



Knowledge, Attitudes, and Behaviours Towards Contact Lens Use Among ARO Gapopin Students

Rangga Adhitia Hermawan^{1*}, M. Wahyu Budiana², Opep Cahya Nugraha³
Gapopin Academy of Optician and Optometry

Corresponding Author: Rangga Adhitia Hermawan,

ranggaadhitiahermawan@gmail.com

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ABSTRACT

Vision is a vital sense for daily activities. Contact lenses serve both corrective and cosmetic functions and are increasingly popular as an alternative to glasses. However, many users neglect proper care. This study used a quantitative associative method with 191 Gapopin Optometry students, selected from a population of 361 using the Slovin formula with a 0.05 significance level. Results showed that knowledge and behavior significantly influence contact lens use, while attitude does not. Simultaneously, knowledge, attitude, and behavior together affect usage. Future research is encouraged to explore other factors influencing contact lens use beyond knowledge, attitude, and behavior, to enhance understanding and promote safer practices.

INTRODUCTION

One of the most important parts of gathering data from the surrounding environment is the eyes. The knowledge you need to live your daily life is now easily accessible thanks to technological advances such as computers and laptops. (Hermawan & Maryani, 2024).

Among the five senses, sight is very important for human survival. People with healthy vision can go about their daily lives without assistance, but unfortunately, some people require corrective lenses, such as contact lenses, to see properly. More than 150 million people worldwide rely on contact lenses, a type of ocular prosthesis. (Wijaya et al., 2024).

Contact lenses are visual aids that allow us to see without wearing glasses. In other words, contact lenses can be used as a substitute for glasses to correct refractive errors and accommodation disorders. (Budiana et al., 2025). Contact lenses have many uses beyond correcting refractive errors, including therapeutic and cosmetic purposes to improve appearance. This method is popular among young people worldwide. (Khoza et al., 2020).

Contact lenses are thin, elastic plastic lenses that are round and convex in shape, with a diameter of approximately 14mm. There are various colours of contact lenses, including clear transparent (slightly bluish) and colourful ones such as black, brown, blue, purple, green, pink, and other colour combinations. Contact lenses, with their numerous models and colours, enhance a person's appeal or appearance, making them a trend or lifestyle choice in beauty. Nowadays, soft lenses are not only used by those with vision impairments but also by those with normal vision. This situation has attracted consumers to try different options to see which ones look best on them. (Budiana et al., 2025).

According to Notoatmodjo (2020), knowledge is the result of the human sensory process of perceiving objects through the senses. This process occurs through the five human senses, namely sight, hearing, smell, taste, and touch. Most human knowledge is obtained through the senses of sight and hearing.

Sugiyono (2018) explains that attitude is a person's reaction or response to a specific social object, which can be an individual, a group, or other social phenomena. This attitude includes three main components, namely cognitive, affective, and conative components.

Notoatmodjo (2020) explains that behaviour is an activity or action performed by humans in response to external or internal stimuli. This behaviour can be passive (such as knowledge and attitude) or active (such as actual actions or practices).

As time goes by, knowledge and technology are also advancing, and the level of awareness among Indonesians is also beginning to develop in line with the times. However, there are still many Indonesians who are negligent about contact lens care (Wicaksana et al., 2024).

According to Morgan et al., (2022), the use of daily disposable contact lenses has increased significantly from 17.1% in 2000 to 46.7% in 2023. This study analysed data from 265,106 daily soft lens fittings across 20 countries and found that this trend shows a steady increase over time, in line with the introduction of

daily disposable lens designs and the expansion of parameter ranges during the survey period.

Although the potential side effects of contact lens use are generally considered mild, they can sometimes pose serious risks to vision. Therefore, education is needed to raise awareness about the side effects of contact lens use itself. (Otaibi et al., 2024).

THEORETICAL REVIEW

Knowledge

Knowledge refers to an individual's understanding of correct and accurate information about the use and care of contact lenses. This knowledge includes aspects such as proper usage, care procedures, and the potential negative effects of improper contact lens use (Re et al., 2020). Knowledge in the context of contact lens use refers to an individual's understanding of basic and technical information related to the use, care, and risks associated with contact lenses. This includes understanding how to clean and store lenses, replacement frequency, and potential complications that may arise from improper use. Good knowledge can contribute to safe and effective contact lens use practices. (Koovitsopit & Supiyaphun, 2021)

Attitude

Attitude refers to an individual's evaluation, feelings, and beliefs regarding the use of contact lenses, which can be positive or negative. This attitude includes perceptions of comfort, safety, and the benefits of using contact lenses. (Otaibi et al., 2024).

Behaviour

Behaviour in the context of contact lens use refers to the actual actions of individuals in using, caring for, and maintaining the cleanliness of contact lenses in accordance with guidelines recommended by eye health professionals. This behaviour includes habits such as washing hands before handling lenses, regularly replacing lens cases, not sleeping with lenses in, and not swimming or showering with lenses. Adherence to these practices is crucial to prevent serious eye complications, such as corneal infections (Oruz et al., 2024).

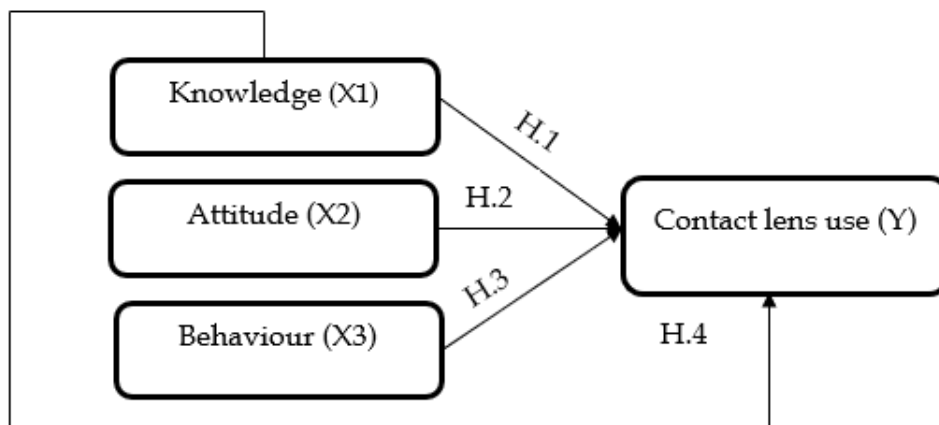


Figure 1. Theoretical Framework

METHODOLOGY

This study used a cross-sectional quantitative research technique. Finding out how variables such as knowledge, attitude and behavior relate to contact lens use is the main objective of this study. Gapopin Academy of Optical Refraction and Optometry students were the subjects of the investigation involving 361 students in total. Although 190 students were considered for the research sample using the Slovin method, 191 students actually participated in the study, so the researcher used 191 research samples. The data for this study came from a Google form questionnaire sent to Gapopin Academy of Optical Refraction and Optometry students. From the questionnaires distributed, there were 11 questions for the knowledge variable, then there were 7 questions for the attitude variable, then there were 10 questions for the behavior variable, and 11 questions for the contact lens use variable.

RESEARCH RESULTS

Validity Test

For validity testing in this study using a measuring tool in the form of an SPSS For Windows computer program. For each question item in the validity test, compare R count with R table. The instrument is said to be valid if $R \text{ count} > R \text{ table}$. But otherwise, the instrument is said to be invalid if $R \text{ count} < R \text{ table}$. R table can be seen from a significant level of 5%.

Table 1. Validity Test Results

Variable	Item	R Count	R Tabel	Result
Knowledge	11	0,215 - 0,618	0.142	Valid
Attitude	7	0,599 - 0,719	0.142	Valid
Behavior	10	0,531 - 0,757	0.142	Valid
Contact lens use	11	0,589 - 0,841	0.142	Valid

It can be seen that each questionnaire item in the Knowledge variable (X1) has 11 statements that are declared valid. This indicates that all questionnaire items are suitable for use in the study. Furthermore, it can be seen that each questionnaire item in the Attitude variable (X2) has 7 statements that are declared valid. This indicates that all questionnaire items are suitable for use in the study. Then, it can be seen that each questionnaire item in the Behaviour variable (X3) has 10 statements that are declared valid. This indicates that all questionnaire items are suitable for use in the study. Additionally, it can be seen that each questionnaire item in the Contact Lens Use variable (Y) has 11 statements that are considered valid. This indicates that all questionnaire items are suitable for use in the study.

Reliability Test

To determine whether a questionnaire can be considered reliable or suitable for use, we need to look at the Cronbach's alpha (α) value in the reliability test results. In a reliability test of a questionnaire contained in a

variable, the Cronbach's alpha value must be > 0.60 . The higher the reliability of the measuring instrument, the more stable it is. (Hermawan et al., 2025).

Table 2. Reliability test results

Variable	Item	cronbach Alpha	Description
Knowledge	11	0.675	Reliable
Attitude	7	0.786	Reliable
Behavior	10	0.854	Reliable
contact lens use	11	0.92	reliable

Based on the results of the reliability test, all questionnaires on each variable studied were declared reliable because the Cronbach Alpha value on each variable > 0.60 .

Normality Test

Normality testing is a process to determine whether a data set can be modelled well by a normal distribution and is a very important assumption in many multivariate techniques. Hair et al. (2019). The following are the results of normality testing in this study.

Table 3. Normality Test Results (Kolmogrov-Smirnov)
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		191
Normal Parameters ^{a,b}	Mean	0
	Std. Deviation	3.257925
Most Extreme Differences	Absolute	0.087
	Positive	0.087
	Negative	-0.056
Test Statistic		0.087
Exact Sig. (2-tailed)		0.108
Point Probability		.000

In the Kolmogorov Smirnov normality test, residual data is said to be normally distributed if the probability value (significant) is greater than 0.05. Based on the normality test that has been completed by the researcher, as follows It can be seen that the significant value of the SPSS for windows normality test results is 0.108, this value is greater than 0.05 so it can be concluded that the residuals from the research model are normally distributed, thus the normality requirements are met.

Coefficient of Determination Test

The coefficient test is used to determine what percentage of the influence of the independent variables together on the dependent variable. If R square is 0, then in the regression model there is no influence between the independent variable and the dependent variable, but if R square is 1 then in the regression model there is 100% influence between the independent variable and the dependent variable.

Based on the results of the coefficient of determination test using the SPSS for windows application, as follows:

Table 4. Coefficient of Determination Test Results

Model	R	R Square	Adjust R Square	Std. Error of the estimate
1	.794 ^a	.630	.624	3.28395

That the R Square value is 0.597. This shows that there is an effect of Knowledge (X1), Attitude (X2), Behavior (X3) on Contact lens use (Y) simultaneously by $0.630 \times 100\% = 63.0\%$ and the remaining 37% is influenced by other variables not proposed in this study.

Partial Test (T)

The Partial Test (T) is used to determine whether the independent variable regression model partially affects the independent. If the sig value $< \alpha 0.05$ and the regression coefficient is in the same direction as the hypothesis, it is said that the hypothesis is accepted. Based on the results of the t test using the SPSS for windows application, as follows:

Table 5. Partial Test (T) Results

Variable	T Count	T Table	Significance
Knowledge	4.319	1.652	.000
Attitude	1.062	1.652	.290
Behavior	11.983	1.652	.000

From the results of the T-test (partial) for the knowledge variable, it can be seen that the calculated T value (4.319) $>$ Table T (1.652) with a significance level of 0.000 or < 0.05 , so it can be concluded that the knowledge variable has a partial effect on contact lens use.

From the results of the T-test (partial) for the attitude variable, it can be seen that the calculated T-value (1.062) is less than the table T-value (1.652) at a significance level of 0.290 or > 0.05 . Therefore, it can be concluded that attitude does not influence contact lens use partially.

From the results of the T-test (partial) for the behaviour variable, it can be seen that the calculated T-value (11.983) is greater than the table T-value (1.652) with a significance level of 0.000 or < 0.05 . Thus, it can be concluded that the behaviour variable has a partial effect on contact lens use.

Simultaneous Test (F)

Test Simultaneous (F test) aims to determine the simultaneous effect of independent variables. If the calculated F value is greater than the table F value, it means that the three independent variables have a simultaneous effect on the dependent variable. Meanwhile, if the calculated F value is less than the table F value, it means that the three independent variables do not have a simultaneous effect on the dependent variable. Based on the F test using the SPSS for Windows application, the results are as follows:

Table 6. Simultaneous Test (F) Results

F		
Count	F Table	Significance
106.069	2.65	.000

Based on the results of the F test in the table above, it can be concluded that knowledge, attitude, and behavior influence the use of contact lenses among the ARO Gapopin student population.

DISCUSSION

Knowledge influences contact lens use, as evidenced by the calculated T value (4.319) > table T value (1.652) with a significance level (0.000) < (0.05). The results of this study align with the findings of Alsarhan et al. (2023), who stated that there is a relationship between knowledge level and contact lens use, as indicated by the values ($p < 0.05$, $p < 0.001$). However, in the study by Krungkraipetch & Wongsuwan (2018), it was found that knowledge does not influence contact lens use, as evidenced by the p-value > 0.05, indicating that there is no statistically significant relationship between knowledge level and contact lens use behaviour among first-year students at Burapha University.

Attitude does not influence contact lens use, as evidenced by the calculated T-value (1.062) being less than the table T-value (1.652) at a significance level (0.290) > (0.05). This study's findings align with those of Khoza et al. (2020), who stated that attitude does not influence contact lens use among adolescents in South Africa. However, in the study by Leong et al. (2024), a significant effect was found between attitude toward contact lens use, as evidenced by the P-value < 0.05, indicating a significant influence between attitude and contact lens use among medical and non-medical students.

Behaviour influences contact lens use, as evidenced by the calculated T-value (11.983) > the table T-value (1.652) with a significance level (0.000) < (0.05). The findings of this study align with those of Pongtuluran et al. (2023), who reported that 80 (83%) students demonstrated good behaviour in contact lens use. However, in the study by Krungkraipetch & Wongsuwan (2018), it was found that behaviour does not influence contact lens use, as evidenced by the p-value > 0.05, indicating that there is no statistically significant relationship between knowledge level and contact lens use behaviour among first-year students at Burapha University.

CONCLUSIONS AND RECOMMENDATIONS

The results of the study indicate that knowledge about contact lens use should be improved because users' behaviour is significantly influenced by this knowledge. Educational programmes can be delivered through regular health education sessions by healthcare professionals, or through seminars and webinars. Additionally, through sustained health campaigns, behaviours related to contact lens use, such as maintaining hygiene and following usage instructions, can be promoted. Since attitudes do not have a significant influence, interventions should focus on improving knowledge and directly shaping behaviour rather than merely addressing attitudes. Schools, health institutions, and contact lens providers should collaborate to promote safe usage guidelines, especially for adolescents. To support these findings, further research is needed that includes a broader population and additional variables, such as the influence of social environment or media.

FURTHER STUDY

The limitations of this study are that the researcher only used quantitative methods. It may be beneficial for future studies to use mixed methods to obtain even better results. Furthermore, the population in this study was limited to students only. It would be even better if the population in future studies included the general public in greater numbers.

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