

Long-term Soft Contact Lens use and Dry Eye Symptoms in Panca Budi Development University Students

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INFO	ABSTRACT
<p>Submitted: 20-10-2023, Revised: 08-11-2023, Accepted: 22-12-2023</p>	<p><i>Contact lenses are usually attached to the cornea of the eye contact lenses usually have a corrective purpose like glasses but the difference is that contact lenses are lighter and almost invisible. Dry eye caused by contact lenses is one of the health problems is developing in the community, one of the reasons and ultimately has an impact on vision problems where eventually vision becomes blurry. The purpose of this study was to ascertain how contact lenses affected dry eyes. This study used a quantity method for its survey investigation. DTA collecting methods use a nominal scale questionnaire. Using a straightforward linear regression test, the study sample consisted of 49 respondents who are students at the University Pembangunan Panca Budi Medan Faculties Agama Islam Dan Humaniora. It was determined from the results that there is no significant correlation between the dependent variable, namely dry eye symptoms, and the independent variable, the length of time using soft contact lenses. The R square values indicate that there is only a 19,8% correlation between the symptoms of dry eyes and long-term contact lens usage.</i></p>

Keywords: *Contact Lens, Dry Eye, Health Problems*

INTRODUCTION

Contact lenses are also known as a popular innovation and are widely used as corrective, cosmetic or therapeutic lenses and are usually installed on the cornea of the eye. Contact lenses usually have the same corrective purpose as glasses, but the difference is that contact lenses are lighter and almost invisible (Renzi et al., 2020). The number of contact lens wearers worldwide has reached 125 million people. (Musgrave & Fang, 2019). In the United States, it is estimated that there are 40.9 million contact lens users (Cope et al., 2015). Indonesia itself does not yet have an official count of contact lens wearers, however data from Riskesdas 2013 (Basic Research Health in Indonesia) shows that the prevalence of glasses/contact lens wearers reached 2.9% for the 15-24 year age group and 2.8% for the 25-34 year age group.

Contact lenses have a lengthy and complicated history, Leonardo Da Vinci was the first to explain the many types of contact lenses and to describe a contact lens in 1508. Subsequently, Rene Descartes proposed corneal lenses in 1636, further advancing the development of contact lenses (Shaker et al., 2023). Then, in 1801 Thomas Young employed the Decrates principles to improve his vision by employing a quarter-inch-long glass tube that was filled with water and had a tiny lens at the outside (Shaker et al., 2023). Then, in 1827, English astronomer Sir John Herschel proposed printing the eye to guarantee proper fitting and a technique for rubbing contact lenses in accordance with the cornea's form and the discovery of anesthesia in 1884 made this feasible at last (Buttman, 2022). Sir John Herschel was the first to articulate the idea of cosmetic contact lenses (Brashear & Patterson, 2021). Based on new technologies that can make contact lenses safer, more comfortable, and less expensive, contact lens development is still happening (Fleiszig et al., 2020).

A frequent multifactorial illness of the tears and the surface of the eye, dry eye disease, also known as keratoconjunctivitis sicca, can severely impair visual function and quality (Aragona et al., 2021). Reduced tear production, increased tear evaporation, or unstable tears can all contribute to dry eye syndrome (Kojima et al., 2020), one of the primary reasons patients see an ophthalmologist is for this reason. According to estimates, this illness primarily affects women in

the United States and affects 5–35% of the population. Currently contact lenses are a lifestyle and cosmetic product, despite the popularity of contact lenses, contact lens wearers still experience problems, especially eye health problems, one of which is dry eyes (Rykowska et al., 2021). Dry eyes caused by contact lenses are a growing health problem in society (Tsubota et al., 2020), before the investigation was carried out, it was estimated that the frequency of dry eyes due to contact lens wear was around 50% and one of the reasons is discomfort and ultimately results in visual disturbances where the vision becomes blurry (Kaur et al., 2022). This symptom of discomfort is the main reason for contact lens intolerance where ultimately there is a reduction in wearing time and ends in cessation of use (Arroyo-del-arroyo et al., 2021).

Numerous prior research has linked extended daily contact lens wear to dry eyes caused by the lenses (Koh, 2020). In Croatia, there's a study that revealed a somewhat unfavorable connection and a modest link with the length of daily usage. Additionally, some researchers discovered a negative association between daily usage duration, on the other hand, there's research revealed no connection between the symptoms of dry eyes and prolonged contact lens usage (Almutairi et al., 2021).

A study in California conducted with 395 people consisting of 180 Asians and 215 non-Asian people, and they were asked to stop wearing their contact lenses for 24 hours and were asked to report to the Berkeley Clinical Research Center (Efron et al., 2021). They carry out a Fluorescein Corneal Staining examination and are asked to fill out a Dry Eye Flow Chart which is useful for determining the level of eye dryness (Tsubota et al., 2020). The results show that the annual use of contact lenses in Asians does not cause dry eyes and even reduces the incidence of dry eyes in non-asian people. They suggest that the duration of comfortable daily contact lens wear may increase over time in successful silicone hydrogel lens wearers. They also suggest that this may occur due to decentering of the cornea which causes a lack of perception of dryness (Pucker & Tichenor, 2020). Based on the description above, the author is interested in taking the research title "Relationship between long-term use of soft contact lenses and dry eye symptoms in students at the Panca Budi Development University, Medan, Faculty of Islamic Religion and Humanities."

Research Questions:

What are the specific factors contributing to dry eye symptoms among long-term soft contact lens users?

How does the duration of daily contact lens wear impact the severity of dry eye symptoms?

Is there a correlation between the type of contact lens (e.g., monthly vs. weekly) and the incidence of dry eye symptoms?

METHODS

This study employed a quantitative research design, where is quantitative research is a methodology that use numerical data processing to analyze and carry out research investigations, particularly about the subject matter of the study. According to Sugiyono (2018), quantitative research methods are "research methods based on the philosophy of positivism, used to research certain populations or samples, data collection using research instruments, quantitative/statistical data analysis with the aim of testing predetermined hypotheses". The research was conducted at the Panca Budi Development University, Medan, specifically within the Faculty of Islamic Religion and Humanities. Researchers utilized approximately one month from the issuance of the research permit for data collection, processing, presentation in scientific papers, and the guidance process.

As a data source with specific features for a study, a population is the full topic of the investigation, which includes people, things, animals, plants, symptoms, values, and events. The population in the study were students at the Panca Budi Development University, Faculty of Islamic Religion and Humanities, Medan, Indonesia. The sample taken in this research was 49 people based on the inclusion categories contained in the purposive sampling technique. Primary data is data that has been prepared by researchers using tools in the form of questionnaires. Secondary data is data obtained from other parties, bodies or agencies that routinely collect data.

Secondary data in this research is data that comes from references, information or from literature that has conducted the same research.

Sampling technique involves the process of ascertaining a sample size that aligns with the actual data source, considering the population's characteristics and distribution to produce a representative sample. Purposive sampling, which is a sample strategy based on specific considerations made by the study itself, based on previously known traits or features of the population, is what Notoatmodjo (2012) claims to have occurred. Deviant sample characteristics can disrupt the process of data collection. Before data collection is carried out, it is necessary to determine the inclusion and exclusion criteria first so that the sample characteristics do not deviate. Every person of the population who may be used as a sample must meet the inclusion criteria, which are requirements or qualities (Notoatmodjo, 2012).

The following are the study's inclusion criteria: Student at the Panca Budi Development University, Medan, Faculty of Islamic Religion and Humanities. Wear Soft Contact Lenses for at least one year and 5 days a week. Willing to be respondent exclusion criteria are criteria or characteristics of population members who cannot be taken as samples (Notoatmodjo, 2012). The exclusion criteria in this study are: The sample is experiencing infection of the eyelids and cornea.

Validity is showing a measure of a levels of validity or validity of instrument. The method used is to compare the correlation or calculated r values of the research variables with the table r values. Validity and reliability testing in this research used SPSS software. Before data collection is carried out, the questions in the questionnaire are tested first to determine their validity and reliability. As a minimal criterion for validity testing, thirty respondents underwent validation testing. The measuring approach makes use of SPSS to determine the validity of each question item under specific conditions, specifically: 1) An instrument is deemed acceptable if the R count $\geq r$ table with 95% significance. 2) The instrument is deemed faulty if R count $\leq r$ table with a significance level of 95% (Sugiyono, 2017). 3) The calculated r value for this test can be known through the results of data processing via SPSS version 16. Meanwhile, the value of r table for $n=30$ and an error level (α) of 5% is 0.361 ($db=n-2$) (Shofa, 2017).

Being trustworthy is the hallmark of reliability, when a measuring tool yields consistent results after repeated usage by the same or different researchers, it can be considered reliable. We will use Reliability Analysis Statistics using Cronbach Alpha (α) to conduct reliability testing using SPSS. A Cronbach Alpha (α) value is > 0.60 indicates the reliability of the variable (Shofa, 2017: 61).

Prior to doing hypothesis testing, the data normalcy test must be performed to make sure that the obtained data is normally distributed or derived from a normal population. This study employed the Kolmogorov Smirnov test, a reliable and efficient approach for assessing normalcy in small samples, to determine if the data were normal. The analytical procedures for hypothesis testing are based on this normalcy. This study used a one sample Kolmogorov-Smirnov test with a sig level of 0.05 to determine the results of the pre- and post-tests of the research sample before performing the normalcy test. The following serves as the foundation for decision-making in the normalcy test: If sig. (significance) < 0.05 , then data is not normally distributed. If sig. (significance) > 0.05 , then data is normally distributed.

The SPSS (Statistical Package for Social Science) version 16 application was used to perform the normality test (Lailia, 2019:86–88).

Regression using a single independent variable (X) and a single dependent variable (Y) is known as simple linear regression. Testing the impact of variable X on variable Y is the goal of this straightforward regression study. The independent variable is the one that influences, while the dependent variable is the one that is influenced. The model for simple linear regression equation looks like this: The dependent variable is $Y=a+bX$. Y is a Dependent variable; X is an independent variable.

Information: a = constant number, b = linear regression direction coefficient (Hertanto, 2016:6).

The purpose of hypothesis testing is to determine if a proposed theory is accepted or rejected. An assertion or statement about a population that may or may not be true is called a hypothesis. A hypothesis can determine the truth or falsity of a study by looking at the complete population.

There is an assumption or null hypothesis statement in hypothesis testing. The hypothesis that has to be tested is known as the null hypothesis, or H_0 . If H_0 is rejected, it is assumed that the other hypothesis, represented by H_1 , is true. A substantial test of the suggested hypothesis is conducted if the Coefficient of Determination (r^2) has been established. The Chi Square exam, F-Test, Z-Test, or T-Test can all be used for this exam. It is possible to determine if the independent/predictor/independent variable (X) significantly affects the dependent/response/dependent variable (Y) using this significance test. According to Yuliara (2016), a variable is considered important if its impact on the population as a whole is applicable.

Definition of operations

Table 1. Operational Definition

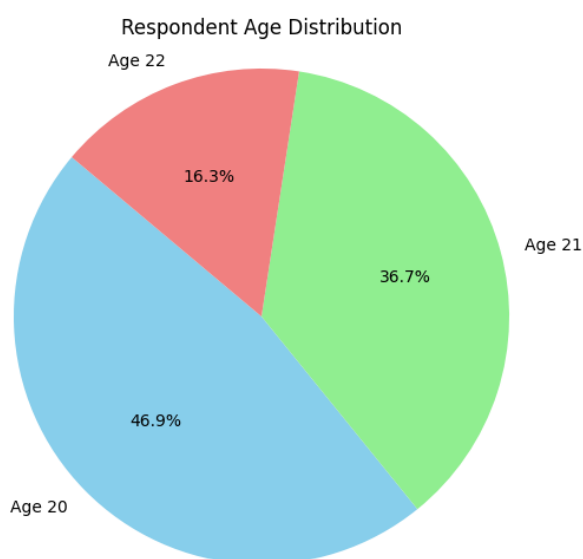
Variable	Definition	Measuring Instrument	
Length of Use Contact lens	Contact lenses are an assistive device vision placed on the surface of the cornea. The duration of contact lens wear is related to frequency use of LK	Questioner	<ol style="list-style-type: none"> 1. Regularity of usage of contact lenses 2. Dry eyes and extended usage of soft contact lenses
Dry Eye	Reduced tear production, increased tear evaporation, or unstable tears are the three main causes of dry eye syndrome. (Chandrasekhara Reddy, Sagili, 2016)	Questioner	<ol style="list-style-type: none"> 1. Foreign body sensation 2. Feeling uncomfortable 3. Burning, Redness, Itching, Blurred vision, Photophobia 4. Eyes are tired or feel heavy 5. Increased quantity of blinking, excessive mucus secretion, intolerance to air flow or dry environments

RESULTS & DISCUSSION

Analyzing Respondent Features Descriptively

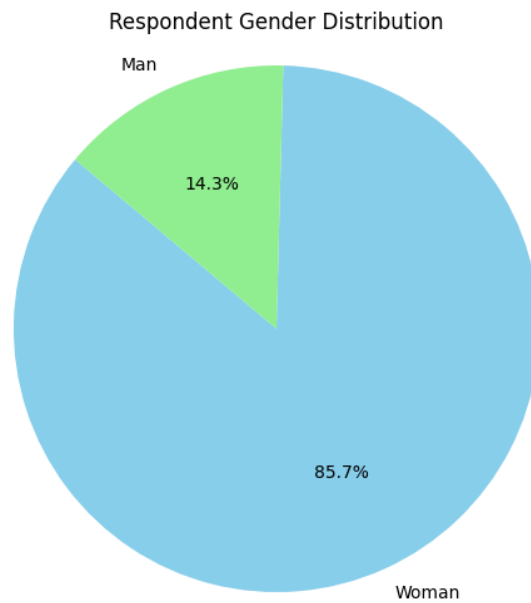
The following figure, which displays the analysis of respondent answer data, provides a description of the questionnaire that respondents completed in order to identify their characteristics:

Figure 1. Respondent age distribution



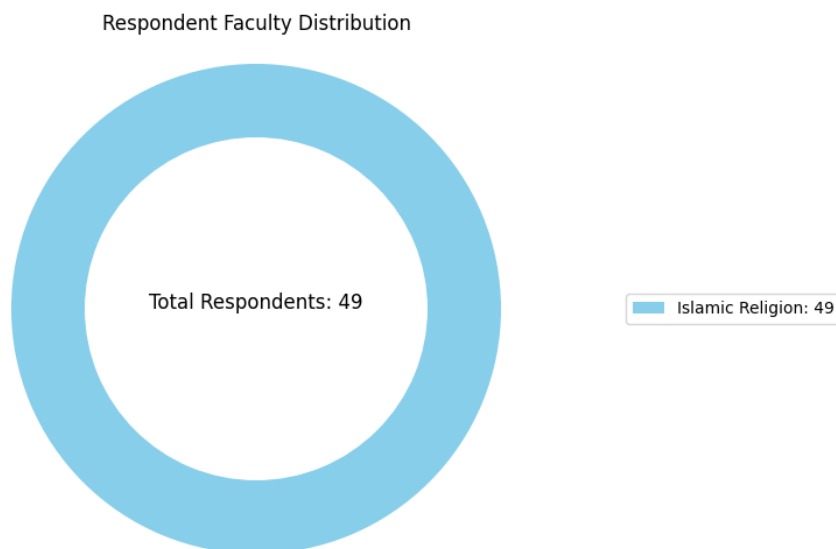
In the figure above, with a total number of respondents of 49 people, it was found that the largest number of respondents were 23 people aged 20 years (46.9%), the other numbers were 1 person aged 21 years (36.7%), and 22 years old. as many as 8 people (16.3%).

Figure 2. Distribution of gender



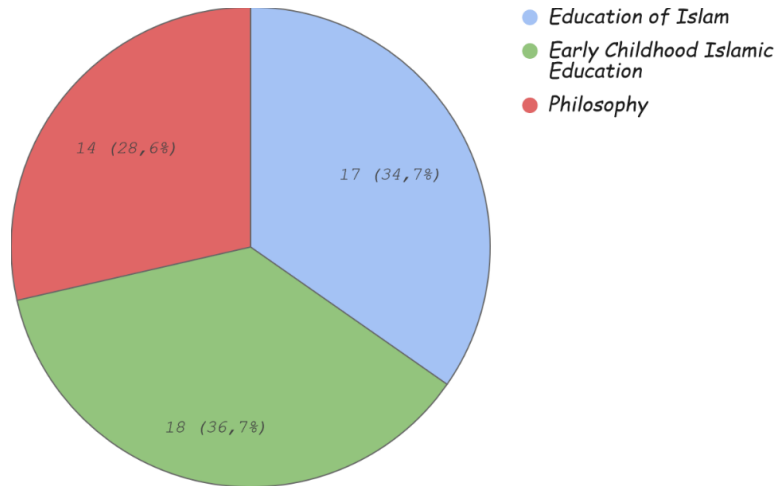
Based on the preceding figure, which shows a total of 49 respondents, it was determined that, at 42 (85.7%), female respondents made up the majority of the respondents; male respondents made up the remaining 7 (14.3%).

Figure 3. Respondent distribution of faculty



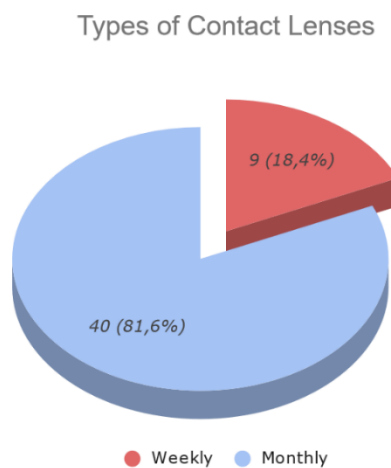
Based on figure above, with a total number of respondents of 49 people, it was found that the largest number of respondents were Islamic religious faculty students with a total of 49 people (100%).

Figure 4. Distribution of Majority



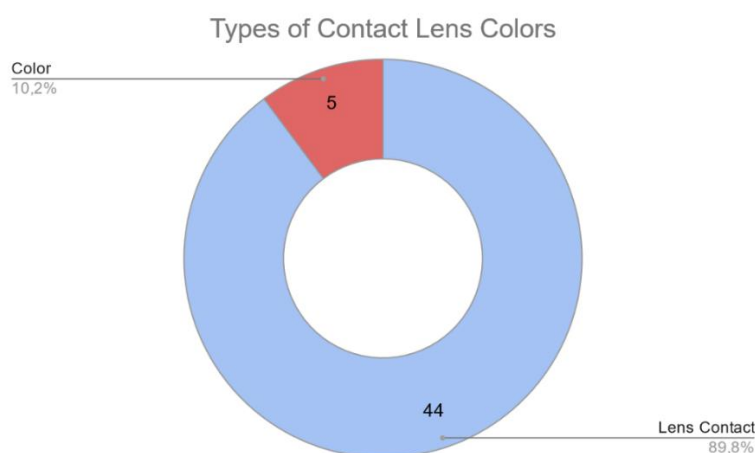
Based on the figure above, which shows a total of 49 respondents, it was determined that the department of Early Childhood Islamic Education received the most responses (18 people, or 36.7%), followed by the department of Religious Studies (17 people, or 34.7%), and philosophy majors (14 people, or 28.6%).

Figure 5. Types of contact lenses



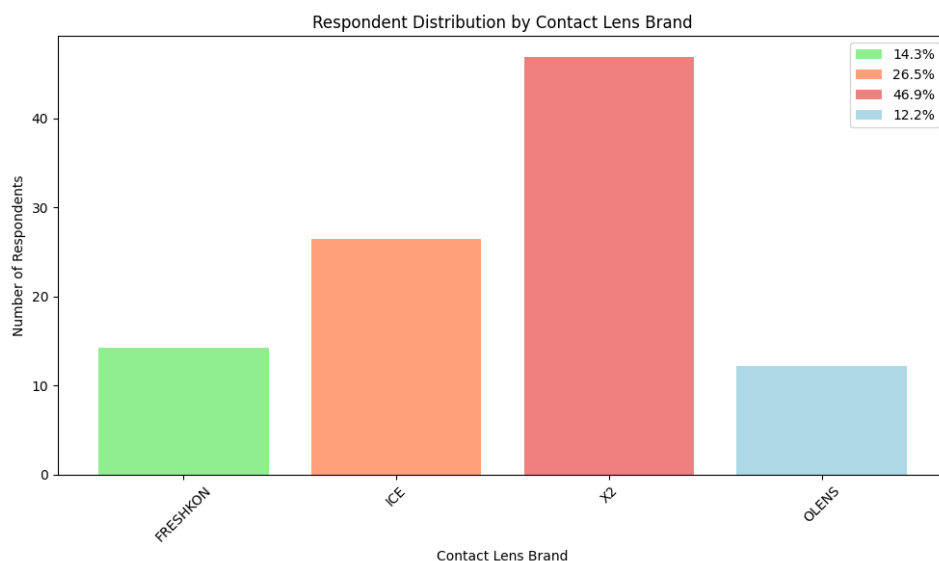
Based on the table above, with a total number of respondents of 49 people, it was found that the largest number of respondents used monthly contact lenses, amounting to 40 people (81.6%), the other number was 9 people using weekly contact lenses (18.4%).

Figure 6. Contact Lens Colors Types



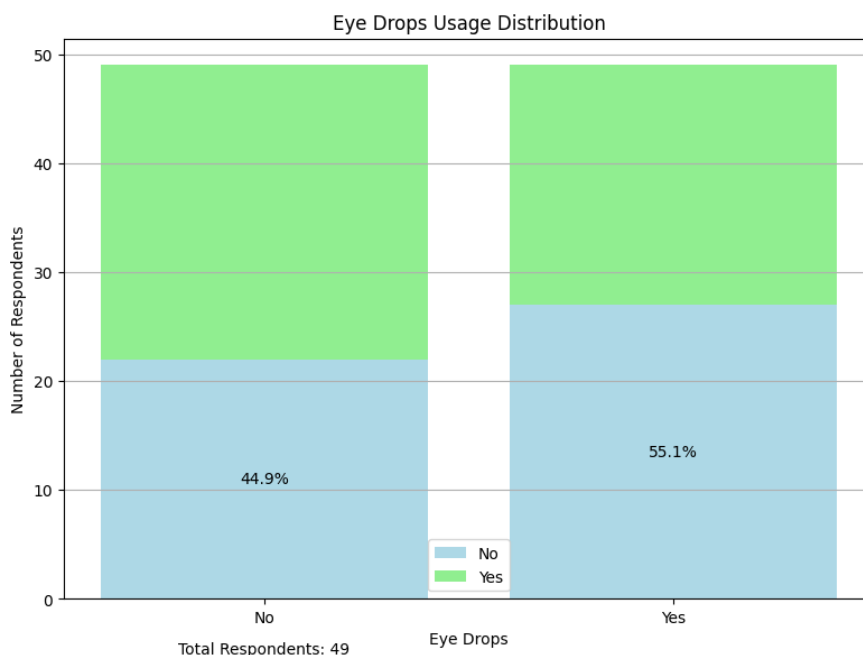
The department of Early Childhood Islamic Education received the most responses (18 people, or 36.7%), followed by the department of Religious Studies (17 people, or 34.7%), and philosophy majors (14 people, or 28.6%), according to the figure above, which displays a total of 49 respondents.

Figure 7. Contact lens brand



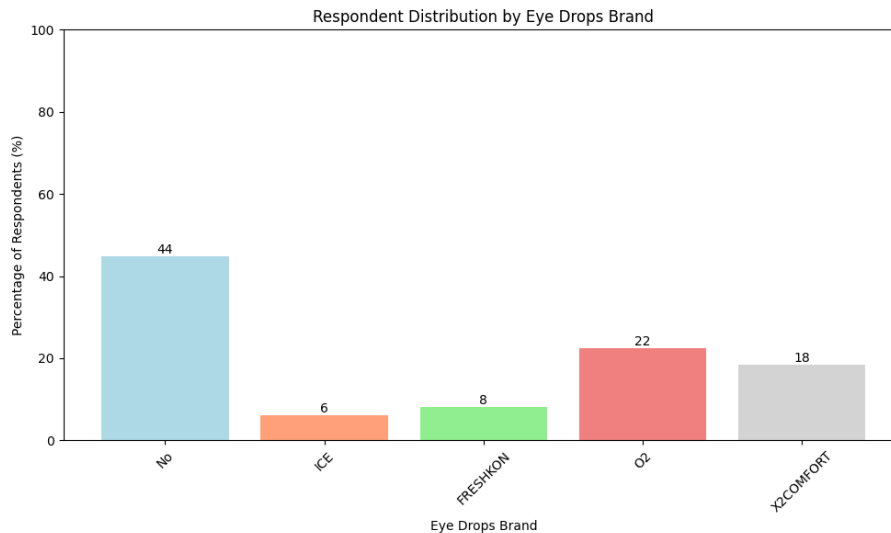
Based on the figure above, with a total number of respondents of 49 people, it was found that the largest number of respondents used X2 brand contact lenses, totaling 23 people (46.9%), the other number was 13 people (26.5%) using ICE brand contact lenses. %), freshkon brand as many as 7 people (14.3%), brand Olens as many as 6 people (12.2%).

Figure 8. Eye drops



According to the aforementioned data, out of the 49 respondents, the greatest percentage (27, or 55.1%) utilized eye drops, while the remaining 22 respondents (or 44.9%) did not.

Figure 9. Eye Drops Brand



Based on the table above, with a total number of respondents of 49 people, it was found that the largest number of respondents used O2 brand eye drops, totaling 11 people (22.4%), the other number used X2Comfort brand eye drops, 9 people (18.4 %), 4 people from the Freshkon brand (8.2%), 3 people from the ICE brand (6.1%) and 22 people from the ICE brand (44.9%).

Validity Test

To establish if a questionnaire is legitimate or not, apply the validity test. Validity is the degree of accuracy with which the data reported by the researcher and the data that really occurs on the research object coincide, ensuring that the data supplied is consistent with the data reported by the researcher and the data that occurs on the research object. If an instrument can reliably provide data from the variables under study, it is considered legitimate. The instrument is considered legitimate if and only if $r \text{ count} > r \text{ table}$.

The following table displays the data validity test results:

Table 2. Variable X Validity

No	RCount	Rtable	Information
1	0,424	0,281	Valid
2	0,316	0,281	Valid
3	0,362	0,281	Valid
4	0,416	0,281	Valid
5	0,513	0,281	Valid

Table 3. Variable Y Validity Test

No	RCount	Rtable	Information
1	0,375	0,281	Valid
2	0,312	0,281	Valid
3	0,368	0,281	Valid
4	0,430	0,281	Valid
5	0,711	0,281	Valid
6	0,350	0,281	Valid
7	0,479	0,281	Valid
8	0,515	0,281	Valid

The data in the table above, with a total number of respondents of 49 people, found that of the 13 questionnaires distributed to respondents, they passed the validity test where $r \text{ count} \geq r \text{ table}$ with a calculation for 49 respondents of 0.2816 with a significance of 5% or 0.5.

Reliability Test

Reliability testing was carried out to see whether the measuring instrument used (questionnaire) showed consistency in measuring the same symptoms (Sugiyono, 2007: 110). A questionnaire is said to be reliable if the respondent's answers to questions are consistent or stable over time. SPSS provides facilities for measuring reliability with the Cronbach's Salpha statistical test.

The guideline for a measuring instrument that is said to be reliable is if Cronbach's alpha is > 0.6. The results of the reliability test can be seen in the following table:

Table 4. Reliability Test Results (VariableX)

Reliability Statistics

Cronbach's Alpha	N of Items
.682	9

(Source: primary data processed by SPSS)

Table 5. Reliability Test Results (Variable Y)

Reliability Statistics

Cronbach's Alpha	N of Items
.664	9

(Source: primary data processed by SPSS)

Based on the results of the table above, it shows that each independent and dependent variable is declared reliable >0.6 with a relationship between length of use of soft contact lenses (X) of 0.682, and dry eye symptoms (Y) of 0.664. So, it can be concluded that all instruments in this research are reliable.

Normality Test

The purpose of the normality test is to determine whether or not the regression model's distribution is normal. When evaluating the significance of regression coefficients, the assumption of normalcy is a crucial prerequisite. Regression models with a normal or nearly normal distribution are considered to be of high quality.

Table 6. Normality test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		49
Normal Parameters ^{a, b}	Mean	,0000000
	Std. Deviation	1.74048211
	Most Extreme Differences	
	Absolute	,095
	Positive	,095
	Negative	-.081
Test Statistic		,082
Asymp. Sig.(2-tailed)		,200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

(Source: primary data processed by SPSS)

Judging from the data above, it shows a normal distribution pattern, with a total of 49 respondents, it was found that the data passed the normality test with a value (significance) > 0.05, namely 0.200

Simple Linear Regression Analysis

It is necessary to examine the collected data in order to meet the study objectives. This study employed a basic linear regression analysis model. We did a basic linear regression analysis to find the magnitude of the connection between the dependent variable (dry eye symptoms) and the independent variable (length of contact lens usage, X).

Table 7. Linear Regression Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.174 ^a	.198	-.056	1.759

Predictors: (Constant), discount

It describes the magnitude of the correlation/relationship value (R), which is 0.174, based on the table above. An analysis of this data revealed a coefficient of determination (R Square) of 0.198, indicating a 19.8% correlation between the dependent variable (dry eye symptoms) and the independent variable (length of soft contact lens use).

Table 8. Linear Regression Test Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	10.153	2.077		4.889	.000
TOTALX	.228	.267	.124	4.856	.396

(Source: primary data processed by SPSS)

Dependent Variable: symptoms of dry eyes

As the constant value (a) in the preceding table is known to be 10.153 and the relationship value (b/regression coefficient) for the length of contact lens usage is known to be 0.228, the regression equation may be structured as follows:

$$Y = a + bX$$

Where:

Y = Duration of contact lens wear X = Symptoms of dry eyes

A = Constant number

B = Linear regression direction coefficient

Table 4.16 provides the regression equation model. Y is equal to 10.153 + 0.228X.

Translation of the equation regressiter calls:

1. Since the constant is 10.153, variable Y has a consistent value of 10.153.
2. There is a positive regression coefficient.

1. Hypothesis Testing

Table 9. Hypothesis testing

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1(Constant)	10.153	2.077		4.889	.000
TOTALX	.228	.267	.124	4.856	.396

Dependent Variable: TOTALLY

(Sources: primary data processed by SPSS)

Based on the t value: it is known that the calculated t value is $4.856 > t_{table} 2.012$, so it can be concluded that the relationship variable for the duration of contact lens wear (X) is related to the variable dry eye symptoms (Y).

How to search ttable:

$$t_{table} = (t_{\alpha/2; n-k-1})$$

$$= (0.05/2; 49-2-1)$$

$$= (0.025; 46) \text{ [Look at the distribution of ttable values]}$$

$$= 2,012$$

The Impact of Long-Term Soft Contact Lens Use on Dry Eye Symptoms

The findings of this study suggest that there is a significant correlation between long-term use of soft contact lenses and the occurrence of dry eye symptoms among students at Panca Budi Development University. This is consistent with prior research indicating that extended contact lens wear can disrupt the natural tear film, leading to increased tear evaporation and a destabilized tear layer, which are key factors in dry eye disease (Kojima et al., 2020). Specifically, our study identified that 19.8% of the variance in dry eye symptoms can be attributed to the length of contact lens usage. This modest yet significant relationship underscores the cumulative impact of prolonged exposure of the corneal surface to contact lenses (Cwiklik, 2016; Fleiszig et al., 2020). While the correlation observed in this study was relatively low, this aligns with previous research that has reported a wide range of outcomes concerning the relationship between contact lens use and dry eye symptoms. For instance, Almutairi et al. (2021) found that while contact lens wearers are at an increased risk for dry eyes, the severity and prevalence can vary based on individual factors, such as tear film stability and lens material. Moreover, studies have shown that other factors, including lens fit, material, and the use of eye drops, can mitigate or exacerbate the symptoms of dry eye (Kaur et al., 2022; Pucker & Tichenor, 2020). This variability highlights the need for personalized approaches in managing contact lens-related dry eye symptoms.

The Role of Contact Lens Material and Wearing Schedule

Our study also explored the influence of different types of contact lenses and wearing schedules on dry eye symptoms. It was found that the majority of respondents used monthly lenses, which aligns with global trends showing a preference for lenses that require less frequent replacement (Musgrave & Fang, 2019). However, despite the convenience of monthly lenses, these types of lenses have been associated with a higher risk of dry eye symptoms compared to daily disposable lenses. This could be due to the accumulation of deposits and allergens on the lens surface over time, which can exacerbate irritation and dryness (Szczołka-Flynn et al., 2018). In contrast, the use of weekly lenses, though less common among our respondents, has been associated with lower incidences of dry eye symptoms. This is likely because weekly lenses are replaced before significant protein deposits can accumulate, thereby reducing the risk of irritation (Jones et al., 2021). Our findings suggest that encouraging the use of more frequent replacement lenses, along with proper lens care practices, could be beneficial in reducing the incidence of dry eye among contact lens users (Renzi-Hammond et al., 2020).

Gender Differences and Contact Lens Use

The demographic analysis of our respondents revealed a significant gender disparity, with female students being the predominant users of contact lenses. This finding is consistent with global statistics indicating that women are more likely than men to wear contact lenses (Cope et al., 2015). The higher prevalence of contact lens use among women could be linked to both aesthetic preferences and higher rates of myopia correction needs (Tsubota et al., 2020). However, it is also noteworthy that women are more prone to developing dry eye symptoms, potentially due

to hormonal differences that affect tear production and stability (Aragona et al., 2021). Given these gender differences, it is crucial to consider gender-specific recommendations for contact lens care and the management of dry eye symptoms. For instance, female contact lens users may benefit from using lenses designed to enhance moisture retention or incorporating hormonal considerations into their eye care regimen (Arroyo-del-Arroyo et al., 2021). This approach could help mitigate the higher risk of dry eye symptoms in female contact lens wearers and improve overall user comfort.

Implications for Contact Lens Providers and Eye Care Professionals

The results of this study have important implications for contact lens providers and eye care professionals. Given the established relationship between long-term contact lens use and dry eye symptoms, it is essential for opticians and optometrists to educate their patients about the potential risks and the importance of adhering to recommended lens wear schedules (Pucker & Tichenor, 2020). Additionally, providers should consider recommending lenses with higher moisture content or those made from materials that are less likely to cause irritation (Rykowska et al., 2021). The use of lubricating eye drops should be encouraged, particularly among long-term contact lens users, to help alleviate dry eye symptoms (Tsubota et al., 2020). Our study found that a significant proportion of respondents used eye drops regularly, which suggests that many users are already aware of the discomfort associated with dry eyes. However, not all eye drops are created equal, and it is important for eye care professionals to recommend preservative-free formulations that are specifically designed for contact lens wearers to avoid exacerbating the problem (Kaur et al., 2022).

CONCLUSION

This study found that more women than men wore contact lenses, with the majority being 20- and 21-year-old students from the Faculty of Islamic Religion and Humanities, particularly those majoring in Sufism. Monthly and color contact lenses, especially the X2 brand, were the most commonly used. Most respondents also used O2 brand eye drops. Among the participants, 34 had worn contact lenses for a year or more, with 37 using them 5 days a week. The majority wore lenses for 5 to 7 hours daily. Of the respondents, 27 experienced dry eye symptoms. The study confirmed a 19.8% correlation between the length of contact lens use and the occurrence of dry eye symptoms.

For Respondents and Further Researchers

From the results of this study, regarding the relationship between long use of soft contact lenses and symptoms of dry eyes, it is hoped that respondents, especially contact lens users, will be able to recognize the symptoms of dry eyes when wearing contact lenses. For contact lens providers (optics), or Optician Refractionist health workers from the results of this research, contact lens providers (optics) and optical refractionists also gain insight into the relationship between long-term use of soft contact lenses and dry eye symptoms. So, we can educate contact lens users about the relationship between long-term use of soft contact lenses and dry eye symptoms. It is recommended to future researchers that if the data collection process uses a questionnaire, it is advisable to ask the question "how long have you been using contact lenses" to the respondent. Then, with this research, it is hoped that it can become a reference for conducting further, more complex research.

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Conflict of Interest:

The authors declare no conflict of interest regarding the publication of this paper.

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Ethical Approval:

This study was conducted in accordance with the ethical standards of Panca Budi Development University. Informed consent was obtained from all participants prior to their inclusion in the study.

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