), Interns (19.9). The response rate were 28.3 males and 71.7 females.

AGE

	AGE				
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Age	**300**	**18**	**25**	**21.89**	**1.035**

GENDER

		Frequency	Percent
	MALE	85	28.3
	FEMALE	215	71.7
	Total	300	100.0

YEAR OF STUDY

	Frequency	Percent
I BDS	60	19.9
II BDS	65	21.6
III BDS	55	18.3
IV BDS	60	19.9
INTERN	60	19.9
Total	300	100.0

Distribution of participants based on responses

Item	Response		
		n	%
Q1	1	107	35.5
	2	53	17.6
	3	75	24.9
	4	65	21.6
Q2	1	167	55.5
	2	133	45.5
Q3	1	39	13.0
	2	66	21.9
	3	33	11.0
	4	162	53.8
Q4	1	49	16.3
	2	48	15.9
	3	45	15.0
	4	158	52.5
Q5	1	181	60.3
	2	119	39.7
Q6	1	60	19.9
	2	48	15.9
	3	35	11.6
	4	157	52.2
Q7	1	70	23.3
	2	117	38.9
	3	59	19.6
	4	54	17.9
Q8	1	43	14.3
	2	50	16.6
	3	45	15.0
	4	162	53.8
Q9	1	60	19.9
	2	101	33.6
	3	60	19.9
	4	79	26.2
Q10	1	52	17.3
	2	107	35.5
	3	46	15.0
	4	95	31.6
Q11	1	59	19.6
	2	88	29.2
	3	110	36.5
	4	43	14.3
Q12	1	133	44.3
	2	167	55.6
Q13	1	86	28.6
	2	108	35.9
	3	43	14.3

	4	63	20.9
Q14	1	102	33.9
	2	66	21.9
	3	100	33.2
	4	32	10.6
Q15	1	79	26.2
	2	64	21.3
	3	85	28.2
	4	72	23.9

DISCUSSION

Botox, short for Botulinum Toxin, is a neurotoxin used in both dental and cosmetic procedures. In dentistry, it's employed to treat conditions like facial pain, gummy smiles, and bruxism (teeth grinding). It works by temporarily paralyzing muscles, thus reducing muscle activity that causes these issues. However, Botox has contraindications, including neuromuscular disorders, allergies to the toxin, and infection at the injection site. It's crucial for dental professionals to be aware of these contraindications and understand the proper administration techniques. Beyond dental applications, Botox is widely recognized for its cosmetic uses. It's commonly used for wrinkle reduction, facial rejuvenation, and sometimes lip augmentation. The forehead is the most frequently treated area, and injections are typically administered every 3-6 months to maintain optimal results. While generally considered safe and effective, it's important to be aware of potential side effects. The target audience for both dental and cosmetic Botox procedures is primarily adults aged 18-65.

The integration of Botox into dental practices is becoming increasingly common. Dental students should learn about Botox during their education, as it can be a valuable treatment option for various conditions. Dentists are often authorized to administer Botox for both therapeutic and cosmetic purposes within their scope of practice. Many believe that Botox will positively impact the future of dentistry by providing additional treatment options and improving patient outcomes. Offering Botox as a cosmetic treatment is seen as somewhat important by many, as it can enhance patient satisfaction and address aesthetic concerns.

CONCLUSION

This study concludes knowledge, attitude, and awareness of Botox among undergraduate dental students reflect a growing interest and understanding of its applications within the field of dentistry . Dental students tend to have a positive attitude toward the inclusion of Botox in clinical practice, though there is a need for more focused education and training in this area. To ensure that future dental professionals are well-equipped to incorporate Botox treatments safely and effectively, it is essential to enhance curricular content, provide specialized training, and foster a deeper understanding of both the medical and ethical considerations involved. Increasing exposure to this treatment during their academic journey will not only broaden their skill set but also improve patient care and outcomes.

REFERENCES

1. 1.Mahajan ST, Brubaker L. Botulinum toxin: From life-threatening disease to novel medical therapy. Am J Obstet Gynecol 2007;196:7-15.
2. França K, Kumar A, Fioranelli M, Lotti T, Tirant M, Roccia MG. The history of botulinum toxin: From poison to beauty. Wien Med Wochenschr 2017;167:46-8.
3. Kattimani V, Tiwari RVC, Gufran K, Wasan B, Shilpa PH, Khader AA. Botulinum toxin application in facial esthetics and recent treatment indications (2013-2018). J Int Soc Prev Community Dent 2019;9:99 .
4. Salem WS, Alshammari A, Alshehri F. The Botox in dentistry, a review study. Moj Immunol 2018;6:2013-5.
5. Wang J, Rieder EA. A systematic review of patient-reported outcomes for cosmetic indications of botulinum toxin treatment. Dermatologic Surg 2019;45:668-88.
6. Bhidayasiri R, Truong DD, Expanding use of botulinum toxin. J Neurol Sci 2005;235:1-9.
7. Khalid A, Alzahrani MO, Shabbir AM, Raja HZ. Dentist knowledge and attitude towards botulinum toxin use: Cross-sectional study. Pak J Med Health Sci 2021;14:1852-4.
8. Zagui RMB, Matayoshi S, Moura FC. Adverse effects associated with facial application of botulinum toxin: A systematic review with meta-analysis. Arq Bra Oftalmol 2008;71:894-901.