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Knowledge, attitude, perception and education on contact lenses for refractive errors in Kenya

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Background: Globally, contact lenses are an important part of the management process for refractive errors. Contact lenses are accepted widely in developed countries, but they are currently less used in developing countries like Kenya.

Aim: To assess the knowledge, attitudes and perceptions (KAP) (both pre- and post-education) to contact lens uptake specifically for correction of refractive errors by patients attending a Kenyan University Eye Clinic.

Setting: Academic Vision Centre, Masinde Muliro University of Science and Technology, Kakamega, Kenya.

Methods: A quasi-experimental cross-sectional study was performed by reviewing all records from February 2014 to March 2020; 360 records were purposively selected. Thereafter, a structured questionnaire with educative content on contact lenses was administered by phone and online to determine KAP. Responses were collected over a period of one month. Knowledge, attitudes and perceptions were categorised and scored, and descriptive statistics and paired *t*-tests were used for data analysis.

Results: More women (58.3%) and mostly students (59.2%) participated, with ages from 16 to 38 years (mean age and standard deviation of 22.85 ± 4.32). Overall, there was poor knowledge of contact lenses for refractive errors (96.7%). Attitudes to contact lenses were unfavourable, both pre- and post-education (94.7% and 92.8%). Perceptions of contact lens uptake were negative pre-education (92.5%) but positive post-education (95.3%).

Conclusion: Education changed perceptions of contact lens usage for refractive errors correction, but even with some focused education, negative attitudes and poor knowledge regarding contact lenses persisted in the sample. Practitioners should inform patients about contact lenses as a possibility for refractive error management, and institutions training eye care providers should consolidate their clinical teaching regarding contact lenses.

Contribution: This study showed that the more people with refractive errors are knowledgeable about contact lenses, the more uptake of contact lenses will happen, optometrists and ophthalmologists should educate people more on contact lenses.

Keywords: knowledge; attitude; perception; contact lenses; contact lens uptake; refractive errors.

Introduction

Refractive errors have been corrected with contact lenses for many years, with both benefits and possible drawbacks.[1] Success in the use of contact lenses in correcting refractive errors dates back to the early 19th century.[2,3] Although contact lenses are a popular choice for refractive error correction in many parts of the developed world, the uptake of contact lenses has been comparatively slower in most parts of Africa and in countries like Kenya.[4] Refractive error is a common eye disorder,[5] and uncorrected refractive errors are among the seven most common factors causing vision impairment (VI) or blindness. The other factors include cataracts, age-related macular degeneration, glaucoma, diabetic retinopathy, traumatic injuries and corneal or retinal infections. Around 2.2 billion people have VI, with 39 million blind, and projections suggest that by 2050, the number of blind people will increase to 115 million.[6] There are essentially three main types of refractive errors: myopia, hyperopia and astigmatism,[7,8,9,10,11,12] although presbyopia is also important. Worldwide, over 150 million

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people wear contact lenses, with 47 million wearers in the United States and around 4.2 million wearers in the United Kingdom.[13,14]

Knowledge, attitude and perception studies are designed to inform health education initiatives and guide policymaking processes.[15,16] Knowledge of contact lenses is better in more-developed countries and specifically in Asian countries, where there is also evidence of higher incidence of refractive errors, especially myopia and astigmatism.[17,18,19] Contact lens usage in India was reported as 5.3% of the target population of 18 million, and this is considerably less than in other Asian countries like China (17%), Korea (16.0%), Malaysia (25.0%) and Singapore (35.0%).[20,21,22]

In a study in Iran on awareness and attitudes to refractive error correction methods, Moghaddam et al. (2013) found that 80.3%, 87.0% and 71.0% of participants knew nothing about contact lens applications, cosmetic contact lenses and therapeutic contact lenses, respectively. The study focused on practitioners in the prescription and dispensing of contact lenses.[23] Contrary to the Iranian study, a study in Ghana revealed that 95.8% of the study participants knew about contact lenses, and 35.0% of the participants had knowledge of the advantages of using contact lenses, but 65.0% knew little about any advantage of contact lens use. The Ghanaian study explored basic knowledge of contact lens care and complications and gave negligible attention to the attitudes to contact lens uptake, although the study indicated that women wanted contact lenses (28.3%), as against men at 12.5%. Regarding their sources of information on contact lenses, 45.3% mentioned the media as their source.[24] Ghanaians had good knowledge of contact lenses and used them commonly for refractive error corrections. Out of the 87 cases reviewed, 46 (52.9%) used contact lenses for refractive error correction. In line with other studies, women were shown to use contact lenses more (46 cases, 52.9%) compared to the men (41 cases, 47.1%).[25]

Research shows that attitudes toward contact lens uptake are a significant factor which may affect the use of contact lenses in the correction of refractive error.[26] Favourable (positive) attitudes enhance patients' motivation to wear contact lenses for correction of refractive errors, whereas unfavourable (negative) attitudes may result in resisting contact lens wear.[27,28] Giving a definition to attitude has always been difficult because of the complexity of its construct. Therefore, in assessing patients' attitudes to contact lens uptake for the correction of refractive errors, questionnaires are considered a reliable instrument.[29,30,31] Ghana, as a developing country, has some representative studies, with one of them looking not only at the profile and knowledge of contact lens users regarding contact lens wear but also at the attitudes of contact lens users regarding contact lens wear.[25] The study showed that soft contact lenses were more commonly used (78.2%) than rigid gas permeable lenses. The main purpose for wearing contact lenses included vision correction, cosmesis and therapeutic application at 52.9%, 26.4% and 20.7%, respectively.[25] Furthermore, all participants made known the incidence of previous symptoms associated with the use of their contact lenses, but only slightly more than half (57.1%) visited the clinic for their annual follow-ups.[25]

In Saudi Arabia, a study of 1466 female students aged 16 and 31 years indicated that contact lens uptake and acceptance was positive. Half of the participants were part-time users of contact lenses, and cosmetic reasons were the major reason for contact lens use (63.3%). However, nearly 38.7% of the respondents used contact lenses without consultation with an eye care practitioner.[32] When purchasing contact lenses, optical shops were the main ports of purchase (51.0%), followed by beauty salons (38%) and pharmacies (11.0%). The practice of contact lens care and handling showed most participants complying with care instructions such as hand washing (89.4%) and changing of solution at all times (72.7%).[32] Very few participants admitted sleeping with their contact lenses. Interestingly, 80.3% of the 1327 shops sold contact lenses with no prescription, and 61.4% gave no instructions to the patients during purchase.[32] Perceptions regarding contact lens uptake showed a high percentage of patients citing aesthetic effect (acceptance) as being the first reason for contact lens use (57.9%). The comfort of eyes was the first consideration (75.7%) when buying contact lenses. In considering cleanliness, good hygiene and safe usage practice, 86.2% washed their hands before handling and 83.5% cleaned the lenses carefully after removal.[14] A Ghanaian study demonstrated that 17 out of the 42 (40.5%) persons questioned started using contact lenses after they were told of them by an eye care practitioner in the eye care industry. This is an indication that with education on contact lenses and their uses, behaviour could be altered. Therefore, this study assesses KAP of contact lens use for correction of refractive errors in a sample of patients attending an eye clinic in Kenya, both before and after they received some education regarding contact lenses.

This study is the first in Kenya to consider the impact of focused education on KAP to contact lens usage. The introduction of education in this study took into consideration the public health dimension that was lacking in previous studies. This study will significantly inform patients when making choices regarding means of refractive error correction. The eye care industry and policymakers in Kenya may be better informed because of this study and be guided appropriately when formulating policies regarding eye care management. Practitioners and contact lens industries may also benefit in the provision of contact lenses in Kenya, which may be good for the general public and also assist towards fulfilling global sustainable development goals.[33]

Methods

This quasi-experimental, cross-sectional study was carried out at Masinde Muliro University of Science and Technology (MMUST) Academic Vision Centre (AVC) in Kakamega County, western Kenya. This is currently the

only university in Kenya with an AVC, attracting students from within and outside the country into optometric education and training at degree and postgraduate levels. The study reviewed all clinical records of patients who have attended (between February 2014 and March 2019) at the MMUST AVC. Clinical data of interest for this study were diagnosed refractive errors, with or without correction for patients of 16 years of age and above. A purposive sampling technique was used in selecting the required sample size from all patient records with refractive error as the primary diagnosis. Using Cochran's formula, the minimum sample size was calculated to be 360.

The exclusion criteria were participants unwilling to give consent or assent and those who were not given consent by their parents or guardians to participate in the study. Participants with early presbyopia or unclear contact or other information in their clinic records were also excluded.

Semistructured questionnaires were used, consisting of both open- and closed-ended questions to elicit KAP of contact lenses, using the Likert scale (0–5). Graded and categorical responses were obtained from 359 participants (Table 1) through an online platform (where the study was also explained to the study participants who consented or assented). For the online survey, a link to the questionnaire was created and made available to participants through WhatsApp, e-mails and SMS. All data were collected over a period of one month.

The questionnaire comprised 66 items (questions and statements) divided into Sections A and B (pre- and post-education on contact lens). Section A, which had the pre-education items, included Parts A and B as follows: parts A1 and A2, demographic information (nine items) and general eye health status (eight items), respectively. Further in Section A are Parts B1, B2, and B3: knowledge on contact lenses (seven items), attitude to contact lenses (nine items) and perceptions on contact lenses (13 items), respectively. Section B, being the post-education items, includes Part C, attitudes to contact lenses (nine items) and Part D, perceptions on contact lenses (11 items). Knowledge of contact lenses was determined by six items (Table 2). All items had 'yes', 'no' and 'not sure' numerically scored as 1, 0 and –1, respectively. Knowledge was categorised as binary into 'good knowledge' when the mean score was ≥ 5 and 'poor knowledge' when the mean score was < 5. All responses of 'not sure' scored as –1 and were considered uncertain and thus purposively omitted.[34,35,36]

Attitudes to contact lens uptake pre- and post- education, respectively, were determined by nine items in the tool. Responses to the items were 'strongly disagree', 'disagree', 'agree', 'strongly agree' and 'not sure', scored as 1, 2, 3, 4 and 0, respectively. The total possible score for the items was 36 (that is, 9 × 4).[34] Attitudes were categorised as 'favourable or positive' and 'unfavourable or negative'. Scores ≥ 21 were classified as 'favourable or positive', whereas scores < 21 were classified as 'unfavourable or negative'.[36]

The items that determined attitudes are indicated in Table 3. Perceptions on contact lenses pre- and post- education had 13 and 11 items, respectively, of which eight items determined perceptions in this study (Table 4). The items had responses of 'strongly disagree', 'disagree', 'agree', 'strongly disagree' and 'not sure' scored as 1, 2, 3, 4 and 0, respectively, and given a total of 32 points. Scores ≥ 18 indicate 'positive perception', whereas scores < 18 indicate 'negative perception'.

TABLE 1: Demographic characteristics of 359 participants, aged 16–38 years.

Variables	Responses	Frequency	Percentage
Gender	Male	149	41.7
	Female	210	58.3
Education level	Completed secondary school	213	59.2
	Certificate or diploma	10	3.1
	University degree	45	12.5
	Postgraduate (MSc, PhD, postdoc)	91	25.4
Occupation	Student	206	57.2
	Unemployed	70	19.7
	Employed	59	16.4
	Business	24	6.7
Income	3000 KES – 10 000 KES	6	1.7
	11 000 KES – 40 000 KES	16	4.4
	41 000 KES – 70 000 KES	17	4.7
	71 000 KES – 100 000 KES	26	7.2
	Others (student or unemployed)	294	81.9

KES, Kenya shillings.

Statistical analysis

Descriptive statistics (frequencies and percentages) and paired *t*-tests were used in determining relationships of the variables (KAP), to contact lens uptake for correction of refractive errors.

Ethical considerations

All procedures performed in the studies involving human participants and use of human records were in accordance with the ethical standards of the institutional ethics review committee (IERC) of Masinde Muliro University of Science and Technology (MMUST) (ref. no. MMUST/IERC/80/1). Permission was granted by the National Council of Science and technology and Innovation (NACOSTI) (ref. no. NACOSTI/P/20/3228) and the study complied with the 1964 Helsinki Declaration

TABLE 2: Responses from 359 participants for knowledge about contact lenses.

Statement	Yes		No		Not sure	
	n	%	*n*	%	*n*	%
Had heard about contact lenses	282	78.6	69	19.2	8	2.2
Know what a contact lens is	234	65.2	80	22.3	45	12.5
Know uses of contact lenses	150	41.8	121	33.7	88	24.5
Seen or held a contact lens before	144	40.1	183	51.0	32	8.9
Know how to insert and remove contact lenses	34	9.5	294	81.9	31	8.6
Aware of the risks of contact lenses	60	16.7	264	73.5	35	9.8

TABLE 3: Attitudes to contact lens usage (pre- and post-education for contact lenses).

Statements	Education interval	Strongly agree		Agree		Not sure		Disagree		Strongly disagree	
		n	%	*n*	%	*n*	%	*n*	%	*n*	%
Could use contact lenses for correcting RE	Pre-ed	30	8.3	119	33.1	189	52.5	20	5.5	2	0.6
	Post-ed	121	33.6	172	47.8	63	17.5	4	1.1	0	0.0
Contact lenses good for correction of my RE	Pre-ed	36	10.0	42	11.7	264	73.3	4	1.1	14	3.9
	Post-ed	82	22.8	219	60.8	44	12.2	3	0.9	12	3.3
Don't like contact lenses, cannot manage them well	Pre-ed	0	0.0	34	9.4	183	50.8	108	30.0	35	9.7
	Post-ed	10	2.8	93	25.8	27	7.5	194	53.9	36	10.0
Don't like contact lenses but know about them	Pre-ed	8	2.2	37	10.3	135	37.5	144	40.0	36	10.0
	Post-ed	1	0.3	28	7.8	21	5.8	205	56.9	105	29.2
Afraid of contact lenses and using them	Pre-ed	23	6.4	47	13.1	153	42.5	109	30.3	28	7.7
	Post-ed	19	5.3	88	24.4	28	7.8	176	48.9	49	13.6
Fear of contact lenses due to stories told about them	Pre-ed	20	5.6	53	14.7	111	30.8	150	41.7	26	7.2
	Post-ed	0	0.0	69	19.2	33	9.2	182	50.6	76	21.0
Cannot pay for contact lenses	Pre-ed	17	4.7	73	20.3	210	58.3	52	14.4	8	2.3
	Post-ed	0	0.0	42	11.7	225	62.5	50	13.9	43	11.9
Wear contact lenses for correcting RE	Pre-ed	16	4.4	70	19.4	104	28.9	131	36.5	39	10.8
	Post-ed	46	12.9	43	11.9	61	16.9	152	42.2	58	16.1
Wear contact lenses for fashion	Pre-ed	0	0.0	27	7.5	71	19.7	82	22.8	180	50.0
	Post-ed	0	0.0	9	2.5	49	13.6	171	47.5	131	36.4

Note: *n* = 359.

RE, refractive error; Pre-ed, pre-education on contact lenses; Post-ed, post education on contact lenses.

TABLE 4: Perceptions on contact lens uptake: pre- and post-education.

Statements	Education interval	Strongly agree		Agree		Not sure		Disagree		Strongly disagree	
		n	%	*n*	%	*n*	%	*n*	%	*n*	%
Prefer contact lenses to spectacle wear	Pre-ed	23	6.4	78	21.7	196	54.4	52	4.4	11	3.1
	Post-ed	126	35.0	153	42.5	35	9.7	42	11.7	4	1.1
Contact lens wear not acceptable where I grew up	Pre-ed	2	0.6	9	2.5	194	53.9	114	31.7	41	11.3
	Post-ed	42	11.6	65	18.0	33	9.2	184	51.2	36	10.0
Contact lens maintenance, care is hard; cannot cope	Pre-ed	6	1.7	52	14.4	189	52.4	97	26.9	16	4.6
	Post-ed	0	0.0	2	0.6	16	4.4	242	67.2	100	27.8
Want to try contact lenses but only with knowledge about them	Pre-ed	103	28.6	150	41.7	96	26.7	5	1.4	6	1.6
	Post-ed	15	4.2	57	15.8	83	23.1	168	46.7	37	10.2
Will wait for the future before attempting contact lenses	Pre-ed	0	0.0	30	8.3	202	56.1	110	30.6	18	5.0
	Post-ed	12	3.4	156	43.3	5	1.4	97	26.9	90	25.0
Contact are meant for children only	Pre-ed	0	0.0	0	0.0	126	35.0	144	40.0	90	25.0
	Post-ed	12	3.3	10	2.8	46	12.8	232	64.4	60	16.7
Contact lenses are for certain adults only	Pre-ed	12	3.3	107	29.7	111	30.8	64	17.8	66	18.4
	Post-ed	122	33.9	172	47.8	49	13.6	13	3.6	4	1.1
Use of contact lenses is for everyone	Pre-ed	42	11.6	62	17.2	222	61.7	33	9.2	1	0.3
	Post-ed	92	25.6	87	24.2	95	26.3	64	17.8	22	6.1

Note: *n* = 359.

Pre-ed, pre-education on contact lenses; post-ed, post education on contact lenses.

and its later amendments or comparable ethical standards. Written and verbal informed consent was obtained from all individual participants involved in this study.

Results

In total, 359 (99.7%) respondents took part in the study, with ages ranging from 16 to 38 years. The majority, 210 (58.3%), were women, but their ages did not differ significantly from that of the men. More than half of the participants had completed secondary school (213, 59.2%), were students (206, 57.2%) and were not receiving any income (295, 81.9%). Demographic characteristics of participants are shown in Table 1.

Responses for knowledge about contact lenses were varied according to the questions concerned. There was 100% response to all six questions by participants (Table 2).

Attitudes to contact lens uptake

There was a 100% response to the items by the participants (Table 3).

Perceptions on contact lens uptake

All items were responded to completely by participants in the study (Table 4).

TABLE 5: Description of scores obtained from respondents.

Ind. variables	Max. obtainable scores	Min. score	Max. score	Mean	± s.d.	Scores											
						Good knowledge		Poor knowledge		Fav./positive		Unfav./negative		Positive		Negative	
						n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Knowledge	6	0	6	2.51	± 1.7	12	3.3	347	96.7	-	-	-	-	-	-	-	-
Attitude																	
Pre	36	6	24	15.94	± 3.6	-	-	-	-	19	5.3	340	94.7	-	-	-	-
Post	36	6	18	15.68	± 3.5	-	-	-	-	26	7.2	333	92.8	-	-	-	-
Perception																	
Pre	32	5	23	13.73	± 3.2	-	-	-	-	-	-	-	-	27	7.5	332	92.5
Post	32	6	24	14.83	± 3.0	-	-	-	-	-	-	-	-	342	95.3	17	4.7

Note: Cut-off marks – mean scores, knowledge: 2.5; attitude: pre ≈ 16, post ≈ 16; and perception: pre ≈ 14, post ≈ 14. Good knowledge scores (≥ 5) and poor knowledge scores (< 5); favourable or positive attitude score (≥ 21) and unfavourable or negative attitude scores (< 21); positive perception scores (≥ 18) and negative perception scores (< 18). Unfavourable: $n = 359$.
Ind, independent; fav., favourable; unfav., unfavourable; s.d., standard deviation; Max. maximum; Min., minimum.

TABLE 6: Comparison of attitudes and perceptions before and after education on contact lens uptake.

Parameters	Pre-education		Post-education		Mean difference	95% CI	% change	*p*
	Mean	± s.d.	Mean	± s.d.				
Attitudes to contact lenses	1.05	± 0.22	1.07	± 0.26	-0.02	-0.05–0.02	-1.094	0.2750
Perceptions of contact lenses	1.83	± 0.38	1.95	± 0.21	0.12	-0.16–0.09	-6.731	0.0005*

Note: Paired *t*-test significant at $p < 0.05$.
s.d., standard deviation; CI, confidence interval.
*, Significant change observed in mean score.

As shown in Table 5, attitudes to contact lens uptake were unfavourable or negative pre- and post-education (340, 94.7% and 333, 92.8%, respectively). Contact lens uptake was perceived more positively post-education (342, 95.3%).

Comparison of knowledge, attitudes and perceptions of contact lens uptake by patients before and after education about contact lenses

The mean scores for attitudes and perceptions were compared pre- and post-education using paired *t*-tests in Table 6. The results showed no significant change in participants' attitude score towards contact lens uptake ($p = 0.275$); however, there was a significant change in mean perception scores (from 1.83 ± 0.38 to 1.95 ± 0.21, $p < 0.0005$). Compared with pre-education, more participants demonstrated positive perception towards contact lens wear ($n = 342$, 95.3% vs. $n = 298$, 83.0%).

Discussion

Knowledge of contact lenses could be broadly classified into 'good knowledge' and 'poor knowledge'. However, knowledge about contact lenses goes beyond just knowing about their existence, handling and usage; it also entails identifying materials and basic types of contact lenses and their usages, sources of information about using contact lenses for the first time and functions of contact lenses.[37,38,39]

In a population-based study in Goa, India, knowledge was considered to be awareness of a contact lens in any dimension, and participants showed low to poor knowledge.[40] Agreeing with this study, the Goan study confirmed very poor knowledge of the risks of contact lenses by most participants. About 71.4% and 4.9% were unaware of contact lens risks or were unsure regarding the risks of contact lenses. The Goan study, in contradiction to this study, stated that 59.0% did not know about contact lenses at all, whereas this study showed that only 19.2% and 2.5% did not know and were not sure of contact lenses. Tchiakpe confirmed good knowledge of contact lenses at 95.8%. Tajunisah and his team also reported good knowledge of contact lenses among medical students in Malaya, and in Karachi, Pakistan, a good knowledge (97.0%) of contact lenses was reported,[24,41,42] agreeing with this study showing 78.3% but disagreeing with the findings of the Goan study.

Knowledge on the risks of contact lenses, which includes over-wear syndrome and acanthamoeba infection, were high in the studies carried out among university students in Malaya by Tajunisah.[41] Similar results were reported in Bangalore (50.8%) and among medical students (92.5%) by Ibrahim.[43,44] Contrary to those studies and in agreement with this study, an Iranian population-based study reported no knowledge of contact lens risks at 80.3%.[23] Giri in Maharashtra, India, also reported 53.4% not being aware of contact lens risks.[45] These variations could be attributed to the small sample sizes used in these studies, the fact that the studies involved pre-existing contact lens wearers and possibly the study locations.

This study showed more unfavourable or negative attitudes to contact lens uptake, as expressed by 'not sure', 'disagree' and 'strongly disagree' in responding to the items in the questionnaire. Attitude is a demonstration of what is learnt, known and envisaged, an extrinsic expression. Attitude could be either 'positive (favourable)' or 'negative (unfavourable).[15,46,47] Furthermore, attitude is expressed and represented in compliance or noncompliance. Agreeableness to comply is a disposition towards positive attitude, whereas non-agreeableness in complying is a disposition to negative attitude.[28,48,49]

In a two-phased study on beliefs and attitudes that create barriers to contact lens uptake, carried out in Italy in phase

one and in Spain and Portugal in phase two among adolescents aged between 12 and 18 years, it was demonstrated that a substantial number of these adolescents (n = 146) wore contact lenses in phase one, and 77.5% expressed interest in the use of contact lens in phase two, because they were not users of contact lenses.[50] This showed a positive attitude to contact lens uptake which markedly varied from this study. A nonconclusive attitude (neither positive nor negative) was expressed by participants as shown in their responses of 'not sure', 'disagree' and 'strongly disagree', as in this study.

In Karachi, Pakistan, and the Kingdom of Saudi Arabia, from different studies, there were favourable or positive attitudes to contact lens uptake, whether for refractive error correction, cosmesis or sporting activities.[42,51,52] The difference found by this study in attitude disposition to contact lens uptake compared with other studies could be attributed to lack of access to modern amenities and better information. As reported from the study in Ghana, however, there does not seem to be a statistically significant effect on attitude pre- or post-education; the fear of trying out new things and uncertainties surrounding such changes affected the uptake of contact lenses, as stated in that study. The attitude of individuals, being mostly intrinsic, is seen to be hardly affected when it comes to decision-making and attitude expression.

In this study, there was a willingness by the participants to try out contact lenses, having been educated about them. Perceptions took into consideration the practices anticipated towards contact lens uptake and its acceptance by the participants in uptake of the same for either refractive errors correction, cosmetics or otherwise, as desired. Contrary to this study, there was positive perception of contact lens uptake reported by a study carried out in Ankara, Turkey. Following their scoring of perception to contact lenses, the mean score was ≥ 4.15.[53] The Turkish study neither reviewed nor presented anything on the effect of educating the participants on contact lenses. The same positive perception to contact lens uptake was reported in a study carried out at Hafr, Al-Batim University, Kingdom of Saudi Arabia. This study was among women only, considering the culture and laws in the country.[51] In Kumasi, Ghana, perceptions of contact lens uptake showed acceptance of using contact lenses, expressed by more women, if the contact lenses are made available and affordable. They reported that for the cosmesis associated with contact lenses, they would want to take up contact lenses for refractive error correction. The high level of enlightenment in Ghana also gave credence to the fact that education could affect perception to contact lens uptake.[25,54] The same study mentioned that fear of possible complications scared certain participants from accepting contact lenses. This is a negative perception for contact lens uptake for refractive error correction.[24] Most of the perceived attributes, being intrinsic, are well reserved but could easily be affected so that there is a manifest or expressed change associated with behaviour.

There was no significant difference found when comparing attitudes to contact lens uptake after education about contact lenses. Similar findings were reported in a study done in Thailand.[55] Perception was reported as acceptance and practice in the uptake of contact lenses among the study participants. Ibrahim et al. (2018), in their study in a Saudi Arabian female school, concurred with the findings of this study.

Conclusion

Knowledge on contact lens was considerably high in terms of simply knowing and hearing about contact lenses but low in knowledge of handling, usage, risks and uptake for refractive errors and cosmesis. Negative attitudes to contact lens uptake were found. Most participants have had little to no exposure to contact lenses. Negative perceptions to contact lens uptake were altered after receiving the proper education about contact lenses. The expectation and possibility of uptake of contact lenses, as expressed by the altering of the perceptions of patients to contact lens uptake upon receiving education about contact lenses, brings to light the need for eye health care providers to educate their patients comprehensively before dispensing for the correction of refractive errors, so that patients can make informed choices.

It is recommended that similar studies be carried out in other settings within societies. The religious, ethnocultural and diversified environment should be captured and accessed in the same regard as this study to elicit a more comprehensive understanding of KAP of contact lens uptake in terms of refractive error correction. Finally, KAP of already existent contact lens wearers need to be further researched.

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Competing interests

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Authors' contributions

C.G.T. conceived the present idea and wrote the proposal. C.G.T. and D.W.V.S. developed the theory and concepts, and L.U.O. performed the verifications. D.W.V.S. and L.U.O. verified the analytical methods developed by C.G.T. L.U.O., N.S. and C.G.T. reviewed the statistical aspect of the study. D.W.V.S. and H.C.C. supervised this work. All authors discussed the results and contributed to the final manuscript.

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Data availability

The data that support the findings of this study are available on request from the corresponding author, C.G.T. The data are not publicly available because of institutional regulations.

Disclaimer

The views and opinions expressed in the submitted article are the authors and not an official position of the institution.

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