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Evaluation of knowledge attitude and practice towards refractive errors and its impact among healthy volunteers in urban and rural areas of Kanyakumari district

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***Abstract*---**Myopia, hyperopia, and astigmatism are all types of refractive error. Refractory errors that go uncorrected are the leading cause of blindness around the globe. Refractive error was predicted to affect 10.2 percent of individuals in India. As a result, the current study was done to analyze the knowledge, attitude, and practice of healthy volunteers in Kanyakumari district's urban and rural areas about refractory mistakes. This study used a validated questionnaire to survey healthy volunteers from the Kanyakumari district's urban and rural areas to determine their knowledge, attitudes, and practises about refractive errors. In our study, 218 healthy volunteers from Kanyakumari district's urban and rural areas took part throughout this study. A total knowledge score for refractive error was 80.1 percent in the urban population and 51.1 percent in the rural population and The overall attitude score for refractive error was 65.15 percent in the urban population and 42.2 percent in the rural population in Kanyakumari district. In urban areas, the overall practice score for refractive error is 81.7 percent, whereas in rural areas the practice score is 62.4 percentin Kanyakumari district. Total spectacle use among study participants is 65 percent in urban Kanyakumari and 100 percent in rural Kanyakumari. Based on the conclusions of this research The study's participants had a moderate understanding of refractory error and the usage of spectacles, but they had inadequate practice. In terms of urban and rural

comparison, the urban population is more conscious of refractory error than the rural population.

***Keywords*---**refractive error, spectacle use, knowledge, attitude, practice.

Introduction

The human eye is a remarkable organ that provides us with the sense of sight, enabling us to see and understand more about the world around us than any of our other four senses. This necessitates the early detection and treatment of refractive errors in order to avoid irreparable damage. [1]Refractive error (RE) is the world's most prevalent cause of vision disability and the second-leading cause of curable blindness.[2]Because of the geometry of the eye, refractive distortion is sometimes referred to as a refractive errors precise problem that concentrates light rays on the retina. 14 Myopia, also known as "short or nearsightedness," hypermetropia, or "long or farsightedness," astigmatism, and presbyopia are the four most frequent refractive defects.[3]Refractive errors create blurred vision, which is often severe enough to cause vision loss. Although refractive error cannot be prevented, eye examinations can be used to identify and treat with spectacles, contact lenses, or refractive surgery. The complete production of good visual function is not hindered if the refractive defect is corrected promptly and by eye care professionals.[4]Only 1.8 billion people in the globe have access to eye examinations and appropriate treatment, despite the fact that 2.3 billion individuals have a refractive problem.[5]The World Health Organization (WHO) established management of refractive defects by 2020, ranking it fifth in terms of urgency.[6,7]In the Global Initiative 2020, for the prevention of preventable blindness. Refractive faults were highlighted in tandem. Cataracts, trachoma, and onchocerciasis are only a few examples of visual issues.[8]According to several studies in South India, the prevalence of refractive errors ranges from 5% to 25%[9,10,11]One of the most effective ways to keep blindness away is to improve knowledge and awareness about the disease. Educating community members about the importance of routine eye examination and eye care habits can serve to minimize Refractive error incidence and improve awareness to a certain extent, which is the primary goal of the study among residents from Kanyakumari's urban and rural areas.

Materials and Methods

Community people from the Kanyakumari district's urban and rural areas participated in the survey. Participants must be at least 18 years old to be considered for the study. Each participant signed an informed consent form, and the community members who took part in the study received a patient information leaflet.

Sample size calculation

The size of the required sample is calculated using the formula below.

$$n = (z)^2\ p\ (1 - p)\ /\ d^2$$

Where, n = sample size
z = level of confidence according to the standard normal distribution (for a level of confidence of 95%, z = 1.96,
p = estimated proportion of the population that presents the characteristic (when unknown we use p = 0.5)
d = tolerated margin of error (5%)

$n = (1.96)^2 \times (0.5)\ (1\text{-}0.5)\ /(0.05)^2$
= 384

New sample size = $\frac{\text{Sample size}}{1+(\frac{\text{Sample size}-1}{P})}$

P= Population P= 500
Sample size= 384

New sample size = $\frac{384}{1+(\frac{384-1}{500})}$ **= 218 participants**

Sample size distribution

The 218 responses are divided into two categories based on where they grew up: 109 healthy volunteers from the rural population and 109 healthy volunteers from the urban population

Data collection

A pre-validated exploratory questionnaire with closed-ended questions that examines healthy volunteers' knowledge, attitude, and practice (KAPs) about Refractory errors and spectacle use in Kanyakumari district's urban and rural areas.

Statistical analysis and data management

The data collected is examined using SPSS statistical software. The responses to the questions will be analysed using stratification. The chi square test is used to measure the importance of replies, with a p value of 0.05 deemed statistically significant. Pearson's test, t-test, and one-way analysis of variance are all options (ANOVA)

Results

Table 1
Demographic characteristics of the study population

S.NO	CHARACTERISTICS	RURAL	URBAN
		N%	N%
1	Age		
	18-25 Years	16.5%	20.2%

	26-33Years	44.0%	39.4%
	34-41Years	23.9%	20.2%
	42-49Years	12.8%	14.7%
	Above 50Years	2.8%	5.5%
2	Gender		
	Male	45%	56%
	Female	55%	44%
3	Occupation		
	Government Servant	10.1%	9.2%
	Private Servant	24.8%	30.3%
	Self-Employed	37.6%	38.5%
	Un-Employed	10.1%	7.3%
	Student	17.4%	14.7%
4	Education Level		
	Primary School	-	1.8%
	High School	19.3 %	14.7%
	Undergraduate	44%	29.4 %
	Postgraduate	36.7%	48.6%
	Doctoral degree	-	2.8%
5	Marital Status		
	Single	73.4%	70.6%
	Married	36.7%	35.3%
6	Locality		
	Urban	50%	
	Rural	50%	
7	Yearly Income		
	Low (10,000 to 25,000)	38.5%	11%
	Moderate (26,000 to 50,000)	25.7%	41.3%
	High (51,000 to75 ,000)	13.8 %	18.3%
	Not Applicable	22 %	29.4%
8	History of spectacle wear		
	Yes	49.5%	45.9%
	No	50.5%	54.1%
9	Family history of spectacle wear		
	Yes	49.5%	56%
	No	50.5%	44%

Table 2
Knowledge and understanding of subjects towards Refractive Errors

S.NO	KNOWLEDGE QUESTIONS	URBAN		RURAL		CHI-SQUARE TEST
		N	%	N	%	A- Symptamatic Significance(2-Sided)
1.	what is Refractive Error					
	Yes	99	90.8%	49	45%	<.001
	No	10	9.2%	60	55%	
2.	Main Symptom of Refractive Error					
	Blurring of vision	97	89.0%	55	50.5%	
	Discharge from eyes	-	-	-	-	
	Rubbing of the eyes	-	-	08	7.3%	
	Do not know	12	11.0%	46	42.2%	<.001
3.	Risk factors of Refractive Error					
	Family history	89	70.1%	38	29.9%	
	Contact with a patient	-	-	-	-	
	Nutritional deficiency	-	-	18	16.5%	
	Do not know	20	18.3%	53	48.6%	<.001
4.	When doesRefractive Error occurs					
	When light rays do not focus on the retina	85	78.0%	32	29.4%	
	Nutritional deficiency	-	-	24	22.0%	
	Infection of the eyes	-	-	-	-	<.001
	Do not know	24	22.0%	53	48.6%	
5.	Types of Refractive Error					
	Short sight	10	9.2%	5	4.6%	
	Long sight	4	3.7%	2	1.8%	
	Astigmatism	-	-	3	2.8%	
	All the above	77	70.6%	47	43.1%	<.001
	Do not know	18	16.5%	52	47.7%	
6.	The major Distance affected by Refractive Error is					
	Only distance vision	85	78.0%	45	41.3%	
	Vision at different distance	-	-	13	11.9%	
	Only near vision	-	-	-	-	
	Do not know	24	22.0%	51	46.8%	<.001
7.	Method preferred for correcting Refractive Error					
	Spectacle / Contact lens	10	9.2%	10	9.2%	
	Spectacle / Refractive surgery	89	81.6%	67	61.4%	
	Spectacle /Eye medication	-	-	27	24.7%	<.001
	Spectacle	10	9.2%	5	4.6%	

8.	The place to seek help for having Refractive Error is ?					
	Hospital	81	74.3%	80	73.4%	
	Health center	8	7.3%	-	-	
	Optical shop	14	12.8%	5	4.6%	
	Do not know	6	5.5%	24	22.0%	<.001
9.	What is the reason for wearing spectacles?					
	To Improve vision	97	89.0%	95	87.2%	
	Protect eyes from dust and light	10	9.2%	8	7.3%	.326
	To look intelligent	2	1.8%	6	5.5%	. 311

Table 3
Attitude of subjects towards Refractive Errors

S.NO	Attitude of subjects towards Refractive Errors	URBAN		RURAL		CHI-SQUARE TEST
		N	%	N	%	A- Symptamatic Significance(2-Sided)
10	Refractive error can lead to blindness					
	Disagree	20	18.3%	32	29.4%	
	Neutral	8	7.3%	32	29.4%	<.001
	Agree	81	74.3%	45	41.3%	
11	Wearing spectacles can correct Refractive Error					
	Disagree	14	12.8%	33	30.3%	
	Neutral	16	14.7%	23	21.1%	<.001
	Agree	79	72.5%	53	48.6%	
12	Refractive error cannot be cured by eye medication					
	Disagree	34	31.2%	54	49.5%	
	Neutral	18	16.5%	23	21.1%	<.002
	Agree	57	52.3%	32	29.4%	
13	Refractive error cannot be cured by eye spectacles					
	Disagree	63	57.8%	46	42.2%	
	Neutral	14	12.8%	23	21.1%	.057
	Agree	32	29.4%	40	36.7%	.056
14	Wearing spectacles can damage the eyes					
	Disagree	73	67.0%	54	49.5%	
	Neutral	16	14.7%	23	21.1%	.032
	Agree	20	18.3%	32	29.4%	.032
15	Wearing spectacle worsen vision					
	Disagree	73	67.0%	46	42.2%	
	Neutral	18	16.5%	33	30.3%	<.001
	Agree	18	16.5%	30	27.5%	
16	Wearing spectacle lead to dependency					
	Disagree	22	20.2%	47	43.1%	

	Neutral	18	16.5%	23	21.1%	<.001
	Agree	69	63.3%	39	35.8%	
17	Young people with Refractive Error does not need spectacle correction					
	Disagree	73	67.0%	53	48.6%	
	Neutral	12	11.0%	26	23.9%	.011
	Agree	24	22.0%	30	27.5%	.010

Table 4
General Attitude of subjects towards Spectacles use

S.NO	General Attitude of subjects towards Spectacles use	URBAN		RURAL		CHI-SQUARE TEST A- Symptamatic Significance(2-Sided)
		N	%	N	%	
18	Spectacle users or wearing spectacles is associated with intelligence					
	Strongly Disagree	66	60.6%	48	44.0%	
	Disagree	27	24.8%	14	12.8%	
	Neutral	8	7.3%	35	32.1%	
	Agree	6	5.5%	6	5.5%	
	Strongly Agree	2	1.8%	6	5.5%	<.001
19	Spectacles are cosmetically unacceptable and embarrassing in Public					
	Strongly Disagree	64	58.7%	38	34.9%	
	Disagree	25	22.9%	24	22.0%	
	Neutral	10	9.2%	11	10.1%	
	Agree	8	7.3%	30	27.5%	
	Strongly Agree	2	1.8%	6	5.5%	<.001
20	Wearing Spectacles improves appearance					
	Strongly Disagree	62	56.9%	38	34.9%	
	Disagree	27	24.8%	24	22.0%	
	Neutral	12	11.0%	11	10.1%	
	Agree	6	5.5%	30	27.5%	
	Strongly Agree	2	1.8%	6	5.5%	<.001
21	Wearing Spectacles leads to low self esteem					
	Strongly Disagree	38	34.9%	38	34.9%	
	Disagree	27	24.8%	24	22.0%	
	Neutral	20	18.3%	11	10.1%	
	Agree	6	5.5%	30	27.5%	
	Strongly Agree	18	16.5%	6	5.5%	<.001
22	Wearing spectacles leads to dependence and worsening of vision					
	Strongly Disagree	38	34.9%	38	34.9%	
	Disagree	27	24.8%	24	22.0%	
	Neutral	20	18.3%	11	10.1%	
	Agree	6	5.5%	30	27.5%	
	Strongly Agree	18	16.5%	6	5.5%	<.001

Table 5
Practice of subjects towards Refractive Errors

S.NO	Practice of subjects towards Refractive Errors	URBAN		RURAL		CHI-SQUARE TEST
		N	%	N	%	A- Symptamatic Significance(2-Sided)
23	Have you ever had an eye-check-up					
	Yes	89	81.7%	68	62.4%	
	No	20	18.3%	41	37.6%	<.001
23.1	1. For those who have had eye check-up Where do you had an eye check-up					
	Optical shop	34	31.2%	27	24.8%	
	General hospital	4	3.7%	10	9.2%	<.001
	Eye specialist hospital	51	46.8%	31	28.4%	
	Not applicable	20	18.3%	41	37.6%	
23.2	Reasons why not had eye check-up.(For those who have not had an eye checkup)					
	No need for eye check up	6	5.5%	35	32.1%	
	No hospital/ clinic	-	-	6	5.5%	
	No time	6	5.5%	-	-	<.001
	Not applicable	97	89.0%	68	62.4%	

Table 6
Practice on Refractive error- Spectacle use

S.NO	Practice on Refractive error- Spectacle use	URBAN		RURAL		CHI-SQUARE TEST
		N	%	N	%	A- Symptamatic Significance(2-Sided)
24.	Have you been advised to wear spectacles					
	Yes	52	47.7%	50	45.9%	.892
	No	57	52.3%	59	54.1%	446
24.1	If yes do you have your spectacles					
	Yes	34	65.3%	50	100%	
	No	18	34.6%	-	-	
	Not applicable	57	100%	59	100%	<.001
24.2	Why People been advised to wear spectacles don't have/don't wear					
	Expensive	6	5.50%	37	33.9%	
	Not much difference in vision	68	62.3%	36	33%	
	Makes vision worse	8	7.33%	12	11%	
	Fear of being teased	24	22%	-	-	<.001
	Broken/ lost	3	2.75%	24	22%	
25	How often people with spectacles wear them					
	All the time	32	61.5 %	41	78.8%	
	Sometimes	20	38.4 %	9	17.3%	
	Not applicable	57	100%	59	100%	<.001

26	Would you Prefer another way to correct vision (people with spectacles)					
	Yes	19	36.5%	24	48%	.128
	No	33	63.4%	26	52%	.124
	Not applicable	57	100%	59	100%	
27.	What method would you prefer (for only those who said yes, prefer another way to correct vision)					
	Contact lenses	-	-	5	20.8%	.107
	Refractive Surgery	19	100%	19	79.1%	.105

Discussion

Refractive error, also known as refraction error, happens when the eye fails to focus light rays from an object appropriately onto the retinal plane. Myopia, also known as "short or nearsightedness," hypermetropia, or "long or farsightedness," astigmatism, and presbyopia are the four most frequent refractive defects.Refractive error (RE) is the world's most prevalent cause of vision disability and the second-leading cause of curable blindness.Only 1.8 billion people in the globe have access to eye examinations and appropriate treatment, despite the fact that 2.3 billion individuals have a refractive problem.The World Health Organization (WHO) has established management of refractive defects by 2020, ranking it fifth in terms of urgency. In the Global Initiative 2020, for the prevention of preventable blindness. Refractive faults were highlighted in tandem. Cataracts, trachoma, and onchocerciasis are only a few examples of visual issues.According to several studies in South India, the prevalence of refractive errors ranges from 5% to 25%. School-aged children are particularly vulnerable, as uncorrected impaired vision can have a significant impact on learning and educational ability. They also believe that the severity of the refractive error issue necessitates a complete evaluation of vision and treatment when using proper glasses at a young age. Despite regional efforts to reduce blindness, the number of children with refractive error continues to rise on a daily basis. This could be due to a lack of understanding of the risk factors and dangers associated with refractive errors. [12] The purpose of this study is to assess the knowledge, attitude, and practise of healthy volunteers from Kanyakumari district's urban and rural areas regarding refractory mistakes. The findings of the study indicate the level of awareness among individuals in Kanyakumari district's urban and rural areas.

Knowledge and understanding of subjects towards Refractive Errors

In this section the study participants were analysed for the level of knowledge and understanding towards refractory errors where (90.8%)of the urban population and only (45%) of rural population know what is refractory errors and(9.2%)of urban population and (55%) of rural population doesn't know what is refractory error the chi-square test report suggest it is statistically significant between two population with ($p < .001$). The study participants where asked for the main signs and symptoms of refractory errors (89%)of urban population and (50.5%) of rural population aware that blurring of vision is the symptom of refractory error and (11%)of urban population and (42.2%) of rural population don't know about the main signs and symptoms of refractory errorsthe chi-square test report suggest it is statistically significant between two populationwith ($p < .001$). The participants

where asked regarding the risk factors and why does refractive error occurs (70%) of urban population and (29.9%) of rural population states risk factors for refractory errors is family history and about (18.3%)of urban population and (48.6%) of rural population un aware about risk factors of the diseasethe chi-square test report suggest it is statistically significant between two population with (p <.001).

For when does refractory error occurs (78%)of urban population and (29.4%) of rural population states when light rays do not focus on the retina(22%) of rural population states it is due to a nutritional deficiency and (22%)of urban population and (48.6%) of rural population don't know when a refractory error occursthe chi-square test report suggest it is statistically significant between two population with (p <.001).The participants were asked for the types of refractory error (70.6%)of urban population and (43.1%) of rural population aware that Short sight,Long sight,Long sight all are the types of refractive error (3.7%)of urban population and (1.8%) of rural population think long sight as refractory error (9.2%)of urban population and (4.6%) of rural populationthink short sight as refractory error about (2,8%) of rural populationthink astigmatism as refractory error and (16.5%)of urban population and (47.7%) of rural population don't know about the type of refractory errorthe chi-square test report suggest it is statistically significant between two population with (p <.001).The study participants were asked quotations regarding major distance affected in vision during a refractory error majority of the participants reported as only distance vision with (78%)of urban population and (41%) of rural population, about (22%)of urban population and (46.8%) of rural population stated they don't know about the distance affected in refractory error and (11.9%) of rural population said vision at different distance is affected during refractory errororccurs the chi-square test report suggest it is statistically significant between two population with (p <.001).

The study participants were asked regarding the method to correct the refractive error about (81.6%)of urban population and (61.4%) of rural population opted for Refractive surgery and spectacle about (9.2%)of urban population and (4.6%) of rural population opted for spectacle use alone about (9.2%)of urban population and (9.2%) of rural population opted for spectacle and contact lens use and about (24.7 %) of rural population opted for spectacle and eye medication Chi-square test report suggests (p<0.01) statistically significant between two population.The participants were asked regarding the place to seek help for refractory error (74.3%)of urban population and (73.4%) of rural population selected hospital as the place to seek help for refractory error about (12.8%)of urban population and (4.6%) of rural population selected optical shop as the place to seek help for refractory error about (5.5%)of urban population and (22%) of rural population don't know where to seek help for refractory error and about (7.3%) of urban population will report to health centre if they have symptoms of refractory error Chi-square test report suggests (p<0.01) statistically significantbetween two population.To check the knowledge about spectacles the study participants where asked why the people are prescribed with spectacles(89%)of urban population and (87.2%) of rural population stated spectacles are used to improve vision (9.2%)of urban population and (7.3%) of rural population stated people wear spectacles to protect eye from dust and light

and about (1.8%)of urban population and (5.5%) of rural population stated people wear spectacles to look intelligent chi- square test suggest no significant differences between two populations.

In our recent study, the total knowledge score for refractive error was 80.1 percent in the urban population and 51.1 percent in the rural population in Kanyakumari district. The reports are similar to a study conducted in rural parts of the north Indian population, which came to the following conclusion: Certain steps in society should be taken towards the general public in order to reduce the impact of visual problems related to refractive errors, such as information through media and publicity, public education, screenings for ametropia in schools and at work, and government subsidies of optical equipment.[13]

Attitude of subjects towards Refractive Errors

The participants where asked whether refractory error can lead to blindness (18.3%)of subjects from urban population and (29.4%) of subjects from rural population Disagree the statement (7.3%)of subjects from urban population and (29.4%) of subjects from rural population has neutral opinion with the statement and (71.3%)of subjects from urban population and (41.3%) of subjects from rural population Agree with the statement and Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both population.The participants where asked whether they think wearing spectacles can correct refractive error (12.8%)of subjects from urban population and (30.3%) of subjects from rural population Disagree the statement (14.7%)of subjects from urban population and (21.1%) of subjects from rural population has neutral opinion with the statement and (72.5%)of subjects from urban population and (48.6%) of subjects from rural population Agree with the statement Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both population.

Weather eye medication cure the refractive error the participants response where analysed (31.2%)of subjects from urban population and (41.5%) of subjects from rural population Disagree the statement (16.5%)of subjects from urban population and (21.1%) of subjects from rural population has neutral opinion with the statement and (52.3%)of subjects from urban population and (29.4%) of subjects from rural population Agree with the statement Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both population. The study participants opinion on Refractive error cannot be cured by spectacles is analysed (57.8%)of subjects from urban population and (42.2%) of subjects from rural population Disagree the statement (12.8%)of subjects from urban population and (21.1%) of subjects from rural population has neutral opinion with the statement and (29.4%)of subjects from urban population and (36.7%) of subjects from rural population Agree with the Statement the chi square test results show ($p>0.05$) the test statistics suggest there is no significant differences between both population.

The general public opinion on spectacles is analysed by series of questions Do you think using spectacles continuously can damage eyes in which (67.0%)of subjects from urban population and (49.5%) of subjects from rural population

Disagree the statement (14.7%)of subjects from urban population and (21.1%) of subjects from rural population has neutral opinion with the statement and (18.3%)of subjects from urban population and (29.4%) of subjects from rural population Agree with the statement Chi square test results show ($p>0.05$) the test statistics suggest there is no significant differences between both population. The subsequent question wearing spectacles worsen vision is asked to the study population where (67%)of subjects from urban population and (42.2%) of subjects from rural population Disagree the statement (16.5%)of subjects from urban population and (30.3%) of subjects from rural population has neutral opinion with the statement and (16.5%)of subjects from urban population and (27.5%) of subjects from rural population Agree with the statement Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both population.

The participants where asked whether wearing spectacles lead to dependency (20.2%)of subjects from urban population and (43.1%) of subjects from rural population Disagree the statement (16.5%)of subjects from urban population and (21.1%) of subjects from rural population has neutral opinion with the statement and (63.3%)of subjects from urban population and (35.8%) of subjects from rural population Agree with the statement Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both population. The participants were asked about What is the opinion towards young people with refractive error (67%)of subjects from urban population and (48.6%) of subjects from rural population stated they need glass for treatment while (11%)of subjects from urban population and (23.9%) of subjects from rural population don't know about the need of spectacles in young people with refractive error and(22%)of subjects from urban population and (27.5%) of subjects from rural population stated young people don't need spectacles to correct refractive error Chi square test results show ($p>0.05$) the test statistics suggest there is no significant differences between both population. In our current study, the overall attitude score for refractive error is 65.15 percent in the urban population and 42.2 percent in the rural population in Kanyakumari area. The findings are comparable to those of a study conducted in Paraguay which also suggests low prevalence of refractive error in rural areas. [14]

General Attitude of subjects towards Spectacles use

The participants where asked following statements and the general attitude of spectacles use is evaluated. Wearing spectacles is associated with intelligence (60.6%)of subjects from urban population and (44%) of subjects from rural population Strongly disagree with the statement (24.8%)of subjects from urban population and (12.8%) of subjects from rural population Disagree with the Statement (7.3%)of subjects from urban population and (32.1%) of subjects from rural population think Neutral to the statement (5.5%)of subjects from urban population and (5.5%) of subjects from rural population Agree with the statement (1.8%)of subjects from urban population and (5.5%) of subjects from rural population Strongly Agree with the statement. Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both populations. The participants where asked whether spectacles are cosmetically un acceptable in public (58.7%)of subjects from urban population and (34.9%) of

subjects from rural population Strongly disagree with the statement (24.8%)of subjects from urban population and (22%) of subjects from rural population Disagree with the Statement (11%)of subjects from urban population and (10.1%) of subjects from rural population think Neutral to the statement (5.5%)of subjects from urban population and (27.5%) of subjects from rural population Agree with the statement (1.8%)of subjects from urban population and (5.5%) of subjects from rural population Strongly Agree with the statement. Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both populations.

Do you really feel Wearing spectacles lead to low self-esteem (34.9%)of subjects from urban population and (34.9%) of subjects from rural population Strongly disagree with the statement (24.8%)of subjects from urban population and (22%) of subjects from rural population Disagree with the Statement (18.3%)of subjects from urban population and (10.1%) of subjects from rural population think Neutral to the statement (5.5%)of subjects from urban population and (27.5%) of subjects from rural population Agree with the statement (16.5%)of subjects from urban population and (5.5%) of subjects from rural population Strongly Agree with the statement. Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both populations. Weather wearing spectacles lead to dependency and worsening of vision about (34.9%)of subjects from urban population and (34.9%) of subjects from rural population Strongly disagree with the statement about (24.8%)of subjects from urban population and (22%) of subjects from rural population Disagree with the Statement about (18.3%)of subjects from urban population and (10.1%) of subjects from rural population think Neutral to the statement and (5.5%)of subjects from urban population and (27.5%) of subjects from rural population Agree with the statement about (16.5%)of subjects from urban population and about (5.5%) of subjects from rural population Strongly Agree with the statement. Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both populations.

Practice of subjects towards Refractive Errors and spectacle use

From a total of 218 participants (47.7%)of subjects from urban population and (45.9%) of subjects from rural population has adviced to wear spectacles and (52.3%)of subjects from urban population and (54.1%) of subjects from rural population are non - spectacle users. Among those spectacle users (65.3%)of subjects from urban population and (100%) of subjects from rural population has their own spectacles (34.6%)of subjects from urban population don't have their spectacles. Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both populations. For all participants a common question of why people with spectacles don't wear spectacles is asked and (62.3%) of subjects from urban population and (33%) of subjects from rural population stated there is not much difference in vision. (7.33%) of subjects from urban population and (11%) of subjects from rural population stated spectacles makes vision worse. (5.50%) of subjects from urban population and (33.9%) of subjects from rural population stated spectacles are expensive. (2.75%)of subjects from urban population and (22%) of subjects from rural population stated spectacles

broken or lost people won't change back. (22%)of subjects from urban population states they are teased.
Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both population. Study population who use spectacles are asked for how often they use spectacles (61.5%)of subjects from urban population and (78.8%) of subjects from rural population uses spectacles all time and (38.4%)of subjects from urban population and (17.3%) of subjects from rural population uses spectacles sometimes when they need it Chi square test results show ($p<0.01$) the test statistics suggest there is significant differences between both populations. People with spectacles are asked whether they are willing for other way to correct refractive error (36.5%)of subjects from urban population and (48%) of subjects from rural population willing to another method and (63.4%)of subjects from urban population and (52%) of subjects from rural population are not willing for other method than surgery.

For people stated yes for correction to another method they asked separately for what method do they choose to correct vision other than spectacles (100%)of subjects from urban population and (79.1%) of subjects from rural population will go for refractive surgery whereas (20.8%) of subjects from rural population will go for contact lenses. Chi square test results show ($p>0.05$) the test statistics suggest there is no significant differences between both populations. In our current study, the overall practise score for refractive error is 81.7 percent in urban Kanyakumari and 62.4 percent in rural Kanyakumari, and the total spectacle use percentage among study participants is 65 percent in urban Kanyakumari and 100 percent in rural Kanyakumari. According to the reports, the adult population has appropriate knowledge and a favourable attitude toward spectacles, which is identical to a study conducted in Ethiopia. However, the usage of spectacles is not well-practiced. [15]

Conclusion

Community members should be aware of refractive error, according to the findings of this study. 218 healthy people were selected from Kanyakumari's urban and rural areas throughout our study. Participants in the study had a moderate awareness of refractory error and the use of spectacles, but the participants shown poorpractise In terms of refractive error awareness, attitude, and practise, however, there is a massive disparity between urban and rural populations. The urbanite is more aware of refractory error than the rural inhabitant

Limitation

The sample size of our study is a key constraint; a larger study with a larger sample size could better predict the knowledge, attitudes, and practices of healthy volunteers from Kanyakumari district's urban and rural areas concerning refractory errors.

Ethical approval

The research was conducted with the authorization of the VISTAS Ethics Committee. (Ref:VISTAS-SPS/IEC/III/2021/07).

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