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CONVERSIONTO CONTACT LENS FROM SPECTACLES- A STUDY ABOUT THE PRACTITIONER'S INFLUENCE/INITIATIVE

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ABSTRACT

Present study is carried out in Delhi-NCR to analyzing effect of practitioner's approach in increasing the conversion rates from spectacles to contact lenses. All subjects walking in for refraction were included in this study by the single practitioner. The subjects who walked into the clinic and inquired about contact lenses were grouped in reactive group; all the others who came for refraction or other reason like for new sunglass and new frame etc. were classified as proactive. In reactive group subjects were provided trials as per demand (brand and modality choice). In proactive group trial contact lenses option decided by practitioner as per need and requirement. Every patient trying contact lenses was offered a free trial. Patient-initiated trials resulted in 41% of patients being fitted with lenses, whereas practitioner-initiated trialsresulted in significantly more patient's i.e.63% being fitted with lenses. The results of this study demonstrate that a proactive approach to contact lens fitting is likely to have a positive influence on increasing the number of contact lens users.

KEYWORDS: Proactive; Reactive; Disposable Contact Lenses; Delhi; Spectacles.

The option to correct refractive error is spectacle, contact lens or refractive surgeries. Each of these choices has its own advantages and drawbacks. Spectacles are the most commonly used for refractive correction. All three forms of corrective choices for refractive error are simply offered in developing and developed countries. Though, the choice varies from the individual affordability, place and nature of work, profession, socio-economic status, and hobbies. Of these corrective options, contact lens has been playing a vital role in providing vision to the countless users worldwide with several advantages like comfort, convenience, quality vision, wider the field of view and different optical advantages over spectacles. Apart from natural look it also opens the door for unlimited selection of sunglasses.

LITERATURE REVIEW

According to Ravipati et al. around 125 million people all over the world use contact lens as a primary form of refractive correction. Contact lens industry research from past few decades extremely increased advancements in terms of both quality and quantity with various designs and materials (Key, 2007). Regardless of its advantages and the increasing popularity of contact lens the use of spectacles remains the most primary method of correcting refractive error. Even though many studies have observed fear of complications (Chawla and Rovers, 2010) and price (Dandona and Dandona, 2001) as the confounding factor to avoid contact lens, these reasons for selecting corrective options varies from place to place and individual to individual.

Contact lens penetration in India was reported as 5.3% of the target population 18 million (NileshThite et al.) (Grand View Research,2013). This is considerably low compared to other Asian countries like China (17%), Korea (16%), Malaysia (25%) and Singapore (35%). However, the potential growth in contact lens user's was expected to be high in India by taking in account the population age group, growth of eye wear industry and newer technology adoption trends since 2011 to 2015 (Euromonitor country report 2015). However, in a study (Thite, 2014) certain barriers like income, lifestyle, awareness, availability of contact lenses and practitioner's attitude were found as barriers hampering this potential growth.

A study conducted by Hanks (1991) compared the results of practitioner's recommendation methods, grouped the subjects in 'Proactive'- discussion initiated by the practitioners and 'Reactive'- discussion initiated by the patient. This recommendation discussion with patients requiring correction for their *ametropia* is done during first interaction with the practitioner in the optometrist's clinic. This study resulted in higher percentage of conversion in proactive group i.e. 20% of cases while in reactive it was only 2% of the cases. Similar study was carried out Jones et al(1995) and results had shown six-fold increase in contact lens wearers when proactive behavior was initiated. Morgan and Nathan (1995) also concluded that conversion rate was higher in proactive group when compared to reactive groupi.e. 31% conversion in proactive effort in comparison to 17% conversion in reactive group.

Sarath et al (2011) carried out a study to explore preferential and non-preferential reasons for

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opting contact lenses and concluded that 42% of respondents opted for contact lenses due to Cosmetic appearance along comfort/clarity of vision as other factors.The study also conveys that58% of the respondents avoided using contact lenses due to the difficulty in maintaining the lenses , poor awareness about contact lenses and lack of professional advice.

The objective of the study is analyzing the effect of practitioner's approach in increasing conversion rates from spectacles to contact lenses

METHODOLOGY

The present cross sectional study was carried out in Delhi- NCR and data was collected between August 2015 to January 2016 from registered 381spectacle users. All these subjects walking in for refraction were registered with the single practitioner. The subjects who walked into the clinic and inquired about contact lenses were grouped in reactive group, all the others who came for refraction or for any other reasons like for new sunglasses or new frames etc. were classified as proactive. In *reactive group,* subjects were provided trials as per demand (brand and modality choice). In *proactive group,* trial contact lenses option decided by practitioner as per need and requirement.

The trial included Acuvue moist, Acuvue moist for Astigmatism, SofLens one day, Soft lens daily disposable for astigmatism Biotrue 1 day, true eye Daily Aqua Comfort plus (DACP). If patient wanted to try for subsequent days, researcher gave biweekly (AcuvueOasys, AcuvueOasys for Astigmatism, PV2, PV2Toric, Airoptix Aqua and Airoptix Aqua f or Astigmatism) & monthly disposable lenses (for both groups).In presentstudy, researchers included age- 14 to 40 years, habitual distance correction required (they have minimum power to wear contact lenses), Spherical ametropia of +6.00DS to -20.00DS and astigmatism of < 2.50D (due to trail power availability) and no apparent contraindications for contact lens wear. Further,researchers have excluded subjects whose age was either less than14 years or more than 40 years (most of footfall in this age group), existing contact lens wearers, astigmatism >2.50D, > 20D myopic (due to power unavailability), conditions which are contraindicated for Contact Lens wear.Patients who accepted to try contact lenses in proactive group were either fitted at the eye examination appointment, if time permitted or they were rescheduled for subsequent appointment. Comprehensive eye examination was done before final recommendation of the trial lenses. The subjects were thenexplained the best options based on his needs and occupation.

It was first inquired that if he had tried contact lenses ever "Did you try contact lenses?" If subjects said "yes" than he was excluded from study but if the response was "no", then he/she was proposed to try contact lens. The subjects who agreed were evaluated with *Slit lamp and keratometry*. Trial lenses were inserted into the patient's eye by empirical calculation and comfort. Later, vision response was noted after one hour of trial wear.

RESULTS

This study was conducted in well-known optical outlet in Delhi NCR, India. Entire study has done by same practitioner. Total pooled data was 381 in which 229 (60%) are proactive and 152 (40%) are reactive.Total number of persons who tried in the proactive group, out of these 140(61%) were female and 89(39%) male whereas in the reactive group 104(68%) were females and 48 (31%) males (Table 1).

Table 1: Gender distribution in both groups

	Male	Female
Proactive Group	89	140
Reactive Group	48	104

Total pooled data was 381 in which 229 (60%) are proactive and 152 (40%) are reactive. The number of patients who proceeded with contact lenses following the trial was recorded by practitioner. Of total 381 customers entered the study, 288(75.50%) customer tried and 93(24.50%) denied to use lenses (figure 2), trails were higher in the reactive group 127(out of 168) as compared to that of proactive group 152 (out of 229). Out of 288 persons who tried, 102 (63%) out of 161 people purchased and continued with the lenses whereas 59 (37%) did not purchase, in the proactive group. In the reactive group 52 (41%) out of 127 purchased and continued with the lenses whereas 75 (59%) did not purchase. Individuals from different age groups participated in the trial. In the proactive group, maximum numbers of the participants were of age group 26-30 followed by 21-25, followed by 31-35, followed by 16-20, then 36-40 and minimum in the age group of 41-45. Maximum participants in the reactive group were in the age group of 26-30 followed by 21-25> 16-20> 31-35> 36-40, and minimum participation in the age group of 41-45 (table 2).

Table 2 Comparative study in both the group

		Proactive Group	Reactive Group	p Value
Total No. of Subjects in both group		229	152	0.000
No. of subjects who tried contact lenses		161	127	0.045
No. of subjects who denied to try contact lenses		68	25	0.000
No. of subjects who converted for contact lenses for their refractive correction		102	52	0.000
Age Group(years) comparison in both group	14-20	34	28	0.302
	21-25	64	48	0.107
	26-30	68	48	0.076
	30-35	42	18	0.002
	36-40	21	10	0.048

Maximum numbers of trials distributed in both the groups were daily disposable. In the proactive group, maximum trials were done daily followed by monthly and least trials were biweekly.Both the groups were given with an option of hydrogel and silicone hydrogel and our intension was to prescribe more silicone hydrogel lenses. But in the proactive group majority of patients accepted hydrogel lenses (54) in comparison to silicon hydrogel (48). In reactive group, maximum number of conversion is silicone hydrogel (27) in compare to hydrogel lenses (25) group.In part of trial distribution and conversion the daily disposable trial is more but less converted in same modality but monthly disposable lenses are less distributed as a trial but conversion is higher in both groups.(Table 3)

Table 3:- Modality of trial distribution and Conversion

Modality of trial distribution in both group	**Daily Disposable**	**143**	**105**	**0.016**
	Monthly disposable	16	21	0.411
Conversion based on lens material	Hydrogel Material	54	25	0.001
	Silicone Hydrogel Material	48	27	0.015
Conversion based on modality	Daily disposable	31	6	0.000
	Monthly disposable	69	44	1.000

When looking at prescription, the number of patients of high prescription is more for contact lenses in both group (92 & 67 respectively) and followed by mild prescription and medium prescription is on last. Astigmatism patients were lesser in all of three groups.

Table 4: - Conversion in Contact lens based on degree of prescription

Prescription	Tried	Converted for contact lens	P Value
PROACTIVE			
High (>+/-3.00D) degree amatropia	92	63	0.020
Moderate (+/-1.25D to+/-3.00D) degree amatropia	17	12	0.353
Mild (+/-0.50D to +/-1.00D) degree amatropia	36	17	0.009
Astigmatism (Cylindrical up to -2.75D)	16	10	0.239
REACTIVE			
High (>+/-3.00D)	67	32	0.000
Med (+/-1.25D to+/-3.00D)	23	8	0.007
Mild (+/-0.50D to +/-1.00D)	24	8	0.005
Astigmatism (Cylindrical up to -2.75D)	13	4	0.029

The study conducted among various occupations, the highest number of participants was computer professionals (104) i.e. 45% of overall trials and conversion only 33 means 31%. Maximum conversion seen in Sales executives (94%) followed by call center individuals (91%) and Engineer (85%). Lowest numbers of participants were from businessman, house wife, Doctors, IT professionals & teacher and there is no conversion in same occupations. Students have converted in 52% and lowest conversion in bankers (15%). As like proactive one, the highest number of participants were computer professionals (80) i.e. 22% and with highest number of conversion (18) but when we analyze it, this is only 22% of total computer professional's participants. Though call centers executives and IT professionals were minimum pertinent (only 2 in each class) but 100% conversion, they tried and purchase at same time. Lowest number of participants was from business call center, doctors, IT sector, and sales and also with the lowest conversion. There was no conversion in business sector. Engineers were converted 67% whereas Doctors, Sales executives and students have converted 50-50. Teachers were motivated in reactive groups compare too proactive and 30% of whom. There is no conversion in businessmen in this group also.

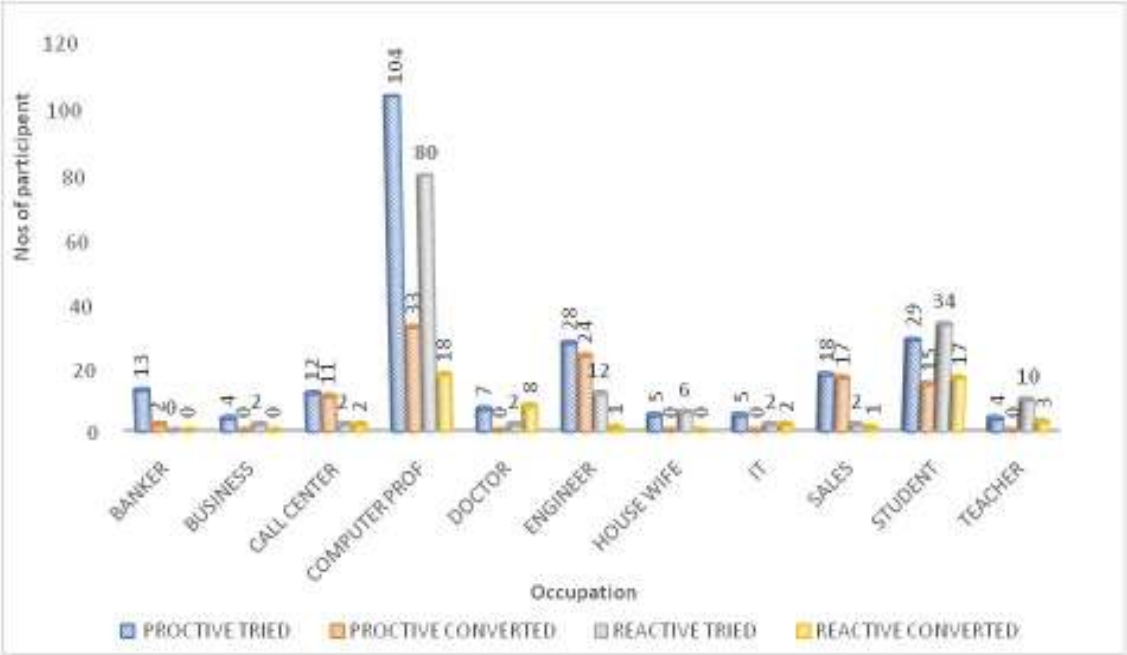

Figure 1: Trial and conversion showing in both group in different occupation.

DISCUSSION

Most practitioners believed that contact lenses are better correction option than spectacles and obtain professional satisfaction by practicing Contact Lenses; however, they need to understand importance of spending time with patients during counseling and fitting (NileshThithe et al., 2015). As reported by the practitioners, Indian consumers lack information about Contact Lenses and perceive them to be expensive (Ravipathi et al., 2011). Eye care practitioner can play an important role in creating mass awareness, passing correct information, and removing the common myths about contact lens (Steve Grant).

The results of our study have confirmed that adopting a proactive approach in practice can increase patients to contact lens category. In present study, 152 subjects who presented for routine eye examination were dispensed contact lenses only if they specifically asked about them or were motivated to try them, whereas the other 229 patients had been introduced and recommended the option of contact lens correction. 83.30% customers tried the free trials in reactive approach as compared to proactive approach (70%) that difference was significant ($p = 0.000$). Although the trials were more in reactive group the conversion was 41 % only whereas the conversion was 63 % in proactive group (p value< 0.000). This means that the practitioners recommendation strongly influences the subject to shift to contact lens category. When we proactively recommend the contact lenses to suitable customers one can improve the contact lens practice and the growth of contact lens business is upgraded. Therefore, it emphasizes that the persons with less

awareness and motivation group can be more easily motivated than those who had some knowledge and had come asking for contact lenses in the eye clinic. The ones, who were approached on their own more likely to try and still not sure of using contact lens as a vision correction option.

Our study had similar outcome of proving proactive approach to be more influential outcome as shown in a study conducted by Sarah L Morgan and Nathan Efron (31%)in 1995 in UK. However, the Indian perspective this approach had shown two folds' increase in number of fittings compared to the Sarah Morgan et al study in UK. This confirms that in India the consumer is more influenced by the word of mouth recommendation than believing in information by themselves from internet or advertisements.

In present study, we found women were significantly more interested to try the lens compared to male in both group and with cosmetic motivation as a strong factor in using this correction option. Percentage of female subjects opted for contact lens were students who were easily promoted to daily disposable lenses for occasional wear (table no.2).

Age also affected the rate of conversion. The maximum potential in between 21-30 years but in this age group researchers did not see any significant different. When we focused the age between 31-40 years there is significant difference between both group, in proactive conversion is more compare to reactive ($p< 0.002$ and $p< 0.048$ respectively). During trials, we found the reason, this age group was having a more intellectual power to take the decision. So, they were easily converted.

Considering occupationsperson who work in call center, Engineer and sales executive are more likely to easily converted to contact lenses compared to computer professionals, students and banker who are less likely to be influenced or may prefer to be with spectacles Participation of teachers, IT professionals, housewives, doctors were still difficult to convert. Minimum participation was noticed from business men. Occupational benefit was a big influence in proactive group where they saw benefit like lenses was more comfortable at work place, they don't get fog wide field of vision etc. This explains that recommendation based on benefits in their job will help promote conversion. Whereas reactive group is motivated towards cosmetic advantages. This outcome is very important aspect as it helps us understand that benefit of contact lens in occupation will be strong motivating factor in conversion. High end products were easily accepted on recommendation in reactive group whereas proactive group would like to opt for lower price options or daily disposables for occasional wear as they were not sure of continuation and would prefer upgradation later. Hence it is suggested that proactive customers should be not forced on high end or expensive options in the first attempt. In proactive group conversion of daily disposable lens is much more in compare to reactive group (30% and 11% respectively) and there was significant difference ($p=0.000$) because when we started to speak with subjects we discussed advantages and benefits of lenses one over others and they able to decide about the better one.

The degree of refractive error was also a factor which had shown significant difference between the two groups. Higher power subjects in reactive group were easily motivated for conversion. It is assumed that higher degree of myopes are already wanting to get rid of glasses so they are aware of the various options to remove glasses and that's why we had cosmetic motivation stronger in the reactive group.

The moderate to low powers were ones which were the untapped area and least intentions towards contact lenses category. Most of them have probably been assumed to be happy spectacle wearers and proactiveness talk about contact lenses could easily convert them. It signifies that low power myopes were missed out by practitioeners and recommendation is mostly towards motivating high power myopes. Astigmatic correction with toric contact lens was showing 32% higher conversion in proactive group compare to reactive. In astigmatic subjects, many of patients were not aware of availability and they thought they were not ideal for contact lens, when proactively recommended for contact lenses, they were feeling happy and fitted with toric trial lenses (monthly and daily both). After subsequent day of using lenses they found that lenses were satisfactory for them. This indicate proactive approach have a positive impact over the consumer mind (table 4). The limitation of the study is that this study hasn't included Presbyopic patients due to trial crisis of availability, Specialty Contact lenses. Also, this study is the region bounded. So, for further study, we can include presbyopic patients and also see the effect of specialty, contact lens on the conversion rate of contact lens.

CONCLUSION

The study concludes that, Proactive approach has higher chance of conversion as compared to reactive approach to contact lens conversion. Proactive

customers should be not forced on high end or expensive options in the first attempt, Low power prescription is more potential and reactive customers mainly convert for cosmetic influence.

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