

Effect of Health Education Regarding Retinal Detachment Surgery on Quality of life and Patients Clinical Outcomes

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Abstract

Background: Retinal detachment describes an emergency situation that involves lose a portion or all of the vision, resulting in a significant reduction in visual performance and an inability to function and other activities. **Aim** to evaluate the effect of health education regarding retinal detachment surgery on quality of life and patients clinical outcomes. **Design:** quasi experimental research. **Setting:** It conducted at ophthalmology department and outpatient clinics at Tanta University Hospitals. **Subject:** It consisted of a convenience sampling of (60) adult patients selected and divided into 2 equal groups, study group managed by implementing health education and control group received routine nursing hospital care. **Tools:** Three tools used for data collection as follows: **Tool I:** Structured Interview retinal detachment questionnaire: It was consisted of three parts:-Part (A): Patients` Socio-Demographic characteristics. Part B: Patient's clinical data. Part (C): Patient's Knowledge regarding retinal detachment. **Tool II:** Quality of life measured by activities of daily vision scale. **Tool III:** Clinical Outcome: This tool divided into two part:-Part (A); Visual Function Questionnaire. Part (B): Visual Analogue Pain Scale. **Results:** There were highly statically significance difference among study group regarding their total knowledge, Quality of life, visual function and pain score (P value <0.001**) immediately and after 3 month implementing health education than control groups are less significant. **Conclusion:** Application of health education had a positive effect on their clinical outcomes. **Recommendations:** Health education should carry out as a routine care for patients undergoing retinal detachment.

Keywords: Clinical outcomes, Health education, Retinal detachment.

Introduction

Retinal detachment is a serious medical condition that describes an emergency situation where the thin layer of tissue (the retina) at the back of the eye pulls away from its normal position, often accompanied by flashes and floating movements (**Lin, Narayanan, Philippakis, Yonekawa, & Apte 2024**). RD separates the retinal cells from the blood vessel layer that provides the eye with oxygen and nutrition. The longer a retinal detachment goes untreated, the greater risk of permanent vision loss in the affected eye (**Vidal-Oliver, et al., 2025**).

The annual international incidence of rhegmatogenous retinal detachment (RRD) was estimated to be 9.62 (95% confidence interval 6.81–13.57) per 100,000 population (**Ge, et al., 2024**). In Egypt, retinal detachment was found in 6.3% of eyes and retinal fracture in 4.7 %, followed by stiffened fundus, found in 59.1. Incidence of retinal detachment in Tanta approximately 1 in 10000, total target population approximately 100 per years according to review of Tanta educational hospital stat static record in past years (2022) (**Elnahry, Khafagy, Esmat & Mortada, 2024**). There are many variations in the underlying pathogenesis of retinal detachment. They include developmental factors (eg, myopia and Marfan syndrome) that affect the overall size and shape of the globe, vitreoretinal disorders as retinal dysplasia, metabolic diseases (eg, diabetic retinopathy), vascular

diseases (eg, sickle cell disease), trauma, inflammation, degenerative conditions and neoplasms. (**Lewis & Kreiger, 2024**). Retinal detachments can be classified as **rhegmatogenous** caused by a tear or hole in the retina. The fluid accumulates underneath the retina, causing the retina to peel away from the back of the eye. A “**tractional**” detachment; It is occurs when vitreous pulls on the retina over time, gradually causing the retina to tent up off the back of the eye. It does not occur suddenly and are not associated with retinal tears. And non-rhegmatogenous is “**exudative**” detachment occurs when fluid leaks out of blood vessels within or underneath the retina. This can occur in inflammatory conditions such as uveitis and scleritis, certain collagen vascular or autoimmune diseases, tumors of the eye, and congenital diseases, so treatment rapidly supports vision and prevents vision loss (**Xiong, Tran, Waldstein, & Fung 2025**).

Nurses should be alerted to health education for patients and families about postoperative day patient care units and provide personalized instructions such as surgical eye safety protection, do not rub the surgical eyes, do not disassemble or wet the dressing on the day of surgery and ensure good nitration to prevent infection (**Safari, Khabazkhoob, Abbaszadeh & Moosavi 2025**). Nursing staff should clearly inform patients about possible postoperative complications and treatment plans after discharge so that patients understand the key

points of postoperative self-monitoring, also, nurses help patients adapt to new and ongoing lifestyle-changing conditions. Ophthalmic nurses should therefore commit to continuing education, which is essential to developing and maintaining a high standard of care **(Safari, 2025)**.

Occurrence of non-traumatic retinal detachment as a whole the population is about 1 in 10,000 persons per year (0.01 percent) in Egypt, and traumatic retinal detachment increases this percentage only a little **(Elsherbiny, Abd Elhafez, Mansour & Alkady 2024)**. The incidence of retinal breaks in the general population is about 3.3 percent per year. Therefore, the difference in incidence between retinal fractures and detachment determines that the chance of phakic non-traumatic retinal detachment from most fractures is low (1:330). Rhegmatogenous retinal detachments are bilateral in about 15 percent of cases **(Ge, 2024)**.

The estimated annual incidence of primary rhegmatogenous retinal detachment in Scotland is 16.3 per 100,000 populations. Based on this estimate, there are almost 7,300 new cases in the UK each year. Perform daily living activities effectively **(Lee, et al., 2025)**. The nurse should educate the patient about helpful ideas such as learning to live **(Ward, Gordon, & Kirkman, 2024)**. With the improved anatomic success rate of rhegmatogenous retinal detachment (RD) surgery, increasing attention is focused on the quality of postoperative vision. Even

after successful retinal reattachment, postoperative visual function may be unsatisfactory in some cases. In addition to the traditional objective assessment of patients, such as clinical examinations and laboratory data collection, subjective assessment of patients' daily activities and well-being is becoming increasingly important in contemporary medical practice vision-related quality of life (VR-QOL) **(Machairoudia, et al., 2024)**.

Significance of the study

A retinal detachment can have devastating visual consequences. The patient with retinal detachment may lose a portion or all of the vision in the eye involved, resulting in a significant reduction in visual performance and an inability to function at his or her occupation and other activities of daily living. Retinal detachment often requires surgical repair, which has inherent risks **(Lin, 2024)**. After surgery for retinal detachment (RD), the retina will be reattached in 95% of treated patients, with useful vision retained in most cases.1–4 Surgical success is assessed based on the postoperative visual acuity, but a patients' appreciation of success in the vision-related quality of life (QoL) often diverges from the surgeon's assessment, so early detection improves patients' visual function and quality of life. The vision-related quality of life is continuous or declined about one year after surgery for RD **(Hayat, Yilmaz, Cayhan, & Ozal, 2025)**. Therefore this study aimed to evaluate the effect of effect

of health education regarding retinal detachment surgery on quality of life and patients clinical outcomes.

The aim of the study is to : Evaluate effect of health education regarding retinal detachment surgery on quality of life and patients clinical outcomes.

Research hypothesis:

- Post implementing of health education the quality of life for patients undergoing retinal detachment will be expected to improve.
- Post implementing of health education the clinical outcome of patients undergoing retinal detachment will be expected to improve. Clinical outcome (improve knowledge, improve visual function and decrease of visual pain).

Research design:

A quasi-experimental research design was utilized to conduct the study.

Study setting:

This study was conducted at ophthalmology department and the ophthalmology outpatient clinics at Tanta University Hospitals that is affiliated to ministry of Higher education & Research.

Subject: A convenience sampling of (60) adult patients of both sex undergoing retinal detachment surgery. The sample size was calculated based on epidemiological information program based on total patient per year (2022) according to review of Tanta educational hospital statistical records.

The sample will be divided randomly into two equal groups each group

consisted of (30) patient as the following:-

Control group: it consists of (30) patient, they were received their routine care by hospital nursing staff.

Study group: it consists of (30) patients they were received nursing intervention protocol that will be designed and implemented by the researcher in addition to routine care.

Inclusion criteria:

Patients from both sexes. Adult conscious patients 21- 60 years. Patient who carry out retinal detachment surgery. Able to communicate effectively.

Exclusion criteria

Patients with physical or mental handicapped. Patient with history of ocular or neurological disease or surgery that causes visual loss. Disoriented in level of consciousness.

Tools for data collection:

Three tools will be used to evaluate the effect of nursing intervention protocol on quality of life.

Tools for data collection:

Three tools will be used to evaluate the effect of nursing intervention protocol on quality of life and clinical outcomes of patient undergoing retinal detachment surgery.

Tool I: Structured Interview Retinal Detachment Questionnaire:

This tool was developed by the researcher after reviewing recent literatures (Stefansson, Landers, & Wolbarsht, 2022); (Tappeiner, Barthelmes, Abegg, Wolf & Fleischhauer, 2023); (Wakabayashi, et al., 2021). It will consist of three parts:-

Part (A): Patients' Socio-Demographic characteristics such as patients' code, age, sex, occupation, level of education, income, marital status, and residence data.

Part (B): Patient's clinical data such as patients' chief complaint, health history, medical history, past surgical history and family history, date of admission and procedure, and date of discharge, duration of hospitalization, and types of drug used.

Part (C): Patient's Knowledge regarding retinal detachment.

This tool will be developed by the researcher based on literature reviews to assess (Cooper, Endacott, & Jevon, 2019); (Wilkinson, Treas, Barnett, & Smith, 2019); (Lesin, Sundov, Jukic, & Puljak, 2020), to assess patient's knowledge regarding retinal detachment. It includes:

- a. Knowledge regarding retinal detachment which includes; definition, purpose of surgery, indication and contraindications, benefits, risk factors, warning signs of retinal detachment, symptoms, causes, types, immediate and post-surgery complications. **(6 questions)**
- b. Knowledge about a management pre and post-procedure as; treatment, periodic assessment of eye, physical examination, diagnostic studies and lab investigation, preparation, immediate post-surgery care, post-surgery and rehabilitation care as; proper position for operation, eye care, prevention of, infection,

management of pain and postoperative complications, and discharge instructions [eye drop instillation, eye exercise, types of activities, return to work, types of diet, medication schedule, signs of complication and referral places]. **(11 questions).**

Scoring system of tool (1) part (c) knowledge regarding retinal detachment:

Three level of scoring for 17 questions would be as the following:

- Correct and complete answer would be scored (2).
- Correct and incomplete answer would be scored (1).
- Don't know or incorrect would be scored (0).

The total scoring system of the patient's knowledge would be calculated and classified as the following:-

- High level of knowledge → >75% of the total score
- Moderate level of knowledge → ≥ 50% 75% of the total score
- Low level of knowledge → < 50% of the total score

Tool II: Quality of life specific health measured by activities of daily vision scale, which was developed by Mangione, et al., (2018).

Scoring system:

These sub scales range from 0 to 100 points, with 100 indicating the highest total scoring function.

The total scoring system of the-quality of life will be calculated and classified as the following:-

- High level of quality→ > 75% of the total score.

- Moderate level of quality $\rightarrow \geq 50\%$ -75% of the total score.
- Low level of quality $\rightarrow < 50\%$ of the total score.

Tool III: Clinical Outcome for Patient Undergoing Retinal Detachment:

This tool divided into two parts:-

Part (A); Visual Function Questionnaire (VFQ-25) This Tool was developed by **Mangione, et al., (2019).**

Scoring system:

These subscales range from 0 to 100 points, with 100 indicating the highest function.

The total scoring system of visual function will be calculated and classified as the following:-

- High visual function $\rightarrow > 75\%$ of the total score
- Moderate visual function $\rightarrow \geq 50\%$ - 75% of the total score
- Low visual function $\rightarrow < 50\%$ of the total score.

Part (B): Visual Analogue Pain Scale; It was developed by **Griensven, Strong, & Unruh, (2018).**

Scoring system:

The total scores of visual analogue pain scale ranged from (0-10), the higher scores reflect the worst pain. It was categorized as the following:

- **0** was considered "no pain".
- **1-3** was considered "mild pain".
- **4-6** was considered "moderate pain".
- **7-9** was considered "severe pain".
- **10** were considered "worst possible pain".

A pilot study method:

It was conducted on (10%) of total sample of patients undergoing retinal detachment to test the applicability of the tools and to determine any obstacles that may encounter during the period of data collection, accordingly, needed modification were done by the researcher before the main study according to the experience gained from the pilot study. The pilot study of the patient was excluded from the current study.

Validity of the tool:

All tools were tested for clarity and applicability by seven experts in medical surgical nursing to ensure their validity and modifications were done. It was calculated and found to be = (96%).

Reliability of the developed tools was done by using appropriate test analysis. Reliability of knowledge questionnaire, quality of life and clinical outcome were determined using Cronbach's alpha coefficient which was 0.925.

Ethical and legal consideration:

- Approval of Faculty of Nursing Scientific Research Ethical Committee was obtained, Code number (286\8\2023).
- Confidentiality and Privacy were taken into consideration regarding data collection. A Code number was used instead of names.
- Nature of the study did not cause any harm or pain to the entire subject.
- Patients' written informed consent to participate in this study was obtained after explaining the aim of the study. All participants were informed about the purpose of the

study, confidentiality of information benefits and right to withdrawal from the study at any time if desired.

I. Assessment phase:

Assessment of the patients was carried out by using tool I, part1 and 2 to collect baseline data at the beginning of the study and Tool I part 3 was used to assess knowledge and Tool II used to assess quality of life specific health used to evaluate activities that were most difficult for people, Tool III visual function questionnaire and visual analogue pain scale to evaluate iimpact of visual problems.

II. Planning phase:

- The health education was designed based on the subject's assessment and reviewing of related literatures, the researcher utilized health education to design the needed information to managed retinal detachment.
- **The general objective** of health education was informing patient's knowledge about retinal detachment to improve knowledge, quality of life and patient's clinical outcomes.
- **The specific objectives** of health education regarding of retinal detachment were determined which includes, patient identify knowledge about retinal detachment, determined quality of life and clinical outcomes.
- Preparing the content of the health education; the content was prepared to meet the objectives. An illustrative structured booklet was prepared and written in

simple Arabic language supported by illustrative pictures as a guide for the patients, different methods was used as Booklet, Video, and group discussion, power point which was prepared by the researcher, demonstration and re-demonstration. The health education was covered in (3) sessions individually for every patient, each session lasts for 1 hour, 2 days per a week.

III. Implementation phase: -

Application of health education was implemented for the study group by the researcher throughout three basic sessions individually for every patient during following periods in the morning shifts, they were provide 2 days a week.

First session:

The aim of this session was that, the researcher gives basic knowledge about retinal detachment.

Content of the session:

- It includes; definition, purpose of surgery, indication and contraindications, benefits, risk factors, warning signs of retinal detachment, symptoms, causes, types, immediate and post-surgery complications.

Second session

The aim of this session was that, was knowledge about management pre and post-procedure.

Content of the session

- It included knowledge about management pre and post-procedure as; treatment, periodic assessment of eye, physical examination, diagnostic studies

and lab investigation, preparation, immediate, post-surgery care.

Third session

The aim of this session was that, was knowledge about post-surgery and rehabilitation care.

Content of the session:

- It included knowledge about post-surgery and rehabilitation care as; proper position for operation, eye care, prevention of infection, management of pain and postoperative complications, and discharge instructions [eye drop instillation, eye exercise, types of activities, return to work, types of diet, medication schedule, signs of complication and follow up].

IV. Evaluation phase:

Evaluation was done for every patient in both groups for tool I part C, tool II and tool III were used assess knowledge, activities of daily vision, visual function and visual analogue pain scale, for patients with retinal detachment before, immediately and three months post implementation of health education.

Data analysis was performed using the SPSS software (version 25). For determining the normal distribution of quantitative variables was used to Kolmogorov-Smirnov test. Chi-square tests were used to compare nominal variables in the two groups and to examine the relation between qualitative variables. Fisher's exact test was applied on smaller sample sizes, alternative to the chi-square test, when the frequency count is < 5 for more than 20% of cells. For comparing the mean scores in two groups were used to the independent

t-tests for parametric data and mann whitney test for non parametric data, and for comparing the mean scores between more than two different periods within the same group were used to the anova test with repeated measures. Comparison between two groups was done using student t-test and anova test for comparison between more than two groups. Pearson method was used to test correlation between numerical variables. Linear regression was used for multivariate analyses on quality of life as dependent factor, p-value < 0.05 was considered significant, and < 0.001 was considered highly significant.

Results

Table (1): Distribution of studied groups according to their sociodemographic data. This table illustrates the sociodemographic characteristics of studied groups undergoing retinal detachment. It reveals that two fifths (40.0%) of the control group and about two thirds (63.3%), of the study group were within age group of (51-60) years old or more, with a mean age of $(40.73 \pm 1.25 \& 41.10 \pm 1.29)$, respectively), more than half (60.0% & 53.3%, respectively) of the both groups were females. **Also**, the majority of control group and study group (80.0%, & 66.7%, respectively) were married. Moreover two fifths (40.0%) of control group and about one third (33.3%) of the study group were housewives. **Regarding**, the education level, two fifths (40.0%) of control group were diploma and more than half (56.7%)

of the study group were diploma. **In addition**, more than half of studied groups (66.7% & 60.0%, respectively) were insufficient income. **Finally**, in relation to residence, around the majority of studied group (80.0% & 73.3%, respectively) were living in rural area. There was no statistically significant difference in any of these characteristics.

Table (2): Comparison of patients' total knowledge about retinal detachment between studied groups pre and post health education periods. This table demonstrates total knowledge level among patients in studied groups regarding retinal detachment. It reveals that the both groups were pre health education with no differences of statistical significance. However, at the immediate post, and 3 months periods the total knowledge level was a statistically significantly different between them.

There was a significant difference within study group throughout the different study periods.

Table (3): Comparison of patients' Quality of life specific health between studied groups pre and post health education periods. This table shows that quality of life specific health between studied groups pre and post health education. **Regarding** driving during the day, watching television and threading a needle without a device post 3 months of health education the highest mean of quality of life was (3.90 ± 0.60 , 3.90 ± 0.92 and 3.90 ± 0.84 respectively) of the study group.

Also, there was pre health education with no differences of statistical significance. However, at the immediate post, and 3 months periods the quality of life level was a statistically significantly different between them. There was a highly significant difference within study group throughout the different study periods.

Table (4): Comparison of patients' visual function between studied groups pre and post health education periods. This table shows that the highest mean of visual function was (4.00 ± 0.69 & 4.06 ± 0.73 , respectively) regarding color vision as matching clothes, and driving in difficult condition post 3 months of health education. **Also** it was found that the both groups were similar pre health education with no differences of statistical significance. **Additionally**, at the immediate post, and 3 months periods the visual function level was a statistically significantly different between them. There was a highly significant difference within study group throughout the different study periods.

Table (5): Comparison of patients' total pain intensity between studied groups pre and post health education periods. This table illustrates total pain intensity among patients in studied groups post retinal detachment surgery. It shows that about less than half (46.7%) of control group was mild Visual expiration compared to more than half (56.7%) of study group was mild Visual expiration. **Also**, it reveals

that less than fifth (15.0%) of control group was the percent of change in pain intensity, while there was less than half (45.1%) in study group the percent of change in pain intensity, post 3 months of health education. Both groups were similar pre health education with no differences of statistical significance. However, at the post immediate, and 3 months periods the pain intensity was a statistically significantly different between them.

Table (6): Correlation between total knowledge with total quality of life score, visual function and visual pain intensity as well as regression to QOL post three months of health education implementation. This table presents that correlation between total knowledge with total quality of life score, visual function and visual pain intensity as well as regression to QOL post three months of health education implementation.

Regarding total Knowledge score with total quality of life score there was a highly significant positive correlation between total patients' knowledge with their total quality of life in the studied groups. **And** total Knowledge with visual function score there was a highly significant positive correlation within study groups. **While**, there was negative correlation in the control groups, post 3 months period of health education. **Regarding** total quality of life score with total Knowledge score there was a highly significant positive correlation in the studied groups. **And** total quality of life score with

pain intensity there was a highly significant positive correlation in the study groups. **While**, there was negative correlation in the control groups.

Regarding visual function score with total Knowledge there was a highly significant positive correlation in the study groups and there was negative correlation in the control groups. **While**, visual function score with pain intensity there was a highly significant positive correlation in the studied groups. **Regarding** pain score with total quality of life score there was a highly significant positive correlation in the study groups. **And** there was negative correlation in the control groups. **While**, pain score with visual function there was a highly significant positive correlation in the studied groups post 3 months period of health education.

Table (7): Predictor Variables of quality of life among both control and study groups post three months of health education implementation. This table presents that quality of life in the control group was best predicted by age, presence of comorbid disease and history of any type of retinal detachment (p value= <0.001^{**}, 0.011^{*} and 0.038^{*}, respectively), accounting for 82.7% of the variance of quality of life. While regarding study group it was best predicted by age, total knowledge, visual function and visual pain intensity (p value = 0.007^{*}, 0.009^{*}, 0.041^{*} and 0.047^{*}, respectively), accounting for 64.1% of the variance of quality of life.

Table (1): Distribution of studied groups according to their socio demographic data (n=30)

Patients' socio demographic data	Variables	Control group N=30		Study group N=30		X ² tests P Value	
		No.	%	No.	%	X ²	P value
Age (year)	21-<31	8	26.7	7	23.3	4.314	0.229 ^{n.s}
	31-<41	4	13.3	2	6.7		
	41-<51	6	20.0	2	6.7		
	51- 60	12	40.0	19	63.3		
	Mean ± SD	40.73±1.25		41.10±1.29		t= -1.112	0.271 ^{n.s}
Sex	Male	12	40.0	14	46.7	1.071	FE 0.438 ^{n.s}
	Female	18	60.0	16	53.3		
Marital status	Not married	6	20.0	10	33.3	1.364	FE 0.382 ^{n.s}
	Married	24	80.0	20	66.7		
Occupation	Not working	4	13.3	6	20.0	1.915	0.751 ^{n.s}
	Governmental employee	4	13.3	2	6.7		
	Nongovernmental employee	2	6.7	4	13.3		
	Retired	8	26.7	8	26.7		
	Housewife	12	40.0	10	33.3		
Educational level	Can't read and write	8	26.7	6	20.0	2.148	0.709 ^{n.s}
	Read and write	2	6.7	1	3.3		
	Primary	4	13.3	4	13.3		
	Preparatory	4	13.3	2	6.7		
	Diploma	12	40.0	17	56.7		
Income (reported by patient)	Insufficient	20	66.7	18	60.0	0.287	FE 0.789 ^{n.s}
	Sufficient	10	33.3	12	40.0		
Residence	Rural	24	80.0	22	73.3	0.373	FE 0.761 ^{n.s}
	Urban	6	20.0	8	26.7		

Table (2): Comparison of patients' total knowledge about retinal detachment between studied groups pre and post health education periods (n=30).

Total knowledge	Variables	Control group (n=30)						Study group (n=30)						X ² test P value (1)	X ² test P value (2)	X ² test P value (3)	X ² test P value (4)
		Pre health education		Immediate post health education)		Post 3 months of health education		Pre health education		Immediate post health education		Post 3 months of health education					
		No	%	No	%	No.	%	No.	%	No.	%	No	%				
Retinal detachment overview	Poor<50%	20	66.7	20	66.7	16	53.3	22	73.3	2	6.7	4	13.4	0.317 0.573 n.s	30.909 <0.001**	17.486 <0.001**	5.151 0.023*
	Average 50%-75%	10	33.3	10	33.3	13	43.3	8	26.7	12	40.0	13	43.3				
	Good > 75%	0	0.0	0	0.0	1	3.4	0	0.0	16	53.3	13	43.3				
Perioperative management of retinal detachment	Poor<50%	6	20.0	6	20.0	3	10.0	6	20.0	0	0.0	0	0.0	0.336 0.845 ^{n.s}	27.409 <0.001**	10.588 0.005*	6.562 0.038*
	Average 50%-75%	12	40.0	18	60.0	21	70.0	14	46.6	4	13.3	0	0.0				
	Good > 75%	12	40.0	6	20.0	6	20.0	10	33.3	26	86.7	30	100.0				
Eye care post surgery	Poor<50%	8	26.7	8	26.7	5	16.7	8	26.7	0	0.0	0	0.0	0.00 0.1000 n.s	19.733 <0.001**	10.588 0.005*	5.914 0.050*
	Average 50%-75%	10	33.3	12	40.0	21	70.0	10	33.3	2	6.7	0	0.0				
	Good > 75%	12	40.0	10	33.3	4	13.3	12	40.0	28	93.3	30	100.0				
Post discharge instructions	Poor<50%	12	40.0	12	40.0	5	16.7	12	40.0	0	0.0	0	0.0	0.00 0.1000 n.s	25.714 <0.001**	15.000 0.001**	N.A
	Average 50%-75%	6	20.0	12	40.0	18	60.0	6	20.0	0	0.0	0	0.0				
	Good > 75%	12	40.0	6	20.0	7	23.3	12	40.0	30	100.0	30	100.0				

Table (3): Comparison of patients' Quality of life specific health between studied groups pre and post health education periods (n=30)

Quality of life specific health	Control group (n=30)			Study group (n=30)			T test P value (1)	t test P value (2)	t test P value (3)	P value (4)
	Pre health education	Immediate post health education	Post 3 months of health education	(Pre health education)	Immediate post health education)	Post 3 months of health education				
	$\bar{x} \pm SD$	$\bar{x} \pm SD$	$\bar{x} \pm SD$	$\bar{x} \pm SD$	$\bar{x} \pm SD$	$\bar{x} \pm SD$				
Driving at night	2.33 ± 0.81	2.00 ± 1.05	2.40 ± 0.93	2.33 ± 1.50	2.87 ± 0.73	3.57 ± 0.85	0.722 (0.479 ^{ns})	-3.710(<0.001 ^{**})	-5.043(<0.001 ^{**})	<0.001 ^{**}
Seeing objects moving while driving at night	1.87 ± 0.10	2.40 ± 1.18	2.43 ± 0.10	1.67 ± 1.03	3.07 ± 0.78	3.63 ± 0.85	1.325 (0.201 ^{ns})	-4.847 (<0.001 ^{**})	- 4.893 (0.001 ^{**})	<0.001 ^{**}
Driving at night with oncoming headlights	2.33 ± 1.11	2.07 ± 0.14	2.53 ± 0.10	1.67 ± 1.03	3.20 ± 0.76	3.67 ± 0.88	1.264 (0.222 ^{ns})	- 4.521(<0.001 ^{**})	- 4.630(<0.001 ^{**})	<0.001 ^{**}
Reading street signs at night	2.33 ± 1.21	2.00 ± 1.28	2.53 ± 0.13	1.73 ± 1.03	3.53 ± 0.73	3.83 ± 0.64	-1.147 (0.265 ^{ns})	-5.677 (<0.001 ^{**})	- 5.443 (0.001 ^{**})	<0.001 ^{**}
Driving during the day	1.67 ± 1.03	2.20 ± 1.29	2.63 ± 1.09	1.93 ± 1.33	3.67 ± 0.60	3.90 ± 0.60	0.437 (0.667 ^{ns})	- 5.610(<0.001 ^{**})	- 5.529(<0.001 ^{**})	<0.001 ^{**}
Driving in unfamiliar areas	2.00 ± 0.89	2.33 ± 1.09	2.63 ± 0.92	2.53 ± 0.99	3.13 ± 1.04	3.53 ± 1.07	1.143 (0.267 ^{ns})	- 2.902 (0.005 [*])	- 3.473 (0.001 ^{**})	<0.001 ^{**}
Reading street signs in daylight	1.83 ± 1.32	2.07 ± 0.14	2.53 ± 1.13	2.33 ± 1.44	3.53 ± 0.90	3.83 ± 0.83	0.730 (0.474 ^{ns})	- 5.052(<0.001 ^{**})	- 5.051(<0.001 ^{**})	<0.001 ^{**}
Walking down steps in dim light	1.50 ± 1.22	2.40 ± 1.52	2.80 ± 1.34	2.40 ± 1.29	3.73 ± 0.14	3.87 ± 0.93	1.456 (0.162 ^{ns})	-3.837 (<0.001 ^{**})	- 3.556 (0.001 ^{**})	<0.001 ^{**}
Seeing faces across the street in bright sunlight	1.83 ± 1.32	2.63 ± 1.03	2.73 ± 1.43	2.20 ± 1.29	3.73 ± 0.94	3.87 ± 0.90	1.489 (0.153 ^{ns})	- 5.234(<0.001 ^{**})	- 4.759(<0.001 ^{**})	<0.001 ^{**}
Watching television	1.67 ± 1.03	2.63 ± 1.03	2.73 ± 1.43	2.27 ± 1.25	3.80 ± 0.99	3.90 ± 0.92	1.644 (0.117 ^{ns})	-5.234 (<0.001 ^{**})	- 5.008 (0.001 ^{**})	<0.001 ^{**}
Reading numbers on the TV screen	2.33 ± 1.50	2.53 ± 1.12	2.63 ± 1.15	2.13 ± 1.27	3.40 ± 1.03	3.67 ± 0.92	0.335 (0.741 ^{ns})	- 4.212(<0.001 ^{**})	- 3.821(<0.001 ^{**})	<0.001 ^{**}
Reading ordinary print in	1.67 ± 1.03	2.20 ± 0.86	2.37 ± 0.92	1.87 ± 0.97	2.80 ± 0.76	3.33 ± 1.02	1.213 (0.240 ^{ns})	- 4.138 (0.001 ^{**})	- 3.823 (0.001 ^{**})	<0.001 ^{**}

newspapers										
Reading directions on medicine bottles	2.00 ± 0.89	2.53 ± 1.12	2.63 ± 0.99	2.27 ± 1.14	3.20 ± 0.76	3.47 ± 0.97	1.032 (0.315 ^{ns})	- 3.723(<0.001 ^{**})	- 3.272(<0.001 ^{**})	<0.001 ^{**}
Reading the ingredients on food cans	1.67 ± 1.03	2.07 ± 1.03	2.37 ± 0.92	1.87 ± 0.97	3.00 ± 0.91	3.63 ± 0.92	0.802 (0.433 ^{ns})	- 4.660 (0.001 ^{**})	- 5.287 (0.001 ^{**})	<0.001 ^{**}
Writing checks	2.00 ± 0.89	2.10 ± 1.02	2.60 ± 0.93	2.07 ± 1.10	3.60 ± 0.81	3.87 ± 0.68	0.131 (0.897 ^{ns})	- 6.263(<0.001 ^{**})	- 6.008(<0.001 ^{**})	<0.001 ^{**}
Threading a needle without a device	2.00 ± 1.54	2.53 ± 0.97	2.67 ± 0.72	2.13 ± 1.10	3.60 ± 0.96	3.90 ± 0.84	0.864 (0.398 ^{ns})	- 5.465 (0.001 ^{**})	- 5.808 (0.001 ^{**})	<0.001 ^{**}
Using a ruler, yardstick, or tape measure	1.83 ± 0.75	2.47 ± 0.90	2.47 ± 0.90	2.17 ± 1.02	3.40 ± 0.96	3.73 ± 0.86	1.758 (0.095 ^{ns})	- 4.803(<0.001 ^{**})	- 5.549(<0.001 ^{**})	<0.001 ^{**}
Using a screwdriver	2.00 ± 0.89	2.53 ± 0.64	2.63 ± 0.85	2.27 ± 0.98	3.67 ± 0.88	3.87 ± 0.90	1.291 (0.212 ^{ns})	- 5.809 (0.001 ^{**})	- 5.457 (0.001 ^{**})	<0.001 ^{**}
Preparing meals	2.20 ± 0.77	2.27 ± 0.98	2.57 ± 0.85	2.33 ± 1.36	2.87 ± 1.10	3.57 ± 1.10	-0.286 (0.778 ^{ns})	- 2.260(0.028 [*])	- 3.916(<0.001 ^{**})	<0.001 ^{**}
playing cards.	1.67 ± 0.51	2.20 ± 0.99	2.43 ± 0.89	1.73 ± 0.59	3.33 ± 1.15	3.73 ± 0.98	0.240 (0.813 ^{ns})	-4.070 (<0.001 ^{**})	- 5.357 (0.001 ^{**})	<0.001 ^{**}
Total	43.36 ± 14.62	42.66 ± 16.98	51.00 ± 16.17	39.90 ± 9.11	67.13 ± 4.85	74.36 ± 12.03	-1.102 (0.275 ^{ns})	-7.588 (<0.001 ^{**})	-6.347(<0.001 ^{**})	<0.001 ^{**}

Table (4): Comparison of patients' visual function between studied groups pre and post health education periods

Visual function	Control group (n=30)				Study group (n=30)			T test P value (1)	t test P value (2)	t test P value (3)	P value (4)
	Pre health education		Immediat e post health education	Post 3 months of health education	(Pre health educatio n)	Immediate post health education)	Post 3 months of health education				
General health	$\bar{\chi} \pm SD$ 2.07 ± 0.94		$\bar{\chi} \pm SD$ 2.30 ± 0.65	$\bar{\chi} \pm SD$ 2.63 ± 0.89	$\bar{\chi} \pm SD$ 2.93 ± 0.86	$\bar{\chi} \pm SD$ 2.97 ± 0.85	$\bar{\chi} \pm SD$ 3.97 ± 0.66	0.569 (0.571 ^{ns})	-3.409(0.001 ^{**})	-6.561(<0.001 ^{**})	<0.001 ^{**}
General vision	1.87 ± 0.90		2.07 ± 0.86	2.17 ± 0.95	1.80 ± 0.84	2.87 ± 0.62	3.93 ± 0.64	0.296 (0.769 ^{ns})	-4.087(0.010 [*])	- 8.450(<0.001 ^{**})	<0.001 ^{**}
Going downstairs' at night .	Distance vision	2.60± 0.89	2.73 ± 1.01	2.73 ± 1.01	2.66 ± 0.95	3.43 ± 0.56	3.86 ± 0.68	0.262 (0.795 ^{ns})	-4.307(<0.001 ^{**})	- 6.230(<0.001 ^{**})	<0.001 ^{**}
reading street signs		2.10± 0.95	2.26 ± 1.08	2.26 ± 1.08	2.13 ± 1.04	2.76± 0.97	3.86 ± 0.68	0.487 (0.628 ^{ns})	-2.647(0.010 [*])	- 7.770 (0.001 ^{**})	<0.001 ^{**}
Going out to movies –plays.		2.16± 1.01	2.73 ± 1.01	2.73 ± 1.01	2.53 ± 1.04	3.00 ± 1.05	3.90 ± 0.71	0.753 (0.454 ^{ns})	-3.117(0.003 ^{**})	- 6.577(<0.001 ^{**})	<0.001 ^{**}
Reading normal newsprint.	Near vision	1.90± 0.84	2.16 ± 1.01	2.20 ± 0.92	2.06± 0.78	2.40 ± 0.77	3.76± 0.72	0.602 (0.549 ^{ns})	-2.396(0.020 ^{*)})	- 8.102(<0.001 ^{**})	<0.001 ^{**}
Seeing well up close.		2.26± 1.04	2.36 ± 0.92	2.66 ± 1.02	2.46 ± 0.89	3.00 ± 0.89	3.93 ± 0.63	0.802 (0.426 ^{ns})	-2.567(0.013 ^{*)})	- 7.434 (0.001 ^{**})	<0.001 ^{**}
Finding objects on crowded shelf		1.90± 0.84	2.06 ± 0.93	2.13 ± 0.89	2.06 ± 0.78	2.60 ± 0.93	3.90 ± 0.66	0.306 (0.761 ^{ns})	-2.517(0.015 ^{*)})	-10.207(<0.001 ^{**})	<0.001 ^{**}
peripheral vision as seeing objects off to side		2.73 ± 1.06	2.80 ± 0.92	2.80 ± 0.92	2.60 ± 0.96	2.77 ± 0.62	3.93 ± 0.74	0.818 (0.417 ^{ns})	-2.132(0.037 ^{*)})	-4.307(<0.001 ^{**})	<0.001 ^{**}
color vision as Matching clothes		2.30 ± 1.02	2.70 ± 1.08	3.07 ± 0.78	2.87 ± 0.81	3.20 ± 0.80	4.00 ± 0.69	0.965 (0.338 ^{ns})	-2.024(0.048 ^{*)})	- 6.869(<0.001 ^{**})	<0.001 ^{**}
Stay home most of time	Visual specific dependency	2.60± 0.89	2.73 ± 1.01	2.73 ± 1.01	2.66 ± 0.95	3.43 ± 0.56	3.86 ± 0.68	0.262 (0.795 ^{ns})	-4.307(<0.001 ^{**})	- 6.230(<0.001 ^{**})	<0.001 ^{**}
do not leave home alone		2.10± 0.95	2.26 ± 1.08	2.26 ± 1.08	2.13 ± 1.04	2.76± 0.97	3.86 ± 0.68	0.487 (0.628 ^{ns})	-2.647(0.010 ^{*)})	- 7.770 (0.001 ^{**})	<0.001 ^{**}
Rely too much on others words		2.73± 1.06	2.80 ± 0.92	2.80 ± 0.92	2.60 ± 0.96	2.77 ± 0.62	3.93 ± 0.74	0.818 (0.417 ^{ns})	-2.132(0.037 ^{*)})	-4.307(<0.001 ^{**})	<0.001 ^{**}

Accomplish less	Visual specific role limitation	2.70±1.17	2.86± 0.89	2.86± 0.89	2.73 ± 1.01	3.40± 1.03	3.86 ± 0.68	0.539 (0.592 ^{ns})	-2.442(0.018 [*])	- 6.968(<0.001 ^{**})	<0.001 ^{**}
Limited endurance		2.53±0.73	2.56 ± 1.16	2.53 ± 0.73	2.46 ± 0.81	3.23 ± 0.671	3.90 ± 0.71	0.333 (0.741 ^{ns})	-2.708(0.009 [*])	- 8.435 (0.001 ^{**})	<0.001 ^{**}
Frustrated	Visual specific mental health	2.43 ± 1.07	2.56 ± 1.10	3.00 ± 0.74	2.93 ± 0.78	3.13 ± 0.89	3.96 ± 0.71	0.338 (0.737 ^{ns})	-2.179(0.033 [*])	- 6.050 (0.001 ^{**})	<0.001 ^{**}
No control		2.50 ± 1.13	2.60 ± 1.19	3.00 ± 0.90	3.06 ± 0.86	3.23 ± 1.07	3.06 ± 0.86	-0.290 (0.773 ^{ns})	-2.163(0.035 [*])	- 5.972(<0.001 ^{**})	<0.001 ^{**}
Worry about eyesight		2.13 ± 1.00	2.16 ± 0.87	2.46 ± 0.97	2.53 ± 0.97	2.60 ± 0.49	3.93 ± 0.74	-0.265 (0.792 ^{ns})	-2.359(0.022 [*])	- 8.065 (0.001 ^{**})	<0.001 ^{**}
Embarrassment		2.46 ± 1.10	2.53 ± 1.10	2.86 ± 0.73	2.73 ± 0.78	3.23 ± 0.85	3.93 ± 0.74	0.681 (0.498 ^{ns})	-2.739(0.008 [*])	- 6.038(<0.001 ^{**})	<0.001 ^{**}
Seeing how people react	Social function	2.33 ± 1.09	2.33 ± 0.99	2.73 ± 0.94	2.86 ± 0.89	3.13 ± 0.77	3.96 ± 0.71	-0.560 (0.578 ^{ns})	-3.474(0.001 ^{**})	- 6.838(<0.001 ^{**})	<0.001 ^{**}
Visiting others		2.23 ± 1.00	2.30 ± 1.08	2.53 ± 0.81	2.60 ± 0.81	2.97 ± 0.92	3.76 ± 0.72	-0.316 (0.753 ^{ns})	-2.554(0.013 [*])	- 6.762 (0.001 ^{**})	<0.001 ^{**}
Driving in daylight	Driving	2.10 ± 1.06	2.46 ± 0.93	2.33 ± 0.95	2.40 ± 0.96	3.10 ± 1.15	3.97 ± 0.66	-0.268 (0.790 ^{ns})	-2.332(0.023 [*])	- 7.975(<0.001 ^{**})	<0.001 ^{**}
Driving in difficult condition.		2.30 ± 1.14	2.46 ± 1.00	2.80 ± 1.06	2.73 ± 1.14	2.93 ± 0.78	4.06 ± 0.73	0.234 (0.816 ^{ns})	-2.001(0.050 [*])	- 7.080 (0.001 ^{**})	<0.001 ^{**}
Amount pain	Ocular pain	2.26 ± 0.98	2.46 ± 1.00	2.60 ± 0.72	2.66 ± 0.71	3.03 ± 0.71	3.86 ± 0.68	-0.360 (0.720 ^{ns})	-2.507(0.015 [*])	- 7.341(<0.001 ^{**})	<0.001 ^{**}
Amount time		2.26 ± 0.90	2.33 ± 0.99	2.80 ± 0.66	2.86 ± 0.62	3.13 ± 0.77	3.76 ± 0.72	-0.399 (0.691 ^{ns})	-3.474(0.001 ^{**})	- 7.064 (0.001 ^{**})	<0.001 ^{**}
Total		66.26±10.89	66.76±7.04	56.93±20.00	64.66±10.63	74.70±13.15	97.63±15.04	0.576 (0.567 ^{ns})	-2.911(0.005 [*])	- 8.906(<0.001 ^{**})	<0.001 ^{**}

Table (5): Comparison of patients' total pain intensity between studied groups pre and post health education periods

Pain intensity	Control group (n=30)			Study group (n=30)			χ^2 test P value (1)	χ^2 test P value (2)	χ^2 test P value (3)	% of change	
	Pre health education	Immediate post health education	Post 3 months of health educated	Pre health education	Immediate post health education	Post 3 months of health education					
	No (%)	No (%)	No (%)	No (%)	No (%)	No (%)				Control	Study
No Visual expirations(0)	0(0.0)	2(6.7)	5(16.7)	0(0.0)	4(13.3)	12(40.0)	2.818 (0.244 ^{ns})	8.825 (0.032 [*])	11.506 (0.003 [*])	15.04%	45.11%
Mild Visual expiration(1-3)	10(33.3)	11(36.7)	14(46.7)	12(40.0)	20(66.7)	17(56.7)					
Moderate Visual expiration (4-6)	14(46.7)	16(53.3)	11(36.7)	8(26.7)	6(20.0)	1(3.3)					
Severe Visual expiration (7-9)	6(20.0)	1(3.3)	0(0.0)	10(33.3)	0(0.0)	0(0.0)					
Mean $\pm$ SD	3.86 $\pm$ 0.68	3.03 $\pm$ 0.71	2.66 $\pm$ 0.71	2.60 $\pm$ 0.72	2.46 $\pm$ 1.00	2.26 $\pm$ 0.98	T test= 0.360 (0.720 ^{ns})	T test= 2.507 (0.015 [*])	T test= 7.341 (<0.001 ^{**})		

Table (6) Correlation between total knowledge with total quality of life score, visual function and visual pain intensity as well as regression to QOL post three months of health education implementation

Variables	Studied groups	Total Knowledge score		Total quality of life score		Visual function score		Pain score	
		R	P value	R	P value	R	P value	R	P value
Total Knowledge score	Study group	-	-	0.559	<0.001 ^{**}	0.832	<0.001 ^{**}	-0.472	0.008 [*]
	Control group	-	-	0.458	0.001 ^{**}	0.851	0.027 [*]	-0.293	0.039 [*]
Total quality of life score	Study group	0.559	<0.001 ^{**}	-	-	0.372	0.043 [*]	-0.655	<0.001 ^{**}
	Control group	0.458	0.001 ^{**}	-	-	0.434	0.017 [*]	-0.544	0.002 [*]
Visual function	Study group	0.832	<0.001 ^{**}	0.372	0.043 [*]	-	-	-0.884	<0.001 ^{**}
	Control group	0.851	0.027 [*]	0.434	0.017 [*]	-	-	-0.790	<0.001 ^{**}
Pain	Study group	-0.472	0.008 [*]	-0.655	<0.001 ^{**}	-0.884	<0.001 ^{**}	-	-
	Control group	-0.293	0.039 [*]	-0.544	0.002 [*]	-0.790	<0.001 ^{**}	-	-

Table (7): Predictor Variables of quality of life among both control and study groups post three months of health education implementation (n=30)

Quality of life	Control group					Study group				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta			B	Std. Error	Beta		
(Constant)	1.332	0.135		9.831	<0.001**	1.134	0.344		3.299	0.004
Age	-0.086	0.019	-0.556	-0.4481	<0.001**	-0.114	0.038	-0.564	-2.991	0.007*
Occupation	-0.045	0.053	-0.139	-0.849	0.405	0.045	0.128	0.114	0.349	0.730
Duration of the disease per months	0.018	0.057	0.035	0.319	0.753	-0.092	0.124	-0.230	-0.748	0.463
Presence of comorbid disease	-0.147	0.053	-0.412	-2.774	0.011*	-0.122	0.177	-0.113	-0.690	0.498
History of any type of retinal detachment	-0.027	0.030	-0.136	-2.881	0.038*	-0.008	0.017	-0.051	-0.484	0.633
Total knowledge	0.005	0.003	0.225	1.541	0.138	0.000	0.006	0.014	1.991	0.009*
Visual function	.174	.979	.045	.177	.861	0.037	0.021	0.282	1.776	0.041*
Visual pain intensity	-.032	.035	-.255	-.918	.369	-.394	.539	-.134	-2.073	0.047*
Adjusted R ² = 0.827						P = <0.001**				
						Adjusted R ² = 0.641			P = 0.005*	

Discussion

Retinal detachment is a major disorder which leads to sight loss and irreversible damage. Before retinal detachment surgery, patients complain many physical, social, and emotional problems that affect their life style. So the perioperative care given by the nurse and health education should cover the comprehensive needs of the patient, improving the patient's confidence to face surgery, improve vision function and return to regular life activities (Allen, Straatsma, AptL, & Hall, 2020). This study was designed to effect of health education regarding retinal detachment surgery on quality of life and patients clinical outcomes. The study's findings on the demographic characteristics of the patients revealed that near half of the study group, and about one third of

the control group ranged in the age between 51-60 years old or more .This may be interpreted that retinal detachments are very common in older adults. This finding was in agreement with (Chbat, Morel, & Conrath, 2024), who found that the retinal detachment more common in people above 50 years and increase with average age. Also this finding was in accepted with (Wong, et al., 2021), who found that the mean age of studied patients were 49 - 79 years.

Regarding comparison of patients' total knowledge about retinal detachment between control and study groups pre and post health education periods, the current study shows that both groups were similar pre health education with no differences of statistical significance. However, at the post immediate, and 3 months periods the total knowledge

level was a statistically significantly different between them; moreover there was a significant difference within study group throughout the different study periods. Where (100.0% & 100.0%, respectively) had good level of knowledge about post discharge instructions post immediate and 3 months of health education that agreed with result **(Dandona, et al., 2021)** who display knowledge levels to patient high significant.

On the other hand, this result was disagreed by **(Chumbley, 2020)** who reported that only half of the study group interested by the education and did not have an effect on the eye.

Regarding Comparison of patients' Quality of life specific health the present study demonstrated that, there was a statistically significantly different between them, moreover there was a highly significant difference within study group throughout the different study periods, after 3 month was highest mean of quality of life than pre, Also this result accepted with **(Okamoto, Okamoto, Hiraoka, & Oshika, 2022)** who reported that no one had retinal detachment during all times of researcher's follow up due to adequate postoperative optimization with appropriate medical treatment and clinically retinal patients.

Regarding compares visual function among patients in both control and study groups post retinal detachment surgery. The finding study showed that both groups were similar pre health education with no differences of statistical significance. However, at the post immediate, and 3 months periods the visual function

level was a statistically significantly different between them; moreover there was a highly significant difference within study group throughout the different study periods. This result was similar with **(Carreras, Rodríguez-Hurtado & David, 2022)**, who reported that most patients undergoing retinal detachment were significant difference after implementation of education, there are well visual function. Where the highest mean of visual function was (4.00 ± 0.69 & 4.06 ± 0.73 , respectively) regarding color vision as matching clothes, and driving in difficult condition post 3 months of health education.

Regarding color vision as matching clothes, the present study demonstrated that, there was positive significant after implementation of health education there was improve in the color vision regarding study group. This finding was in agreement with **(Sullivan, Kazlauciusas, & Guthrie, 2021)** who demonstrate that half of the study group was positive statistically significant than control group. this study dis agreed with **(Abdullah, ., Moharram, Abdelhalim, Mourad, & Abdelkader, 2020)**, who found that Ocular morbidity is associated with low QoL, predominantly in a lot of domains as general vision, near activities and driving, and one might need to consider other vision-related factors also to provide them with social, psychological, and employment benefits. The finding of this study showed that both groups were similar pre health education

with no differences of statistical significance. However, at the post immediate, and 3 months periods the pain intensity was a statistically significantly different between them. The control group had mild Visual expiration compared to study group, with the percent of change in pain intensity among control group was 15.0%, while 45.1% in study group post 3 months of health education due to defect of follow up and treatment. Those results accepted with **Koplin, Ritterband, Schorr, Seedor & Wu, (2022)**, who reported that the majority of patients not experienced pain after retinal detachment surgery. And this result disagreed with **(Mitry, 2022)**, who reported that the majority of patients experienced pain at the site of surgery. This may be explained by the main causes of pain in patients after detachment are the incision area, especially with the movement of the head or patient position.

The finding of this study found that a significant statistical relation between total patient' knowledge in control group with residence post 3 months of health education with p value = (0.031*) Besides, a significant relation in study group with sex, marital status and residence with post 3 months period of health education this result accepted with **(Kaimbo, Rodríguez-Hurtado & David, 2021)**, who mentioned that a significant relation in study group with age, sex, education and income. The finding of this study disagreed with **(Alasmee & Hasan, 2021)** who mentioned that a significant relation

with smoking, duration and physical activity.

The present study demonstrated that, there was a highly significant positive correlation between total patients' knowledge with their total quality of life in the studied groups implementation post three months of health education. This may be due to that, patient was identified as a positive predictor of their knowledge score, which means that the patients get higher benefits from the health educational of care with study groups compared with control groups. This result was in line with **(Hilton, et al., 2022)**, who reported that increased quality of life was correlated with knowledge scores **(Greenberg, Martidis, Rogers, Duker, & Reichel, 2022)**. There was a highly significant positive correlation in the study groups and there was negative correlation in the control groups. Due to patients are lacking knowledge, and therefore are in need for information that might help patients' participation in achieving successful outcomes of the treatment plan. This result was in line with **(Owsley, & Sloane, 2022)**, who reported the level of learning needs and knowledge was high increase visual Function. Also, this result was in line with **(Daltroy, 2022)**, who reported that developed in total Knowledge patient increase visual function, there was a highly significant positive correlation in the studied groups. This result was in line with **(Marks & Allegrante, 2023)**, who reported that there are significant positive correlation between pain and Visual function.

The present study demonstrated that, there was a highly significant positive correlation between the studied groups, due to effect of health education on the patient participation. This result agreed with **(Deramo, Cox, Syed, Lee & Fekrat, 2021)**, who reported that increase knowledge to patient results highly quality of life.

The present study demonstrated that, there was a highly significant positive correlation in the study groups. And there was negative correlation in the control groups. This result was in agreement with **(Lame, Peters, Vlaeyen, Kleef, & Patijn, 2024)**, who reported that there are significant relation between pain duration and quality of life, despite in long-term disease, patients experience a considerable decrease in quality of life especially in physical and psychosocial domain.

The finding study presented that quality of life in the control group was best predicted by age, presence of comorbid disease and history of any type of retinal detachment, accounting for 0.827 of the variance of quality of life. While regarding study group it was best predicted by age, total knowledge, visual function and visual pain intensity, accounting for 0.641 of the variance of quality of life. Due to patients are lacking knowledge, and therefore are in need for information that might help patients' participation in achieving successful outcomes of the treatment plan. This justification goes in line with **(Awdeh, Elsing, & Deramo, 2022)**, (who reported the level of learning needs was high, whereas,

that of knowledge was low; there were history of retinal detachment and comorbid diseases. Also this study accepted with **(Prokofyeva, & Zrenner, 2022)**, who reported that there were history of retinal detachment and defect of health life styles.

Conclusion

The findings of the study indicated that it can be concluded that; health education was effective. The results support the integration of health education as a complementary tool in patient education, offering more interactive, effective learning experiences in patient education and had a positive effect on their quality of life and clinical outcomes.

Recommendations:

For education and training

- Development of in service training health education for all patients in ophthalmology department about knowledge, diet and eye exercises to improve clinical out-comes.
- Develop an in service audiovisual materials training/education about retinal detachment, retinal disorders and treatment for patients.
- The health education for the patients undergoing retinal surgery can be included in the nursing curriculum.
- Orientation health educations on mass medias for measuring eye function in all adults beginning at age 21 years and every 6 months thereafter, noting that more frequent symptoms may be high risk or dungarees individuals.

For further research studies:-

- Further studies are needed to increase follow up period for retinal detachment patients
- The study should be replicated on large sample and different hospitals setting in order to generalize the results.

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