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Research Article

**FREQUENCY OF POST-OPERATIVE COMPLICATIONS
WITHIN 48 HOURS OF CATARACT SURGERY IN A PRIVATE
EYE HOSPITAL**¹Dr. Saqlain Amjad, ²Dr. Sana Shahid, ³Dr. Areeb Sarfraz¹Medical Officer, Govt. Haji Abdul Qayyum Teaching Hospital Sahiwal²Allied Hospital Faisalabad³Kaniz Fatima Maternity Home, Faisalabad**Abstract:**

Objective: To know the frequency of post-operative complications within 48 hours of cataract surgery in a private eye hospital.

Study design: Descriptive cross-sectional survey.

Study population: Post-operative cataract patients.

Setting: Private eye hospital.

Sample size: 128 post-operative cataract patients.

Sampling technique: Non-probability purposive sampling, All patients selected were of age 20+, Patients were selected irrespective of sex, education status. Patients who were suffering from any chronic illness/disease were excluded.

Data collection procedure: Literature review on the post-operative complications of cataract surgery, A Pre-tested questionnaire was used as data collection tool.

Data analysis: Collected data was entered into a statistical software IBM SPSS.

Descriptive Statistics - frequency, percentage, mean, standard deviation were calculated.

Results: Frequency of complications within 48 hours of cataract surgery was found to be 23 out of 128 (18%). The most frequent complication was corneal edema 13 (10.1%), the second most frequent complication was striate keratopathy 7 (5.46%) two cases were having mild to moderate inflammation (2.56%) and only one case was having leaking wound (0.78%).

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INTRODUCTION:

Cataract is clouding of the lens of the eye or its capsule that can impair vision. Cataracts are the most common cause of vision loss in people over age 40 and are the principal cause of blindness in the world. In fact, there are more cases of cataracts worldwide than there are of glaucoma, macular degeneration and diabetic retinopathy combined, according to Prevent Blindness America (PBA). **A sub capsular cataract** occurs at the back of the lens. People with diabetes or those taking high doses of steroid medications have a greater risk of developing a subcapsular cataract. **A nuclear cataract** forms deep in the central zone (nucleus) of the lens. Nuclear cataracts usually are associated with aging. **A cortical cataract** is characterized by white, wedge-like opacities that start in the periphery of the lens and work their way to the center in a spoke-like fashion. This type of cataract occurs in the lens cortex, which is the part of the lens that surrounds the central nucleus.

Punctate or blue-dot cataract It is the most common variety. Multiple small, opaque, scattered dots are seen. It does not interfere with vision usually.

Zonular cataract It is bilateral with strong dominant hereditary tendency. Malnutrition and lack of vitamin D may cause zonular cataract along with erosion of permanent incisors and canines. It is the most common congenital cataract.

An area around embryonic nucleus becomes opacified and two rings of opacity are seen. The opacity is sharply demarked and the area of the lens within and around the opacity is clear. Linear opacities or riders may run towards the equator.

3) Coronary cataract It commonly occurs at puberty. It is situated in the deep layers of cortex and superficial layers of nucleus. There are multiple club-shaped opacities near the periphery of the lens usually hidden by the iris.

4) Anterior capsular cataract It is due to the delayed formation of the anterior chamber. It may occur following perforation of a corneal ulcer in ophthalmia neonatorum cases. It may project forwards into the anterior chamber like a pyramid (anterior pyramidal cataract). The underlying cortex may become opaque (anterior cortical cataract) occasionally.

5) Posterior capsular cataract It is often due to persistence of posterior part of vascular sheath. Persistence of hyaloid artery may eventually result in total cataract.

Morphological Types

i. Cuneiform cataract

ii. Cupuliform cataract

The lens inside the eye works much like a camera lens, focusing light onto the retina for clear vision. It also adjusts the eye's focus, letting us see things clearly both up close and far away. The lens is mostly made of water and protein. The protein is arranged in a precise way that keeps the lens clear and lets light pass through it. But as we age, some of the protein may clump together and start to cloud a small area of the lens. This is a cataract, and over time, it may grow larger and cloud more of the lens, making it harder to see. No one knows for sure why the eye's lens changes as we age, forming cataracts.

Literature review**The early complications of contract surgery: is routine review of patients 1-week after cataract extraction necessary:**

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OBJECTIVE: This study sought to define the nature and frequency of complications present 1 week after cataract surgery, to determine whether these complications are predictable, and to ascertain if patients undergoing cataract surgery require routine review at this time.

DESIGN: Retrospective, noncomparative case series.

PARTICIPANTS: One thousand consecutive patients undergoing cataract removal by either phacoemulsification or extracapsular extraction at a large teaching hospital between January 1996 and May 1998. Patients with both complicated and uncomplicated histories and surgeries were included.

MAIN OUTCOME MEASURES: Nature and frequency of complications present 1 week after cataract surgery.

RESULTS: At the routine 1-week visit, postoperative complications were observed in 41 of 1000 patients (4.1%). Twenty-one (51%) of these patients had a completely unremarkable history to that point, and whereas only four (19%) were symptomatic, 20 (95%) required a change to their postoperative management. The most significant unexpected complications were uveitis (seven cases), cystoid macular edema (four cases), and vitreous to the wound, exposed knots, and loose suture (one case of each). Complications were present in 20 of 257 (7.8%) patients with a preoperative or surgical risk factor, and there was a significant relationship between preoperative ($P = 0.02$) and combined preoperative an intraoperative risk factors ($P = 0.001$), and complications present at the 1-week review. The relationship between surgical risk factors

and 1-week complications was not significant ($P = 0.07$). There were coexistent pathologic features in 19% of all eyes. Registrars performed 38% of surgeries, and 96% of contracts were removed by phacoemulsification. Operative complications occurred in 6.7% of patients, most commonly a posterior capsule tear (4.4% of all cases).

METHODOLOGY:

STUDY DESIGN: Descriptive cross-sectional survey

STUDY POPULATION: Post-operative cataract patients

SETTING: Private eye hospital

Duration of Study: 09 months (January – 2014 to September - 2014)

Sample Size: 128 patients

Males -----71-----55.5%

Females-----57-----44.5%

Sampling Technique:

Non-probability purposive sampling

Sample Selection:

Inclusion Criteria:

All patients selected were of age 20+

Patients were selected irrespective of sex, education status,

Exclusion Criteria:

Patients who were suffering from any chronic illness/disease

Data collection procedure:

Literature review on the post-operative complications of cataract surgery.

A pre-tested questionnaire was used as data collection tool

Observations were applied to methodology

Data Analysis:

Collected data was entered into a statistical software IBM SPSS

Descriptive statistics – frequency, percentage, mean, standard deviation

RESULTS:

Sample size.....128

Males.....71 (55.5%)

Females.....57 (44.5%)

- ❖ A total of 140 patients were to be followed but only 128 were included in study while the follow up data of 12 were not available

- ❖ 4.1 Descriptive results:

- ❖ All the patients selected for the sample were above 20 years of age. Number of patients between age 21-40 were 19 (14.8%), from 41-60 years of age were 67(52.3%), those between 61-80 were 38(29.7%) and those above 80 were only 4(3.1%). Table 4.2.1, Fig 4.2.1

- ❖ 71 (55.5%) of participants were males and 57 (44.5%) were females. Table 4.2.2, Fig 4.2.2
- ❖ 117 (91.4%) were married, 8 (6.3%) were single, 1 (0.8%) divorced, 2 (1.6%) separated. Table 4.2.3, Fig 4.2.3
- ❖ All the participants were Muslims.
- ❖ 93 (72.7%) patients were non-diabetic, 35 (27.3%) were non-diabetic. Table 4.2.4, Fig 4.2.4
- ❖ Pre-operative distant visual acuity in the right eye were 6/6- 6/12 in 20 (15.6%) patients, 6/18- 6/36 in 40 (31.3%), 6/60- 3/60 in 17 (13.3%), <3/60- HM in 31 (24.2%), PL in 18 (14.1%), NPL in only 2 (1.6%) of patients. Table 4.2.5, Fig 4.2.5
- ❖ Pre-operative distant visual acuity in the left eye were 6/6- 6/12 in 21 (16.4%), 6/18- 6/36 in 39 (30.5%), 6/60- 3/60 in 21 (16.4%), <3/60- HM in 37 (28.9%), PL in 10 (7.8) of patients. Table 4.2.6, Fig 4.2.6
- ❖ Pre-operative near visual acuity in the right eye were N6- N12 in 39 (30.5%), N14- N18 in 64 (50%), <N18 in 25 (19.5%) of patients. Table 4.2.7, Fig 4.2.7
- ❖ Pre-operative near visual acuity in the left eye were N6-N12 in 38 (29.7%), N14-N18 in 65 (50.58%), <N18 in 25 (19.5%) of patients. Table 4.2.8, Fig 4.2.8
- ❖ 94 (73.4%) of patients were diagnosed by consultants and 34 (26.6%) of patients were diagnosed by resident medical officers. Table 4.2.9, Fig 4.2.9
- ❖ 118 (92.2%) of patients were operated by consultants and 10 (7.8%) were operated by resident medical officers. Table 4.2.10, Fig 4.2.10
- ❖ 96 (75%) of patients were having no post-operative complication within 24 hours of surgery, 23 (18%) of patients were having post-operative complications data of 9 (7%) patients were not available. Table 4.2.11, Fig 4.2.11
- ❖ Corneal edema in 13 (56.5%), striate keratopathy in 7 (30.4%), moderate inflammation in 2 (8.6%), leaking wound were present in 1 (4.3%) of all complicated patients. Table 4.2.12, Fig 4.2.12
- ❖ Frequency of complications in age group 21-40 were 2 (8.7%), 61-80 were 5 (21.7%). Table 4.2.13, Fig 4.2.13
- ❖ Frequency of complications in male were 15 (65.2%), and females 8 (35.8%). Table 4.2.14, Fig 4.2.14

- ❖ 22 (95.7%) of complicated cases were non-diabetic, only 1 (4.3%) were diabetic. Table 4.2.15, Fig 4.2.15
- ❖ Pre-operative distant visual acuity in the right eye of the complicated patients were as follow:
- ❖ 6/6-6/12 in 3 (13%) patients, 6/18- 6/36 in 7 (30%), 6/60- 3/60 in 6 (26.1%), <3/60- HM in 6 (26.1%), NPL in only 1 (4.3%) of patients. Table 4.2.16, Fig 4.2.16
- ❖ Pre-operative distant visual acuity in the left eye of the complicated patients were as follow:
- ❖ 6/6-6/12 in 4 (17.4%), 6/18- 6/36 in 3 (13%), 6/60- 3/60 in 6 (26.1%), <3/60- HM in 9 (39.1%), PL in 1 (4.3) of patients. Table 4.2.17, Fig 4.2.17
- ❖ Pre-operative near visual acuity in the right eye of the complicated patients were as follow:
- ❖ N6- N12 in 8 (34.8%), N14- N18 in 13 (56.5%), <N18 in 2 (8.7%) of patients. Table 4.2.18, Fig 4.2.18
- ❖ Pre-operative near visual acuity in the left eye of the complicated patients were as follow:
- ❖ N6- N12 in 6 (26.1%), N14- N18 in 13 (56.5%), <N18 in 4 (17.4) of patients. Table 4.2.19, Fig 4.2.19
- ❖ Total number of operations done by RMOs were 10, complications were absorbed in 3 (30%) cases and the total number of surgeries done by consultants were 118, complications were absorbed 20 (16.9%). Table 4.2.10, Fig 4.2.10, Fig 4.2.20, Fig 4.2.21

4.2 Tabulated and Graphical Representation of the results:

Table 4.2.1: Age of the patients

Age	Frequency	Percent	Valid Percent	Cumulative Percent
21 - 40	19	14.8	14.8	14.8
41 - 60	67	52.3	52.3	67.2
Valid 61 - 80	38	29.7	29.7	96.6
> 80	4	3.1	3.1	100
Total	128	100	100	

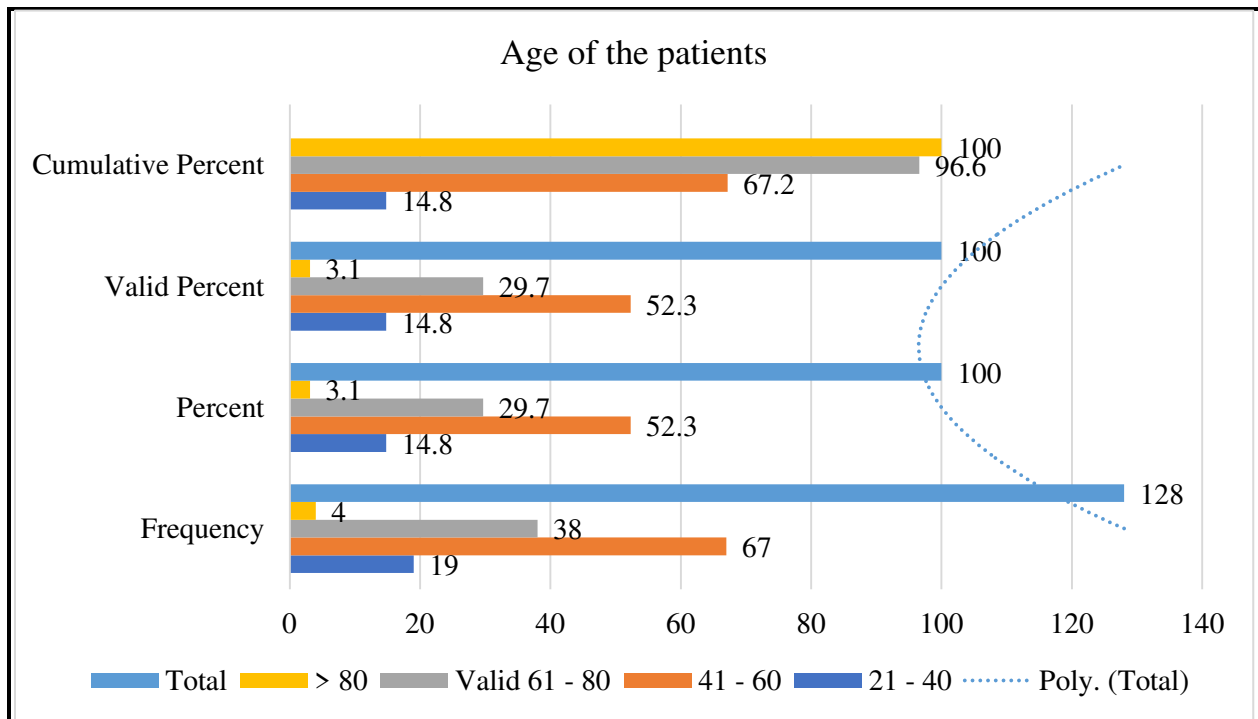


Table 4.2.2: Gender of the patients

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	71	55.5	55.5	55.5
Valid Female	57	44.5	44.5	100
Total	128	100	100	

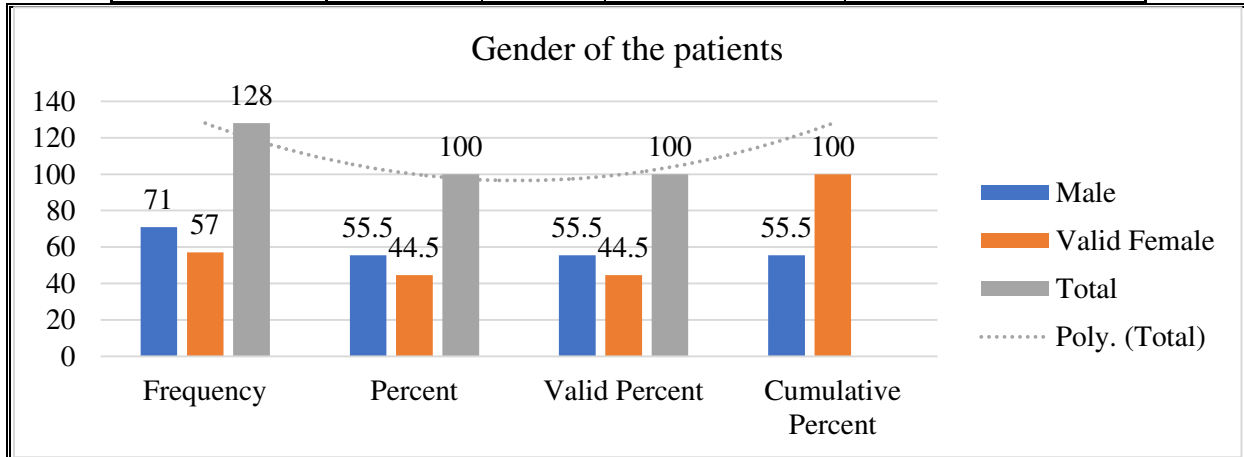


Table 4.2.3: Marital status of the patients

Marital Status	Frequency	Percent	Valid Percent	Cumulative Percent
Single	8	6.3	6.3	6.3
Married	117	91.4	91.4	97.7
Valid Divorced	1	0.8	0.8	98.4
Seperated	2	1.6	1.6	100
Total	128	100	100	

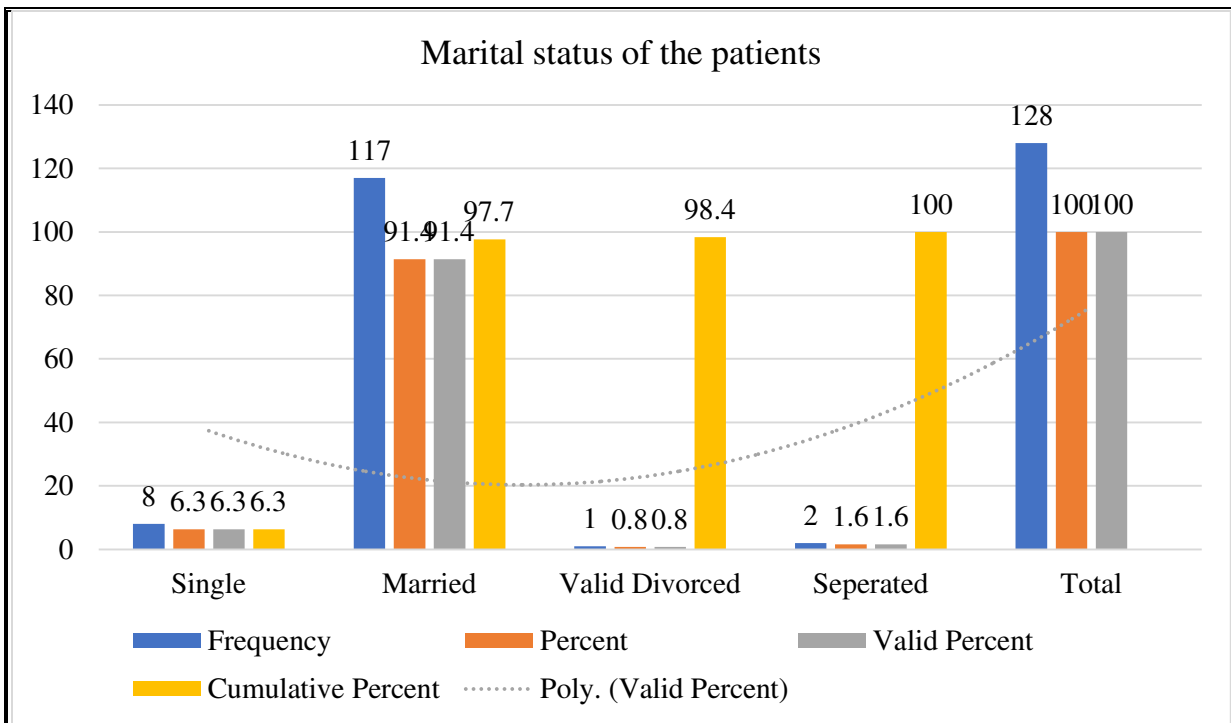
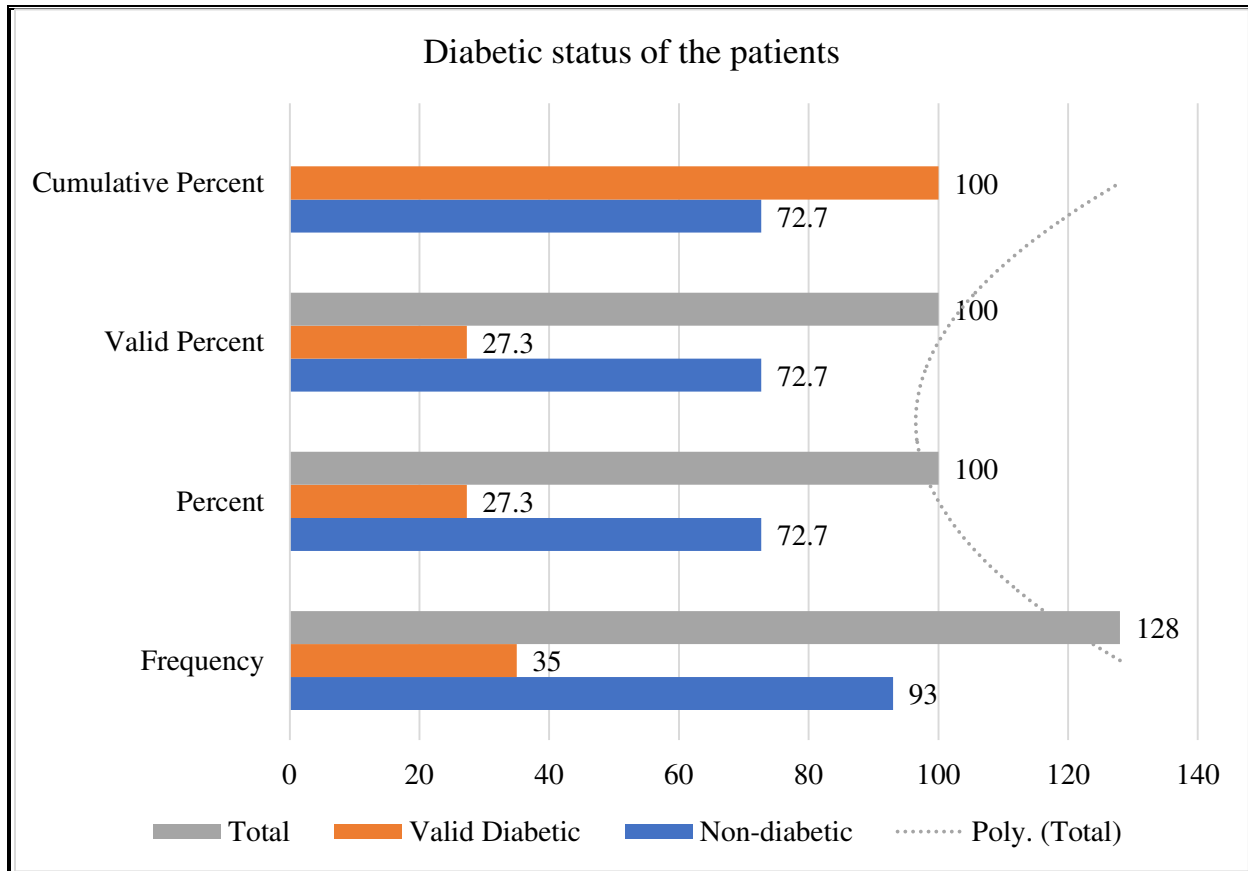


Table 4.2.4: Diabetic status of the patients

Diabetic Status	Frequency	Percent	Valid Percent	Cumulative Percent
Non-diabetic	93	72.7	72.7	72.7
Valid Diabetic	35	27.3	27.3	100
Total	128	100	100	

**Table 4.2.5: Pre-operative distant visual acuity in right eye**

Right Eye	Frequency	Percent	Valid Percent	Cumulative Percent
6/6 - 6/12	20	15.6	15.6	15.6
6/18 / 6/36	40	31.3	31.3	46.9
6/60 / 3/60	17	13.3	13.3	60.2
Valid < 3/60 - HM	31	24.2	24.2	84.4
PL	18	14.1	14.1	98.4
NPL	2	1.6	1.6	100
Total	128	100	100	

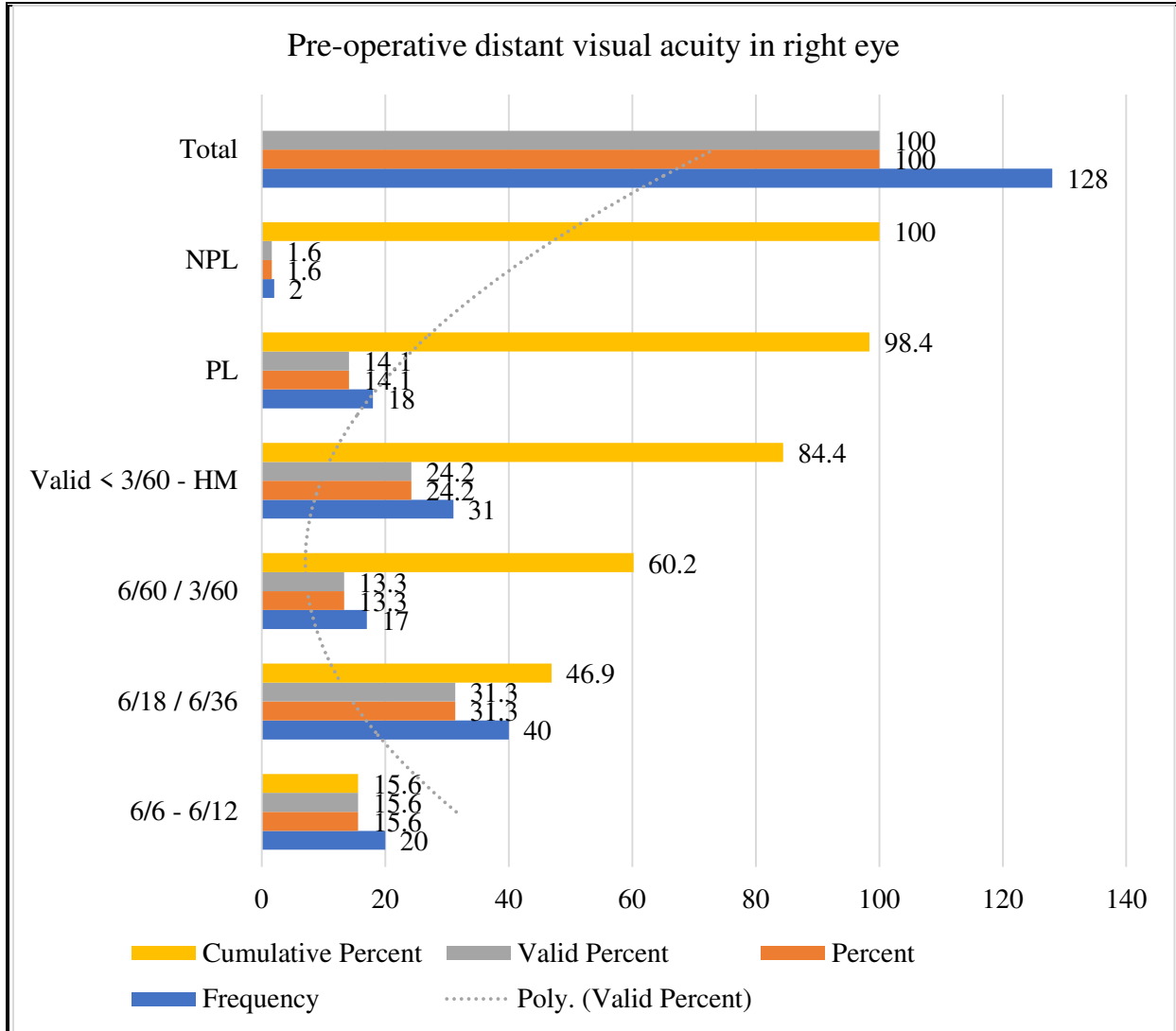
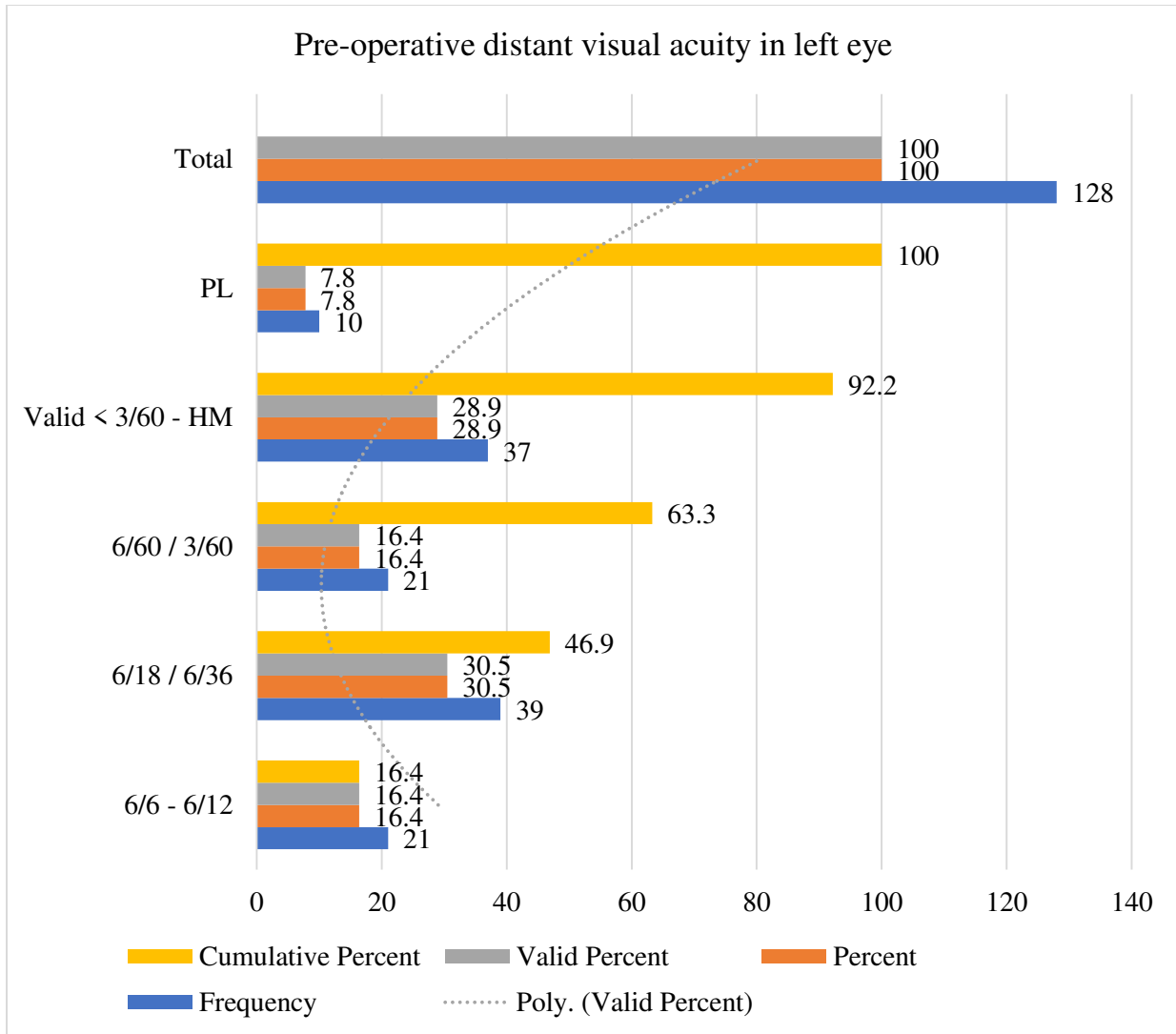


Table 4.2.6: Pre-operative distant visual acuity in left eye

Left Eye	Frequency	Percent	Valid Percent	Cumulative Percent
6/6 - 6/12	21	16.4	16.4	16.4
6/18 / 6/36	39	30.5	30.5	46.9
6/60 / 3/60	21	16.4	16.4	63.3
Valid < 3/60 - HM	37	28.9	28.9	92.2
PL	10	7.8	7.8	100
Total	128	100	100	

**Table 4.2.7: Pre-operative near visual acuity in right eye**

Near Visual	Frequency	Percent	Valid Percent	Cumulative Percent
N6 - N12	39	30.5	30.5	30.5
N14 - N18	64	50	50	80.5
Valid < N18	25	19.5	19.5	100
Total	128	100	100	

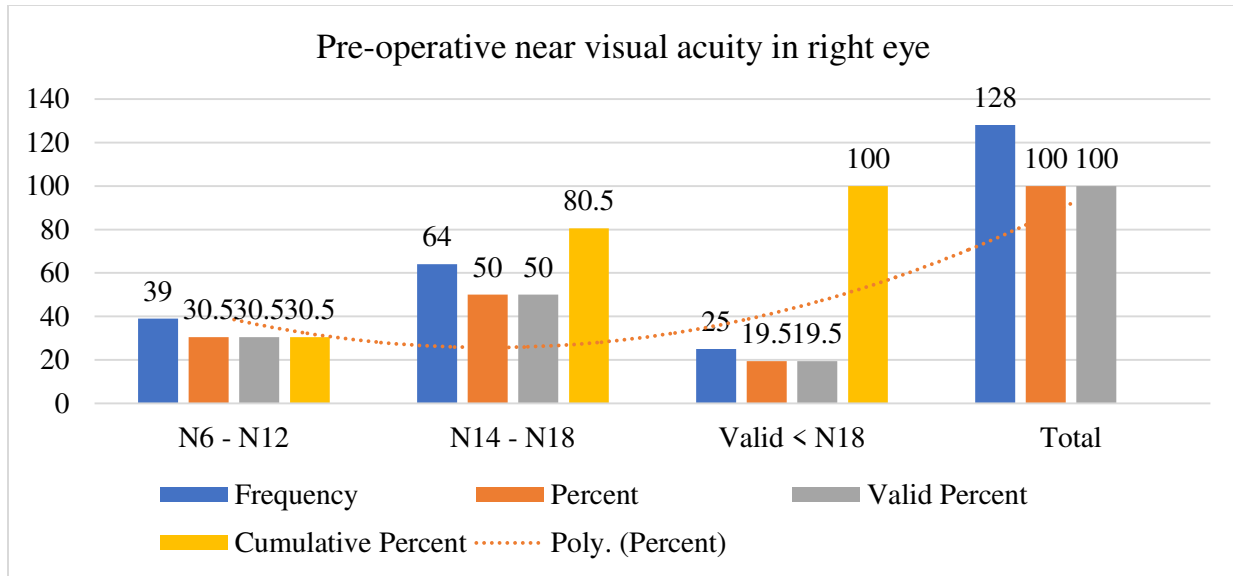


Table 4.2.8: Pre-operative near visual acuity in left eye

Near Visual	Frequency	Percent	Valid Percent	Cumulative Percent
N6 - N12	38	29.7	29.7	29.7
N14 - N18	65	50.8	50.8	80.5
Valid < N18	25	19.5	19.5	100
Total	128	100	100	

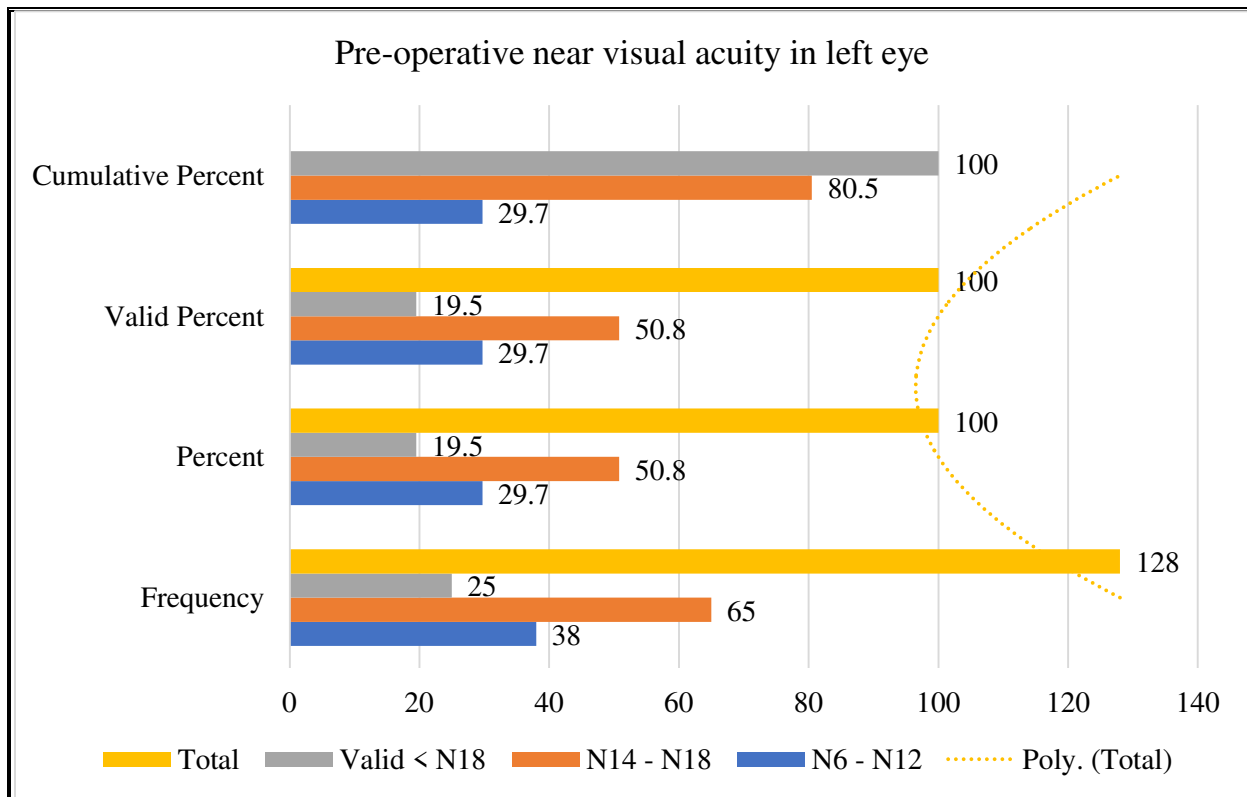


Table 4.2.9: Diagnosis made by

Diagnosed By	Frequency	Percent	Valid Percent	Cumulative Percent
RMO	34	226.6	26.6	26.6
Valid Consultant	94	73.4	73.4	100
Total	128	100	100	

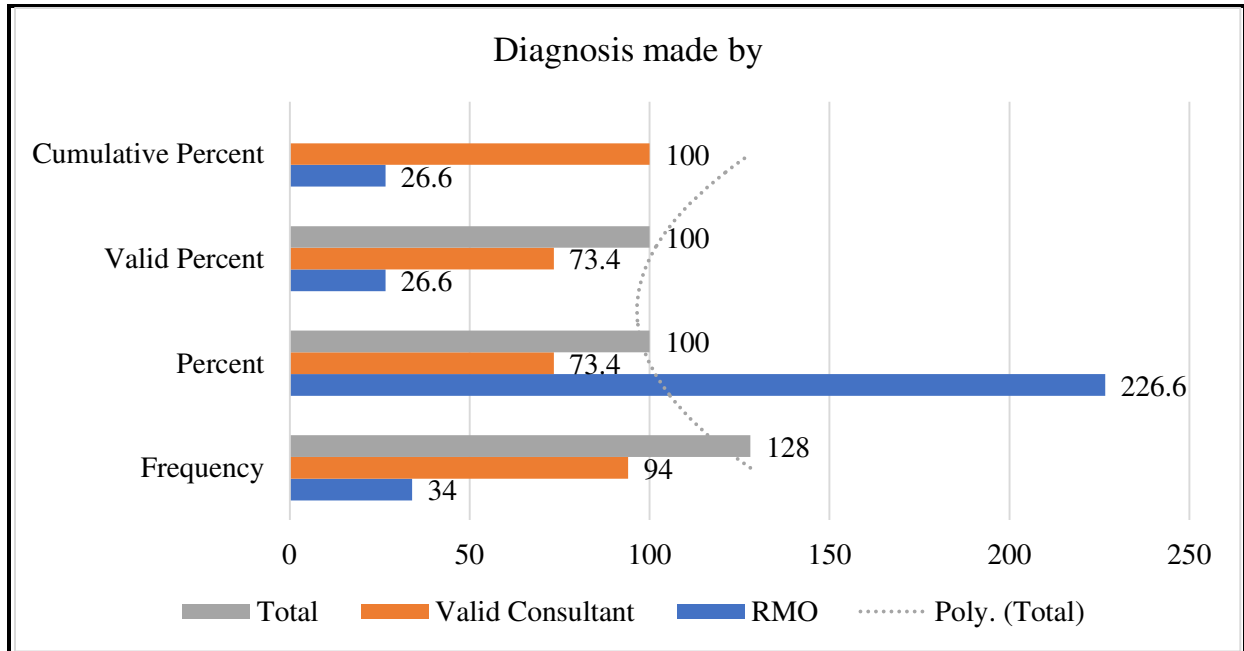


Table 4.2.10: Surgery performed by

Surgery By	Frequency	Percent	Valid Percent	Cumulative Percent
RMO	10	7.8	7.8	7.8
Valid Consultant	118	90.2	92.2	100
Total	128	100	100	

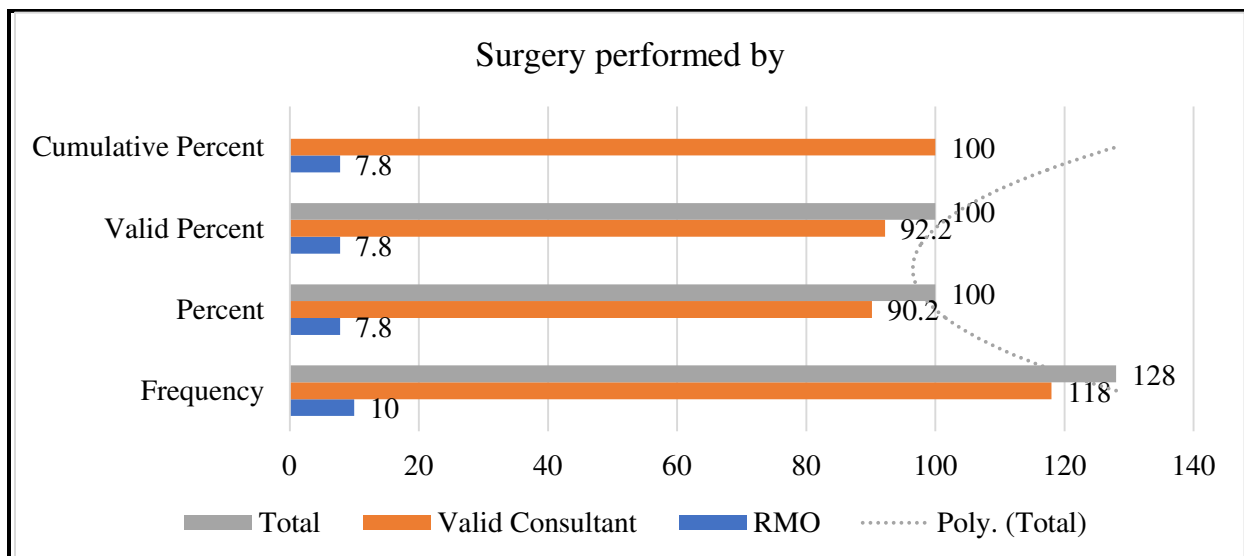


Table 4.2.11: Any post-operative complications

Complications	Frequency	Percent	Valid Percent	Cumulative Percent
No	96	75	75	75
Yes	23	18	18	93
Valid Don't Know	9	7	7	100
Total	128	100	100	

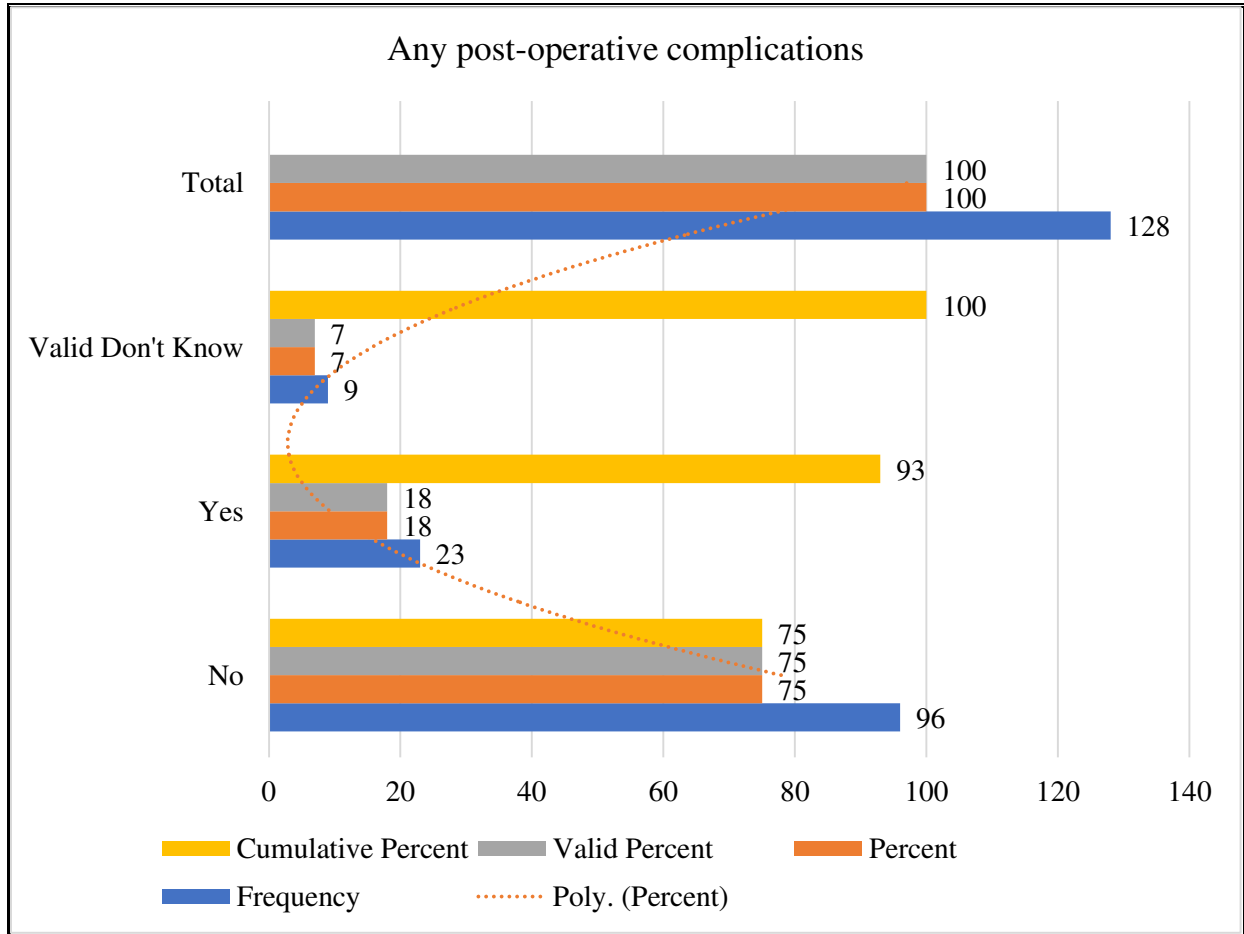


Table 4.2.12: Post-operative complications

Post-Operative Complications	Frequency	Percent
Corneal edema	13	56.5
Striate Keratopathy	7	30.4
Valid Moderate Inflammation	2	8.6
Leaking wound	1	4.3
Total	23	100

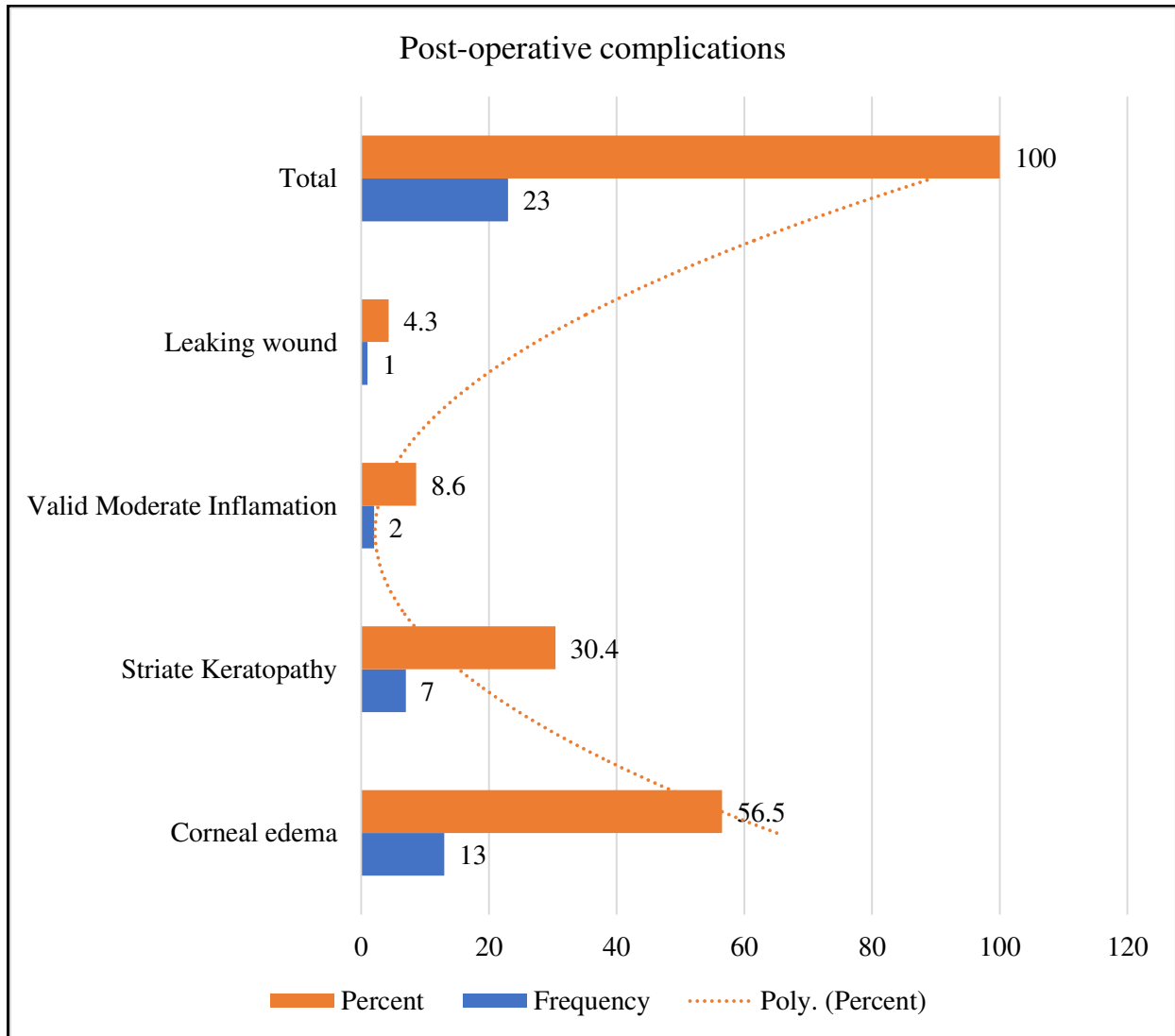


Table 4.2.13: Age of complicated patients

Age	Frequency	Percent	Valid Percent	Cumulative Percent
21 - 40	2	8.7	8.7	8.7
41 - 60	16	69.6	69.6	78.3
Valid 61 - 80	5	21.7	21.7	100
Total	23	100	100	

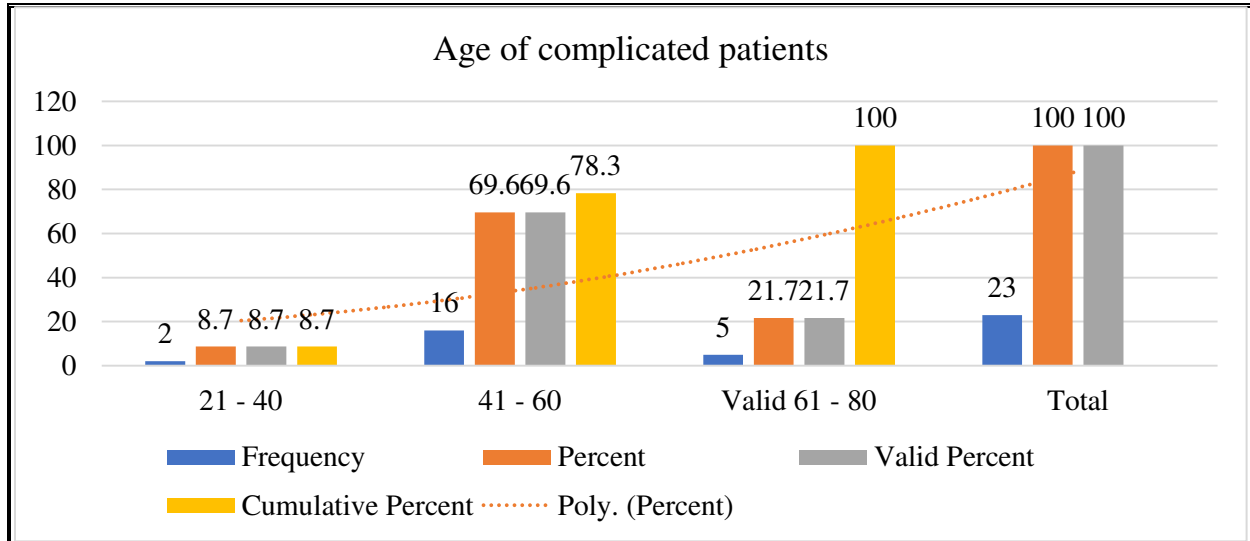


Table 4.2.14: Gender of complicated patients

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	15	65.2	65.2	65.2
Valid Female	8	34.8	34.8	100
Total	23	100	100	

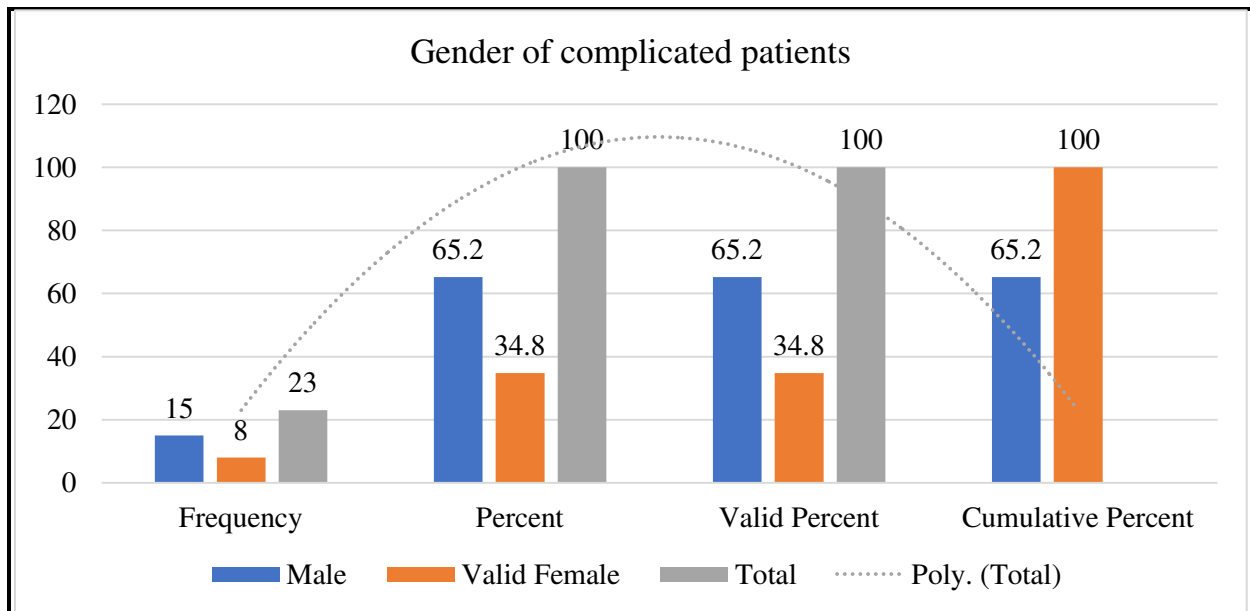


Table 4.2.15: Diabetic status of complicated patients

Diabetic Status	Frequency	Percent	Valid Percent	Cumulative Percent
Non-diabetic	22	95.7	9.7	95.7
Valid Diabetic	1	4.3	4.3	100
Total	23	100	100	

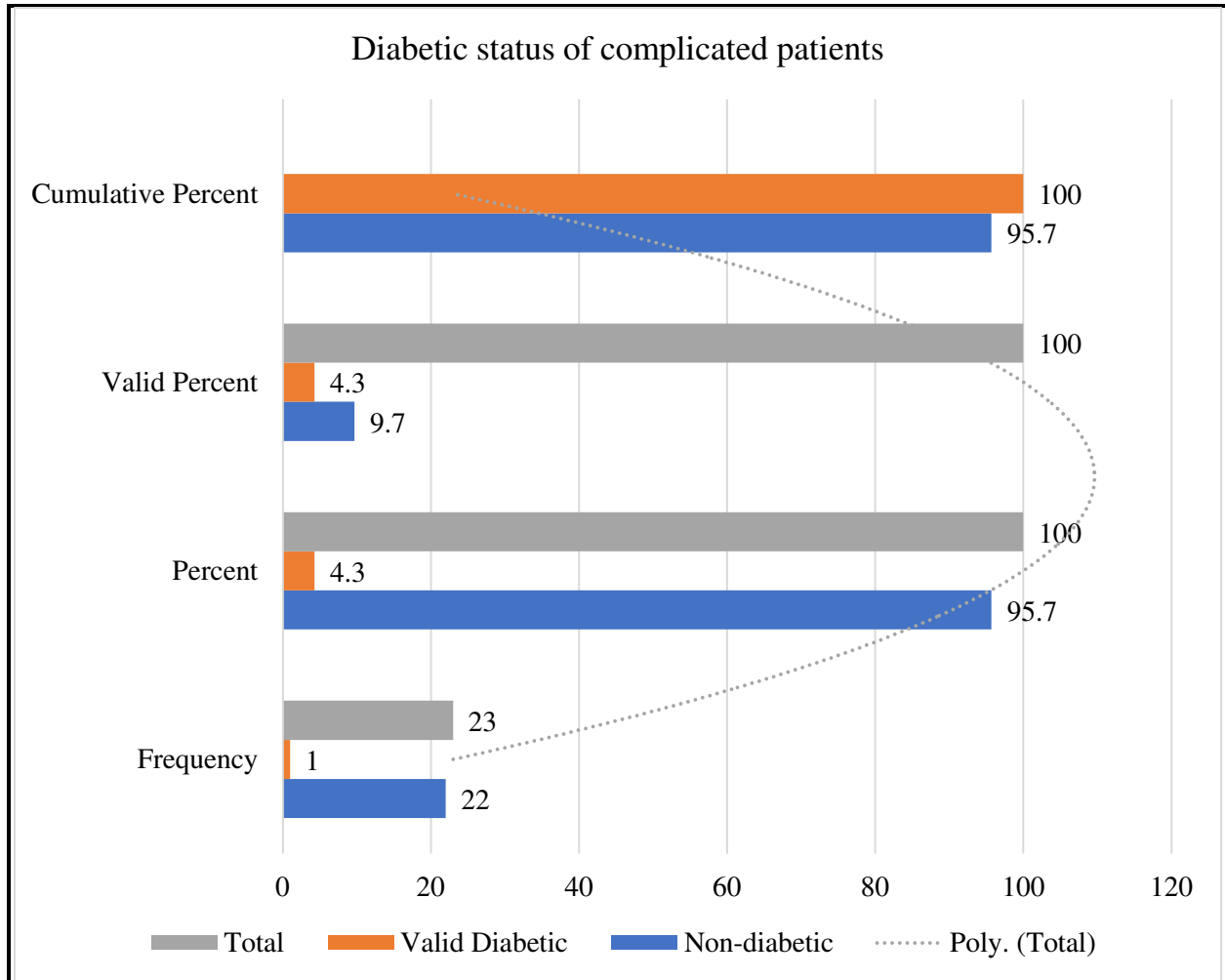


Table 4.2.16: Pre-operative distant visual acuity in right eye of complicated patients

Right Eye	Frequency	Percent	Valid Percent	Cumulative Percent
6/6 - 6/12	3	13	13	13
6/18 / 6/36	7	30.4	30.4	43.5
6/60 / 3/60	6	26.1	26.1	69.6
Valid < 3/60 - HM	6	26.1	26.1	95.7
NPL	1	4.3	4.3	100
Total	23	100	100	

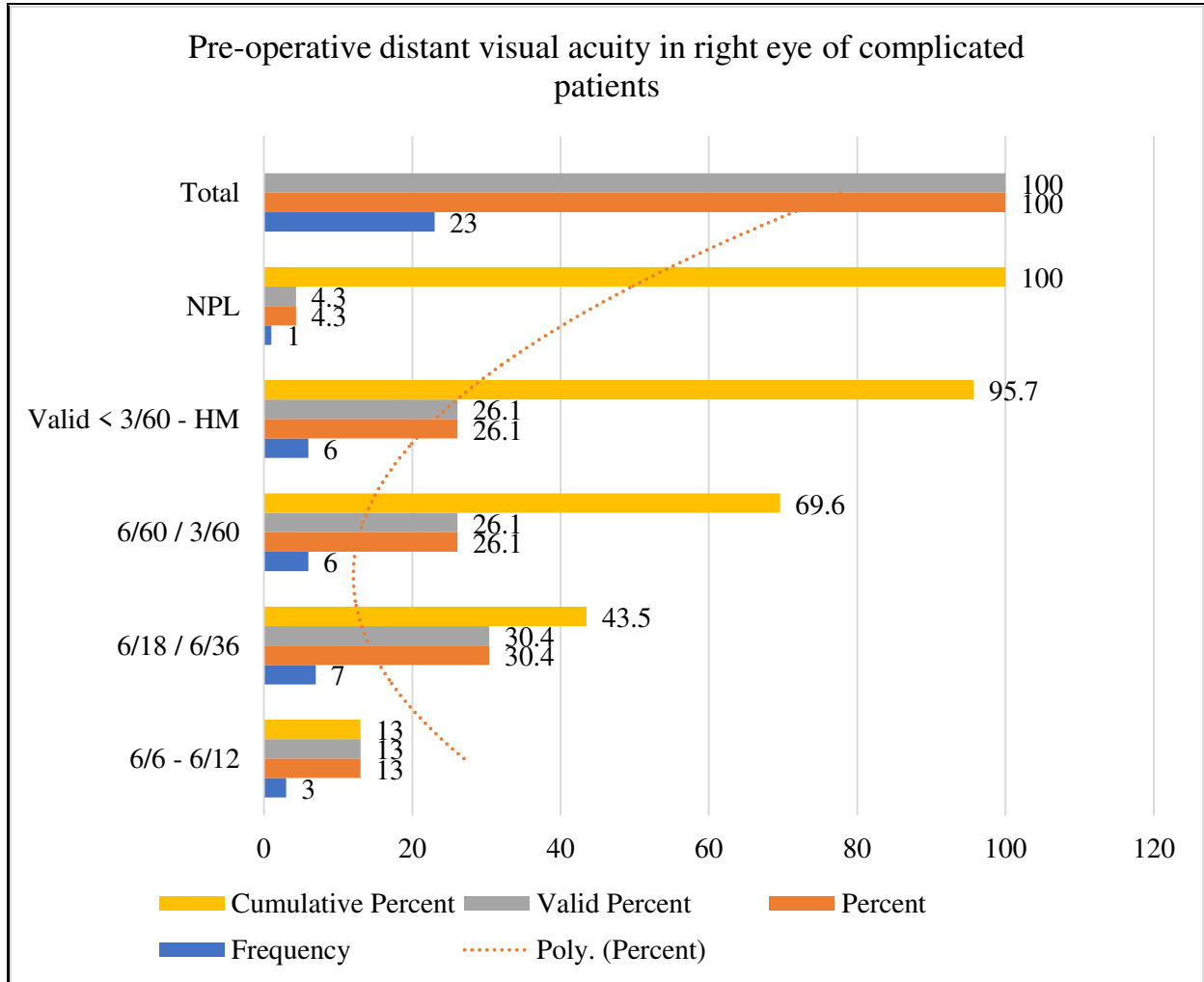


Table 4.2.17: Pre-operative distant visual acuity in left eye of complicated patients

Left Eye	Frequency	Percent	Valid Percent	Cumulative Percent
6/6 - 6/12	4	17.4	17.4	17.4
6/18 / 6/36	3	13	13	30.4
6/60 / 3/60	6	26.1	26.1	56.5
Valid < 3/60 - HM	9	39.1	39.1	95.7
PL	1	4.3	4.3	100
Total	23	100	100	

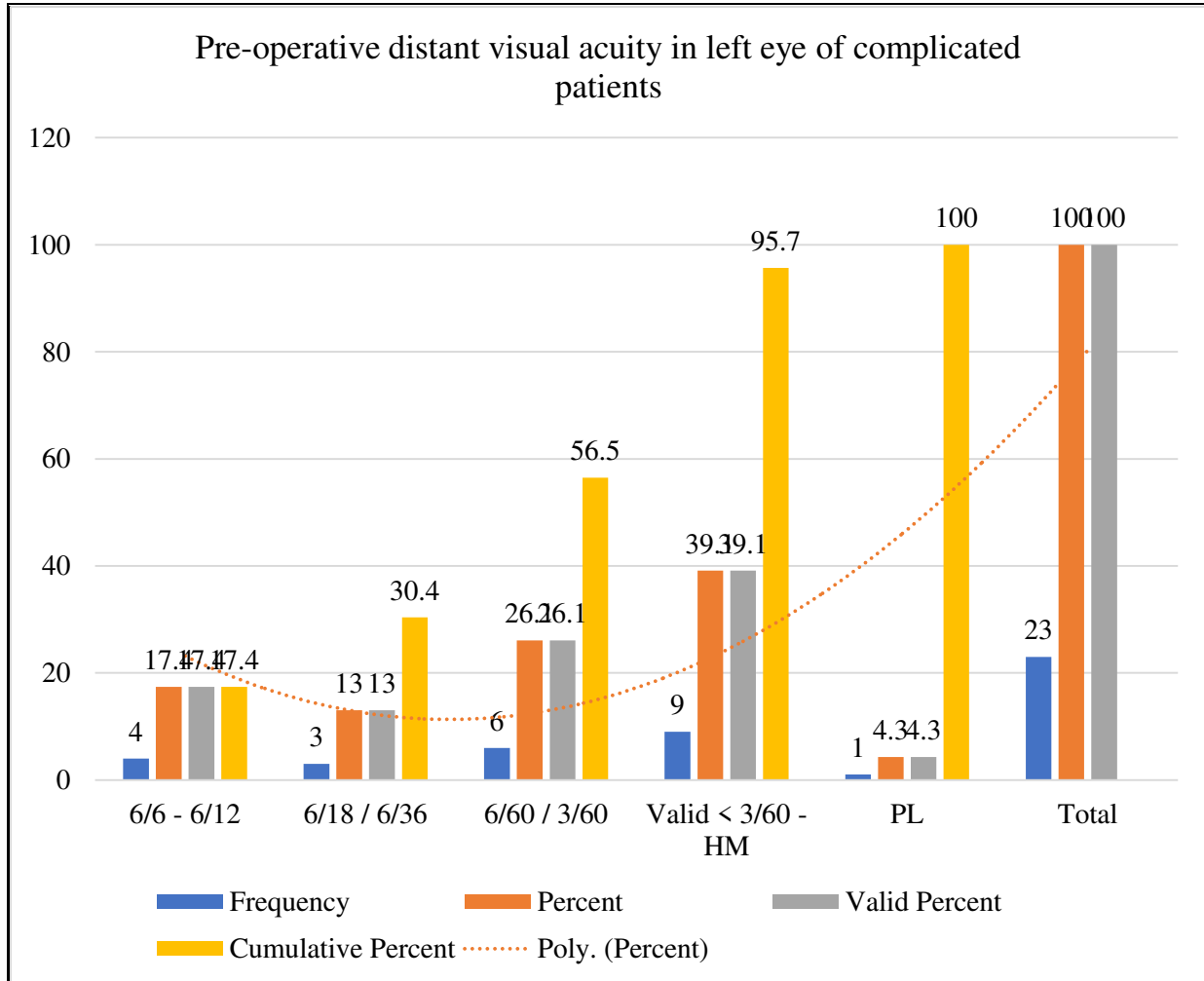


Table 4.2.18: Pre-operative near visual acuity in right eye of complicated patients

Near Visual	Frequency	Percent	Valid Percent	Cumulative Percent
N6 - N12	8	34.8	34.8	34.8
N14 - N18	13	56.5	56.5	91.3
Valid < N18	2	8.7	8.7	100
Total	23	100	100	

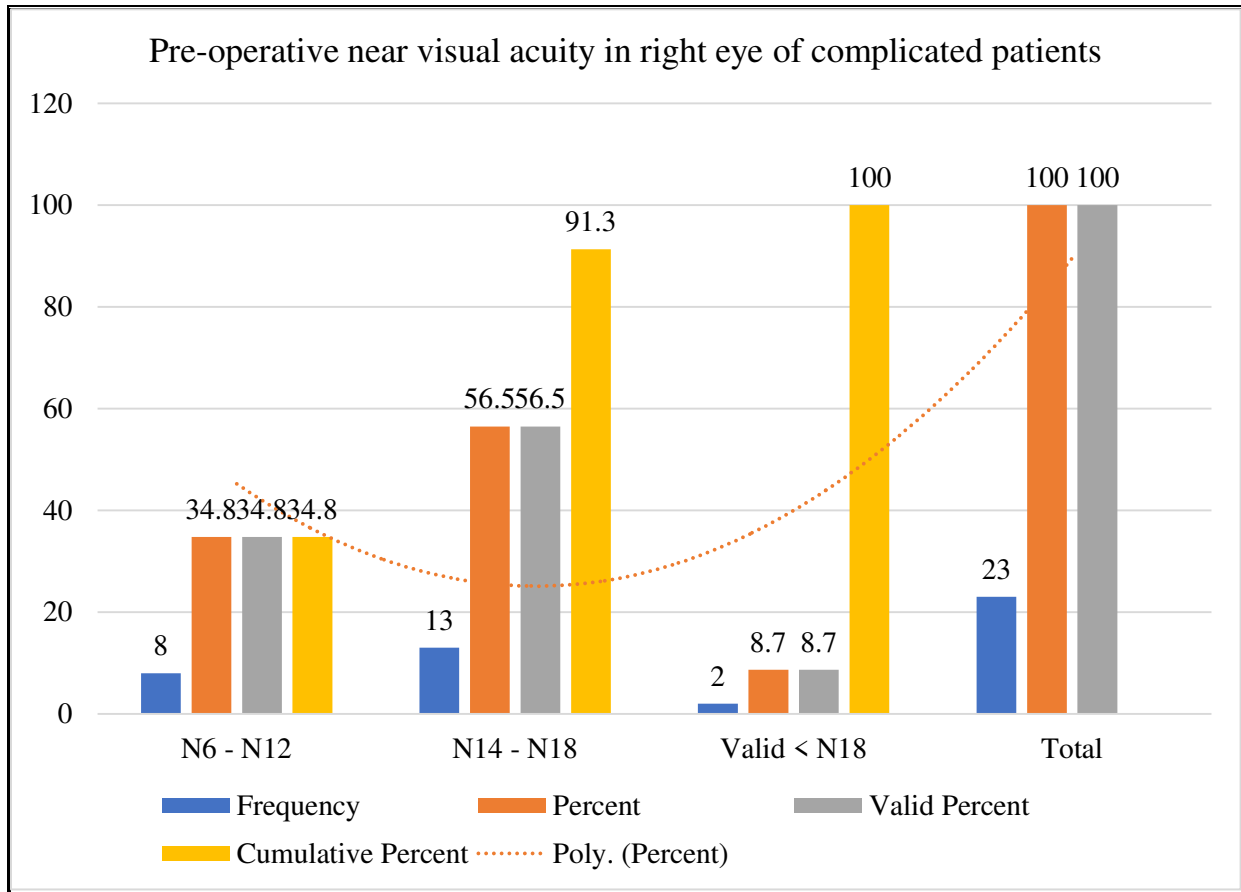
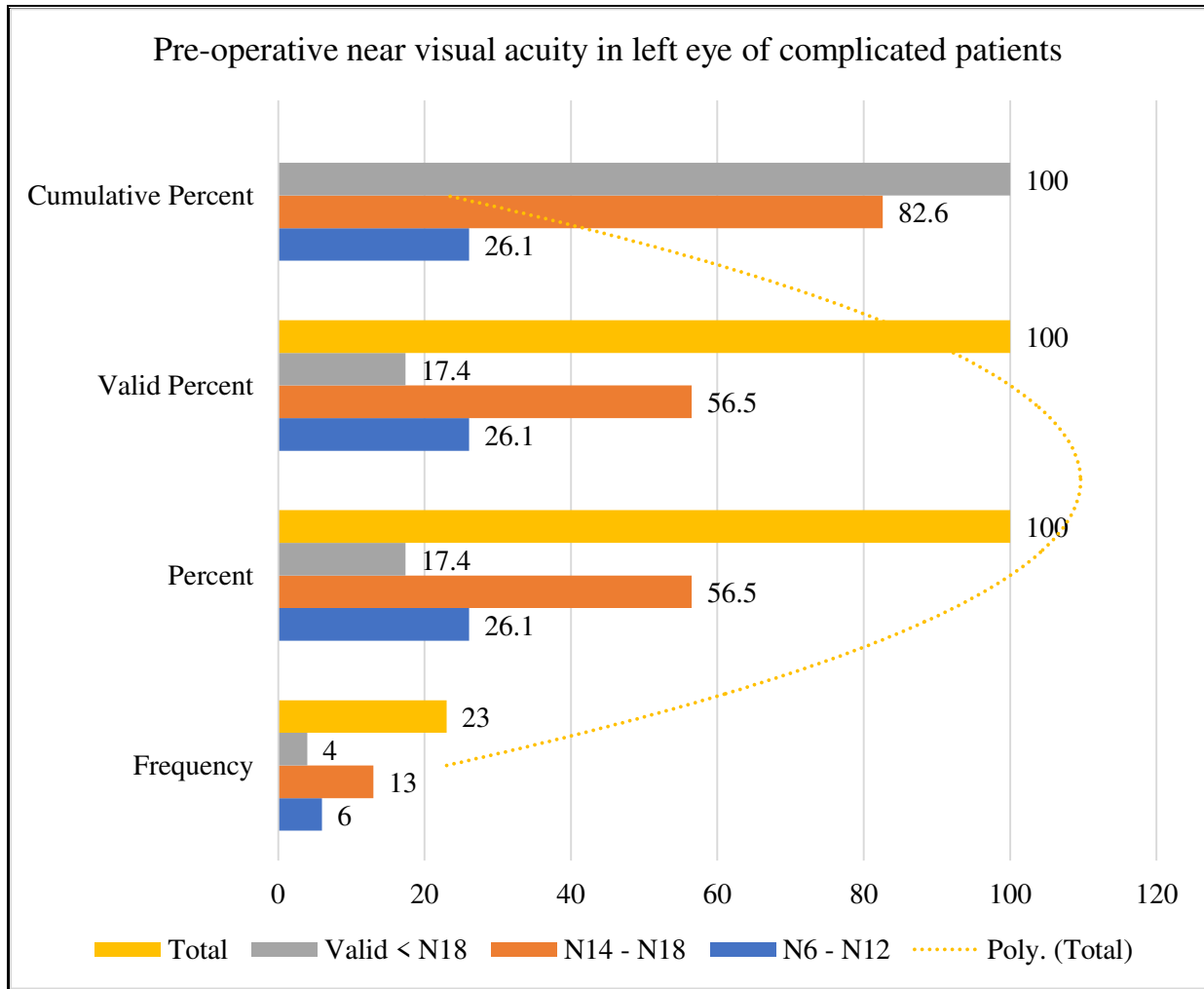


Table 4.2.19: Pre-operative near visual acuity in left eye of complicated patients

Near Visual	Frequency	Percent	Valid Percent	Cumulative Percent
N6 - N12	6	26.1	26.1	26.1
N14 - N18	13	56.5	56.5	82.6
Valid < N18	4	17.4	17.4	100
Total	23	100	100	



5.1 DISCUSSION:

Cataract is most common cause of blindness worldwide. Senile cataract is the most frequent variety which occurs usually above 50 years of age.

Surgery is the treatment of choice for cataract causing problems with vision, it is almost always curative and well tolerated but still it can result in some early and late complications.

Most commonly used techniques nowadays for removal of opaque lens are extra capsular lens extraction, phacoemulsification, a previously used technique intra capsular lens extraction is obsolete nowadays.

This study conducted was a descriptive cross-sectional survey to see the frequency of post-operative complications within 48 hours of surgery in a private eye hospital. A total of 128 post-operative cataract patients were selected in the sample out of which males were 71 (55.5%) and females were 57 (44.5%). The sampling technique used as non-probability purposive sampling including patients above 20 years of age irrespective of sex and educational status those with chronic illness were excluded. Study was conducted between January-2014 to September-2014. Literature review on previous researches in this regard was done, a pre-tested questionnaire was developed as a data collecting tool, and observations were applied to methodology. Data was analyzed by IBM SPSS, Descriptive Statistics – frequency, percentage, mean, standard deviation were calculated.

Out of 128 patient's complications were observed in 23 patients (18%). Corneal edema was the most frequently observed complication which was observed in 13 (10.1%), striate keratopathy in 7 (5.46%), moderate inflammation in 2 (1.56%), leaking wound was present in 1 (0.78%) of all complicated patients.

Total number of complications in age group 21 – 40 were 2 (8.7%), in 41 – 60 were 16 (69.6%), 61 – 80 were 5 (21.7%).

Frequency of complications in male were 15 (65.2%), and females 8 (35.8%).

22 (95.7%) of complicated cases were non-diabetic, only 1 case (4.3%) was diabetic.

5.2 CONCLUSION:

Frequency of complications within 48 hours of cataract surgery was found to be 23 out of 128 (18%). The most frequent complication was corneal edema 13 (10.1%), the second most frequent complication

was striate keratopathy 7 (5.46%) two cases were having mild to moderate inflammation (2.56%) and only one case was having leaking wound (0.78%).

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