

A Vantage Point of Medical and Dental Professionals on Hair Restoration Surgery by Dentist: A Cross Sectional Study

Shalini Ravi¹, Bharathwaj V V², Dinesh Dhamodhar³, Sathiyapriya S², Prabu D⁴, Rajmohan M³, Sindhu R², Vishali M⁵

¹Bachelor of dental surgery, Department of Public Health Dentistry, SRM Dental College, Ramapuram, Chennai, India.

²Senior Lecturer, Department of Public Health Dentistry, SRM Dental College, Ramapuram, Chennai, India.

³Reader, Department of Public Health Dentistry, SRM Dental College, Ramapuram, Chennai, India.

⁴Professor and Head of Department, Department of Public Health Dentistry, SRM Dental college, Ramapuram, Chennai, India.

⁵Postgraduate student, Department of Public Health Dentistry, SRM Dental College, Ramapuram, Chennai, India.

Abstract:

➤ *Background:*

Hair restoration surgery is a surgical solution for hair loss which offers natural results in recent times. There is a controversy amongst various streams of doctors of whom should perform hair restoration surgery.

➤ *Aim:*

The ultimate goal of this study was to know the perception of medical and dental professionals on hair restoration surgery performed by dentist.

➤ *Method And Methodology:*

A Cross sectional study was conducted among 101 medical and dental professionals. A self-validated questionnaire was used which includes knowledge-based questions. The content validation of the questionnaire was done by 3 dental professionals in the department of public health dentistry. This questionnaire was distributed among various professionals. Descriptive statistics were performed for all variables collected. Chi square test was done to find the association between the sex and their perception, association between the speciality and their perception and association between the location of practice and their perception.

➤ *Result:*

As per Contemporary study, 51.50% of the participants agreed that dental surgeon can perform hair transplantation surgery. Major part of them was dental professionals practicing at Ramapuram. The P Value<0.05 considered statistically significant. Irrespective of their gender, their opinion on hair restoration surgery by dentist was same. There is no significant difference between them. There is significant association between their speciality and their perception on hair restoration surgery by dental surgeon.

➤ *Conclusion:*

This study reveals us that dental surgeons are fairly qualified to perform hair restoration surgery if they undergone any specific course for the same. Professionals knowledge in hair transplantation surgery (i.e., type of

incision performed, technique used, preferred site for donor hair in surgery) was satisfactory. Although they are qualified their efficiency and legality is still a question mark. To avoid confusion among fraternity MCI/DCI need to frame proper guidelines for doctors of who should practice hair restoration surgery. Their perception in respect to hair restoration surgery performed by dental surgeon was relatively in good basis but further awareness needed among society towards dental surgeon to recognize their service in the field of hair restoration surgery.

Keywords:- Hair restoration surgery, dental surgeon, medical professionals, knowledge, perception.

I. INTRODUCTION

Hair transplantation / Hair restoration surgery is one of the novel surgical fields in cosmetic surgery in vogue. It is an instrumental technique used to treat alopecia and it resolves various hair problems¹. Hair restoration techniques performed in the 1960s through the 1990s utilized large grafts that created an artificial appearance of transplanted hair². In the past 15 years, hair transplantation has been performed using follicular units (follicular unit transplant - FUT/follicular unit excision-FUE) to create aesthetically transplanted hair in both male and female³. This being the emerging field with ever increasing demand among population has created a controversial debate amidst of various streams of doctors across the world regarding who should execute hair restoration surgery. The potential of doctors to come up with indigenous outcome has inspired mass population whom with receding hair to opt for restoration surgery⁴. In view of fact that many uncertified persons are getting into this field, this happens because still now there is no official guidelines/regulations for this from Medical Council of India/Dental Council of India and none of the medical colleges educate or train this technique and there is no specific degree for hair transplantation surgery which leads to perplexed condition. This has paved way for unauthorised persons to enter into this field who even lack basic anatomy and physiology⁴. Hair transplantation is a surgical procedure which should be performed under proper sterilization by a qualified doctor who had proper training and

knowledge for hair transplantation surgery⁵. They should have attended conferences and workshops for the same. In addition to this, they should have undergone training in local anaesthetic procedures and emergency resuscitation and care. The International Society of Hair Restoration Surgery (ISHRS) has recently developed the core curriculum for hair transplantation surgery which describes the knowledge and the surgical procedures are prerequisite to physician proficiency in the accurate detection and therapy⁶. Frivolous practice by unauthorised will lead to increased number of failures and complications, sometimes it might be fatal^{4,7}. The most common complications in hair restoration surgery are unnatural hair line, scalp necrosis, postoperative shock loss, wide donor scar and bacterial folliculitis⁷. In recent times many accounts of hair transplantation surgery have gone wrong. To prevent this situation MCI/DCI should frame the rules and guidelines for hair transplantation surgery and necessary qualification to perform surgery. Dental surgeon whether BDS/MDS can perform hair transplantation surgery provided he/she has undergone some kind of Follicular unit extraction/follicular unit transplantation course and training. In fact, there is no law yet in India which stops dental surgeon from performing hair transplantation surgery. The Dental surgeons usually perform more complicated and difficult surgeries. The necessity of this study/analysis was to determine the efficacy of the dental professionals and their success rate in hair restoration surgery. India being the second largest country in the world by population, it is important to know the efficacy of all the professionals who are all practicing hair restoration surgery and need to frame the guidelines accordingly.

II. METHODOLOGY

A cross sectional study was conducted in the month of February 2020 among dental and medical professionals in Chennai City to obtain their view on hair transplantation surgery by dentist. Ethical clearance was obtained from the institutional review board of public health dentistry department-SRM dental college and hospital, Ramapuram. Their opinion was assessed by means of a questionnaire. Convenience sampling was done through open ended and close ended questions. The Self-Validated questionnaire was used and content validity was checked priorly by 3 dental professionals in the department of Public health dentistry. The questionnaires were circulated among Dentists and oral surgeons at SRM dental college, Ramapuram and various dental clinics in Chennai and among medical professionals at SRM hospital, Ramapuram and in Government hospital, Tondiarpet, Tamilnadu. Totally 101 medical and dental professionals participated in this survey out of which 65 were dental professionals and 36 were medical professionals. We have included professionals performing hair transplantation surgery as well other practitioners. Since it is relatively a new field we have excluded senior practitioners. Professionals Specialisation and area of practice was observed. Surgery related questions such as type of incision performed, technique and minimum duration of surgery was assessed. Their opinion on hair transplantation surgery by dental surgeon was obtained. Complications after surgery by unauthorised persons were observed. The legality and the success rate of hair transplantation by dentist was noted. Data was entered on an excel spreadsheet. Statistical analysis was performed using IBM SPSS17.0. Chi-square tests were carried out to find bivariate associations with sex, speciality and location of practice.

III. RESULTS

➤ *Descriptive variable of questionnaire recorded*

Questions regarding hair transplantation surgery	Sex			P value
	Male	Female		
Can a dental surgeon perform hair transplantation	50.00%	52.40%	Yes	0.817
	50.00%	47.60%	No	
Eligible specialist	31.60%	39.70%	Dermatologist	0.226
	31.60%	23.80%	Plastic surgeon	
	5.30%	15.90%	OMFS	
	31.60%	20.60%	Any speciality	
Success rate of hair transplantation surgery done by dental surgeon	34.20%	30.20%	10-40%	0.305
	28.90%	42.90%	40-60%	
	18.40%	15.90%	60-80%	
	0.00%	3.20%	>80%	
	18.40%	7.90%	Failure	
Awareness of ISHRS/AHRS-India	44.70%	36.50%	Yes	0.413
	55.30%	63.50%	No	
Fellowship in ISHRS	7.90%	1.60%	Yes	0.115
	92.10%	98.40%	No	
Incision	92.10%	88.90%	Sagittal	0.6
	7.90%	11.10%	Coronal	

Technique	57.90%	68.30%	FUE	0.292
	42.10%	31.70%	FUT	
Complications	36.80%	31.70%	Infection	0.333
	7.90%	1.60%	Bleeding	
	13.20%	23.80%	Anaphylactic shock	
	10.50%	15.90%	Severe scar	
	31.60%	27.00%	All the above	
Basic criteria	52.60%	49.20%	MD/MCH and training	0.906
	36.80%	41.30%	Diploma in cosmetology	
	10.50%	9.50%	Mastered in OMFS and trained	
Region	73.70%	79.40%	Occipital	0.535
	2.60%	6.30%	Thigh	
	13.20%	9.50%	Chest	
	10.50%	4.80%	other regions	
Duration	15.80%	14.30%	3-4hrs	0.868
	36.80%	44.40%	4-5hrs	
	42.10%	38.10%	5-7hrs	
	5.30%	3.20%	More than 7 hrs	

Table 1:- Gender based opinion on dental surgeon performing hair transplantation surgery

Table 1 shows that mostly females participated in this survey and 51.50% of Participants agreed on dental surgeon performing hair transplantation surgery and they said that the success rate of the surgeries done by dental surgeons were only 50% and presence of infection as a complication after surgery by unauthorised persons was reported by majority of the participants. It was reported that most reliable technique for hair transplantation surgery is follicular unit transplantation (60.40%) by sagittal incision (90.10%).

Greater part of participants gone along with occipital region donor hair for hair restoration surgery and they said the minimum duration was 4 to 5 hours. Most of the participants were heedless of ISHRS/AHRS- INDIA (Association of hair restoration surgery -INDIA) and they found MD/MCH as a basic criterion for hair transplantation surgeon. No association between their gender and their opinion on hair transplantation surgery was found.

Questions regarding hair transplantation surgery	Speciality					P value
	BDS	MDS	MBBS	MD		
Can a dental surgeon perform hair transplantation surgery	63.20%	59.10%	14.30%	41.90%	YES	0.07
	36.80%	40.90%	85.70%	58.10%	NO	
Eligible specialist	47.40%	27.30%	85.70%	32.30%	Dermatologist	<0.001*
	31.60%	11.40%	0.00%	51.60%	Plastic surgeon	
	0.00%	22.70%	0.00%	6.50%	OMFS	
	21.10%	38.60%	14.30%	9.70%	Any speciality	
Success rate of hair transplantation surgery done by dental surgeon	31.60%	25.00%	28.60%	41.90%	10-40%	0.038*
	42.10%	43.20%	42.90%	25.80%	40-60%	
	26.30%	22.70%	0.00%	6.50%	60-80%	
	0.00%	4.50%	0.00%	0.00%	>80%	
	0.00%	4.50%	28.60%	25.80%	Failure	
Aware of ISHRS/AHRS-India	26.30	40.90%	57.10%	41.90%	Yes	0.493
	73.70	59.10%	42.90%	58.10%	No	
Fellowship in ISHRS/AHRS-India	0.00%	2.30%	14.30%	6.50%	Yes	0.31
	100%	97.70%	85.70%	93.50%	No	
Incision	94.70%	93.20%	100%	80.60%	Sagittal	0.187
	5.30%	6.80%	0.00%	19.40%	Coronal	
Technique	36.80%	70.50%	100%	64.50%	FUE	0.013*
	63.20%	29.50%	0.00%	35.50%	FUT	

Complications	15.80%	47.70%	42.90%	22.60%	Infection	0.006*
	5.30%	4.50%	0.00%	3.20%	Bleeding	
	10.50%	15.90%	14.30%	32.30%	Anaphylactic shock	
	42.10%	6.80%	28.60%	3.20%	Severe scars	
	26.30%	25.00%	14.30%	38.70%	All the above	
Basic criteria	36.80%	34.10%	100.00%	71.00%	MD/MCH	0.001*
	57.90%	45.50%	0.00%	29.00%	Diploma in cosmetology	
	5.30%	20.50%	0.00%	0.00%	MDS(OMFS)	
Region	68.40%	75.00%	71.40%	87.10%	Occipital	0.138
	15.80%	4.50%	0.00%	0.00%	Thigh	
	15.80%	11.40%	28.60%	3.20%	Chest	
	0.00%	9.10%	0.00%	9.70%	Other regions	
Duration	15.80%	9.10%	57.10%	12.90%	3-4 hrs	0.018*
	57.90%	47.70%	28.60%	25.80%	4-5hrs	
	26.30%	36.40%	14.30%	58.10%	5-7hrs	
	0.00%	6.80%	0.00%	3.20%	>7 hrs	

Table 2:- Specialty based opinion on hair transplantation surgery by dental surgeon

Table2 shows that Major part of the BDS (63.20%) and MDS (59.10%) participants said yes for hair transplantation surgery by dentist. About 60.40% of the professionals were unaware of Association of hair restoration surgery India. Majority of the practioners prefer follicular unit transplantation technique by sagittal incision. About 57.90% of Dental surgeons and 45.50 % of specialist in dentistry be of the opinion that Diploma in cosmetology is criteria for hair restoration surgery. As a total 77.20 % of them prefer occipital (donor) scalp for hair restoration surgery. Association between their speciality and opinion on hair transplantation was observed and found to obtain a P value of<0.05 which was statistically significant.

Questions regarding hair transplantation surgery	Location of practice				P value	
	Tondiarpet	Ramapuram	Perambur	other regions		
Can a dental surgeon perform hair restoration surgery	33.30%	61.40%	20.00%	53.0%	yes	0.06
	66.70%	38.60%	80.00%	46.70%	No	
Eligible specialist	41.70%	24.60%	80.00%	60.00%	Dermatologist	0.12
	25.00%	29.80%	0.00%	26.70%	Plastic surgeon	
	8.30%	17.50%	0.00%	0.00%	OMFS	
	25.00%	28.10%	20.00%	13.30%	Any speciality	
Success rate of hair transplantation done by dental surgeon	41.70%	31.60%	40.00%	13.30%	10-40%	0.013*
	12.50%	50.90%	0.00%	40.00%	40-60%	
	29.20%	7.00%	20.00%	33.30%	60-80%	
	0.00%	3.50%	0.00%	0.00%	>80%	
	16.70%	7.00%	40.00%	13.30%	Failure	
Awareness of ISHRS/AHRS-India	45.80%	33.30%	20.00%	60.00%	Yes	0.192
	54.20%	66.70%	80.00%	40.00%	No	
Fellowship in ISHRS/AHRS-India	0.00%	1.80%	20.00%	13.30%	Yes	0.036*
	100%	98.20%	80.00%	86.70%	No	
Incision	91.70%	87.70%	100.00%	93.30%	Sagittal	0.764
	8.30%	12.30%	0.00%	6.70%	Coronal	
Technique	66.70%	63.20%	100%	53.30%	FUE	0.301
	33.30%	36.80%	0.00%	46.70%	FUT	
Complications	41.70%	35.10%	20.00%	20.00%	Infection	0.234
	8.30%	1.80%	0.00%	6.70%	Bleeding	
	20.80%	22.80%	40.00%	0.00%	Anaphylactic shock	
	8.30%	15.80%	20.00%	13.00%	Severe scars	

	20.80%	24.60%	20.00%	60.00%	All the above	
Basic criteria	58.30%	42.10%	100.00%	53.30%	MD/MCH	0.293
	33.30%	45.60%	0.00%	40.00%	Diploma in cosmetology	
	8.30%	12.30%	0.00%	6.70%	MDS in OMFS	
Region	75.00%	86.00%	80.00%	46.70%	Occipital	0.007*
	0.00%	5.30%	0.00%	13.30%	Thigh	
	25.00%	1.80%	0.00%	26.70%	Chest	
	0.00%	7.00%	20.00%	13.30%	Other region	
Duration	25.00%	5.30%	60.00%	20.00%	3-4 hrs	0.023*
	41.70%	45.60%	20.00%	33.30%	4-5 hrs	
	33.30%	45.60%	20.00%	33.30%	5-7hrs	
	0.00%	3.50%	0.00%	13.30%	>7hrs	

Statistically Significant, P<0.05

Table 3:- Location of Practice based opinion on dental surgeon performing hair transplantation

Table 3 shows that about 61.40% of participants who are practicing at Ramapuram locality were agreed on to the question. Among the professionals who are practicing at tondiarpet 41.70% of them believe that success rate of hair restoration surgery by dental surgeon was only 10-40%. Greater part of participants in all the regions don't have membership in ISHRS/AHRS-India. Majority of the participants prefer follicular unit transplant technique by sagittal incision. About 100% of participants in Perambur and 58.30% participants in Tondiarpet consider MD/MCH degree as a basic criterion for Hair restoration surgery. About 60% of the participants in Perambur said that the duration for surgery is 3-4 hours. Association between the location of practice and their opinion on hair restoration surgery was found to obtain a p value of <0.05 which is statistically significant.

IV. DISCUSSION

Nowadays people are very much conscious and concerned about their appearance. Hair loss can affect one's self-confidence and it has the potential to create psychological effects such as stress, anxiety and it also cause them to avoid social gatherings. This led people to opt for hair transplantation surgery⁸. Because of the increased demand and deficient amount of hair transplantation surgeon has paved way for the unauthorised persons to enter into the field of hair restoration⁴. Hair Restoration surgery is comparatively recently developed discipline, for the reason that there is always a disagreement among different professionals of whom should practice. This study was an attempt to explore the perspective of various medical and dental professionals on hair restoration surgery performed by dental surgeon and also to assess their knowledge on hair restoration surgery. This cross-sectional study was conducted by means of a questionnaire among a total of 101 medical and dental professionals in Chennai. According to comprehension and perception about hair restoration surgery by dental surgeon this study was observed. It was reported that 51.50% of the practitioners accepted that dental surgeon can perform hair transplantation surgery if they undergone any specific course. In this major part of the accepted participants were dental Professionals practicing at Ramapuram. This data

shows that dental surgeons are fairly qualified to perform hair restoration surgery and at the same time further awareness needed among professionals towards the speciality. A study conducted in Jazan city among general practitioners about the scope of oral and maxillofacial surgery speciality reveals that they have low awareness towards the scope of this speciality⁹. About 37.60% of the professionals believed that the surgery done by dental surgeon was only around 40-60% were successful. It was known that surgery performed by any surgeon will never be 100% successful. As with any other surgical procedure, Mild post-operative complications in hair transplantation surgery also cannot be avoided. Our study revealed that barely 39.60% of the participants were aware of ISHRS/AHRS-INDIA out of which only 4% of the participants have fellowship, hardly any dental surgeons. This shows that only few professionals were aware of ISHRS/AHRS-INDIA and barely a small number of dental surgeon's own fellowship in AHRS-INDIA. About 20% of professionals practicing at Perambur own fellowship in AHRS-INDIA. Among practitioners 90.10% of them opted for sagittal incision, which shows they have adequate knowledge about the incision performed in hair restoration surgery¹⁰. FUE&FUT are the two widely performed techniques to obtain hair follicles for hair transplantation surgery, both this technique has its own advantages and disadvantages. Though FUT is the oldest and gold standard technique^{11,12}, it is least practiced by the surgeons because of the advent of new techniques. FUE is the popular technique among patients and surgeons because of no visible scarring in the donor region. For that reason, it is widely performed by the surgeons. Majority of the professionals prefer FUE¹³. The P value of 0.013 shows follicular unit extraction was preferred than follicular unit transplant. The technique to be chosen is also dependent on patient's factor. This study revealed the most common complications caused by unauthorised persons was infection and least reported was bleeding. P value of 0.001 exhibits MD/MCH as a basic criterion for hair transplantation surgeon and 39.60% of professionals reported diploma in cosmetology as basic criteria. Majority of dentists reported diploma in cosmetology as basic criteria. Diploma in cosmetology is a certificate course for the duration of 6 months to 1-year which trains dental surgeon to develop skills and upgrade their knowledge

in hair restoration surgery. A related study was done in Saudi Arabia amongst professionals noticed the perception about the training required to be a facial plastic surgeon, 30.3% of them said training in plastic surgery was required, 1.5% said in general surgery program and 14.9% said in maxillofacial training programme¹⁴. Our findings revealed that majority (77.20%) of them prefer harvesting donor hair from occipital region (posterior scalp). This is due to high sustainability of hair in that region. Greater part of professionals (P Value =0.018) reported duration for hair restoration surgery was around 4 to 7 hrs which correlates with the actual duration of hair restoration surgery. All these findings revealed us that they have adequate knowledge on hair restoration surgery. Our study revealed that 36.60% of the professionals considered dermatologist as a qualified specialist to perform hair restoration surgeon. P Value of <0.001 manifests statistically highly significant. This shows a strong coincidence with the study conducted in pune among health care professionals which also revealed that majority (67%) of them preferred dermatologist to perform hair restoration surgery¹⁵. A similar study conducted in United States among physicians in primary care residency programs also showed dermatologist considered most qualified specialist to perform different cutaneous and surgical procedures¹⁶. Bangash HK and his colleagues conducted a study among various medical specialities noticed plastic surgery have done greatest contribution to hair transplantation¹⁷. However Dermatologist should not be compared with dental surgeon, thus both are different field and both requires special training in hair restoration surgery. Irrespective of their gender, their perception on hair restoration surgery performed by dentist was same. It shows that there was no significant association between their gender and perception. There was a significant association between their speciality and perspective on the study. A Significant association between their location of practice and their perception is evident. This analysis helps us to assume that dental professionals possess basic knowledge about hair transplantation but furthermore studies required to evaluate their efficiency in the field of hair restoration surgery.

V. LIMITATIONS

Fewer number of earlier writings regarding this topic. This study was conducted amid very small population in Chennai. Data collected from dental professionals comparatively more than the medical professionals and this is because of the accessibility and readiness of the dental professionals than medical professionals. Further studies in detail will enhance the scope for dental surgeons in hair restoration surgery.

VI. CONCLUSION

The objective of this research was to know the perception of medical and dental professionals on hair restoration surgery performed by dental surgeon and their knowledge on the same. This analysis concluded that the knowledge and the perception of medical and dental professionals in Chennai in respect to hair restoration surgery by dental surgeon was relatively in sound basis but requires

more update and practice. It is inevitable to establish the knowledge and efficiency of dental surgeon in hair transplantation surgery to evaluate their skill and success rate on the same. In this study it was evident that dental surgeons are better qualified to perform hair restoration surgery as they have the surgical skills and adequate knowledge in the anatomy and physiology of head and neck region. Though they are qualified enough their efficiency is contentious. In order to avoid confusion amongst doctors MCI/DCI should enclose the educational qualification for hair transplantation surgeon. Still more awareness required among fraternity towards dental speciality to mark their footprint in the field of hair restoration surgery. Further studies required to increase the scope of dental surgeon in the field of hair restoration surgery.

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