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Original article

Clinical profile and types of senile cataract in Bangladesh: A hospital-based study

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Abstract:
Background: Senile cataract is a major cause of visual impairment worldwide. It is critical to understand the clinical profile and distribution of cataract types to develop targeted treatments. The objective of this study was to investigate the clinical profile and types of senile cataract among patients admitted to regional eye hospitals in Bangladesh.
Materials and Methods: A cross-sectional inpatient study was conducted at several regional eye hospitals managed by Al-Basar International Foundation in Bangladesh from March to August 2025. We employed a consecutive sampling resulting in the selection of 1,385 patients with senile cataract. The statistical analysis of collected data included the chi-squared test and multivariate logistic regression.
Results. Cortical cataract (CC) was the predominant type (47.0%), followed by nuclear sclerotic cataract (NSC) (24.2%), and posterior subcapsular cataract (PSC) (12.3%). Mixed cataract occurred in 16.5% of cases. We identified a statistically significant association of cataract types with age, gender, place of residence, education, and occupation ($p<0.001$ for all dependences). PSC (OR=3.62) and NSC+PSC (OR=16.25) were more common in women. Mixed cataract was associated with diabetes (NSC+CC: OR=8.42; NSC+PSC: OR=4.02), while other cataract types were significantly predicted by arthritis. Never smoking was found to provide protection against PSC (OR=0.02), NSC (OR=0.13), and NSC+CC (OR=0.01). The odds ratio for NSC+PSC was 4.15 times higher in rural areas.
Conclusion. The high prevalence of PSC and its close association with gender (women), medical conditions (diabetes), and lifestyle factors (smoking, rural residence) highlight the need to develop preventive measures for patients and screen high-risk groups.

Keywords: Senile cataract, cortical cataract, posterior subcapsular cataract, risk factors, diabetes mellitus, smoking

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Introduction

A cataract is defined as a clouding of the lens in the eye that prevents light from reaching the retina [1]. Although this medical condition can occur at any stage of life due to various causes such as systemic diseases or injuries, age-related cataracts, also known as senile cataracts, are the most common, accounting for 85–90% of all cataract cases [1–4]. Depending on the anatomy of the lens, senile cataracts are divided into three subtypes: nuclear sclerotic (NSC), cortical (CC), and posterior subcapsular cataracts (PSC) [2]. This disease ranks high among the causes of visual impairment worldwide, with 78.8 million people over 50 years of age suffering from this condition worldwide [5]. The causes of senile cataract are numerous and include demographic factors (age, gender, education level), comorbidities (such as diabetes and hypertension) [6,7], and environmental factors (e.g., smoking and sunlight exposure) [3,8,9], which lead to vision loss and, consequently, loss of independence, reduced quality of life and substantial economic burden with a total productivity loss of US$411 billion worldwide [10,11].

The general epidemiology of this condition has been documented, but many questions remain regarding its clinical profile in the unique context of Bangladesh, a country with a low to medium sociodemographic index and a high incidence of this disease [12,13]. Geographic, cultural, and lifestyle differences in this region may lead to variations in its

clinical manifestations that cannot be captured in global statistics. Several studies have examined the clinical features of senile cataract in Bangladesh [14], but these have been conducted in a specific region, and there is a lack of data on a broader geographic scale on the types of senile cataract and its clinical features in patients with this condition in Bangladesh.

This knowledge gap is a critical issue that needs to be addressed for several reasons. First, in Bangladesh, people living in poverty are unable to access cataract treatment due to cost and the lack of a fully funded public health policy, resulting in a reduced quality of life [15]. A thorough understanding of the clinical profile, such as cataract types, as well as demographic and comorbid factors, will enable physicians to develop more effective cataract prevention strategies, thereby reducing the cumulative impact of cataracts and other conditions that reduce quality of life and mitigating the impact of cataracts on an individual's quality of life (e.g., the economic burden caused by vision impairment.

This study conducted a hospital-based survey to determine the clinical profile and types of senile cataract in patients seeking medical care at various regional hospitals in Bangladesh. Our goal was to create a more comprehensive knowledge base to help physicians more effectively manage cataracts and their impact on patients' quality of life.

Materials and Methods

Approval to conduct this study was obtained from the Ethics Committee of Al-Basar International Foundation (ABIF/IRB/2025/005). All participants provided informed consent before their inclusion in the study. This was a cross-sectional study conducted in various districts of Bangladesh, where the Al-Basar International Foundation (ABIF) conducted a series of ophthalmological assessment programs in its hospitals from March through August 2025.

We employed consecutive sampling. The sample population included all individuals who attended ABIF hospitals for evaluation of cataracts or other vision problems. Inclusion criteria were complete information on their clinical and demographic status, and informed consent. Individuals who did not provide complete information on key variables or whose cataract type could not be classified were excluded. The total number of individuals included in the analytical study was 1,385, representing a cross-section of the general population, with a variety of ages, occupations, education, and places of residence.

Data collection was conducted by qualified ophthalmologists and researchers in compliance with a standardized procedure. Structured interviews were performed to collect information on sociodemographic factors (such as age, gender, religion, education, occupation, and place of residence), and medical and lifestyle factors (family history of cataracts, history of chronic diseases, smoking, sun exposure, dietary habits, and a history of vision problems). A qualified ophthalmologist then conducted a standardized examination to collect information on cataract morphology, visual acuity, symptom history, and risk factors.

Data were collected using structured forms, and an electronic form was created for data storage, ensuring double data entry to avoid errors. Descriptive statistics were used to summarize the data, and the relationships between various factors and cataract morphology were assessed using the chi-squared test and regression models, adjusting for confounding factors such as age and gender. Significance was set at $p<0.05$, and data analysis was performed using SPSS version 25.

Results

Table 1 details the distribution of senile cataract types among the 1,385 study participants. CC was the most common type; it was detected in 651 individuals (47.0%). It was followed by NSC at 24.2% (n=335) and PSC at 12.3% (n=171). Mixed morphologies were also observed, with NSC+PSC being the most common combination (9.2%, n=128). NSC+CC and CC+PSC combinations were less common, accounting for 4.7% (n=65) and 2.5% (n=35) of the cohort, respectively. Overall, single-morphology cataract types accounted for 83.5% of cases, while mixed morphologies comprised the remaining 16.5%.

Table 2 demonstrates strong and statistically significant associations of sociodemographic factors with the types of senile cataract among 1,385 participants (for all χ^2 tests, $p<0.001$). Age exhibited a statistically significant association ($\chi^2=191.23$, Cramer's V=0.166) with CC, especially in the age group of 51–70 years; NSC incidence increased with age, while PSC and mixed types of senile cataract were more common in middle age group (41–60 years). Gender was also exhibited significant associations ($\chi^2=52.64$, Cramer's V=0.195), with CC+PSC more common in men and NSC+PSC more common in women. Religion demonstrated the strongest association ($\chi^2=202.75$, Cramer's V=0.383), with PSC being more common among non-Muslims and CC/NSC among Muslims. Education also had a significant effect ($\chi^2=186.76$, Cramer's V=0.164), with higher levels of education associated with CC/NSC and lower levels with PSC and mixed types. Occupation ($\chi^2=314.68$, Cramer's V=0.238) and place of residence ($\chi^2=35.04$, Cramer's V=0.159) also showed significant associations.

Table 3 presents statistically significant associations between clinical/lifestyle factors and types of senile cataract among 1,385 participants (all $p<0.001$). Family history was significantly associated ($\chi^2=112.38$, Cramer's coefficient V=0.201) with PSC being more common in individuals with a positive family history, while CC predominated in the remaining cases. Chronic diseases ($\chi^2=221.08$, V=0.179) showed an association of diabetes and hypertension with CC and NSC, while PSC was more common in association with asthma and preexisting eye diseases. Smoking ($\chi^2=95.45$, V=0.186) was strongly associated with PSC among current smokers. Sunlight exposure without ultraviolet (UV) protection ($\chi^2=41.84$, V=0.174) increased the frequency of NSC and mixed types. The duration of visual impairment ($\chi^2=158.60$, V=0.239) indicated a recent onset of PSC and a longer duration of CC/NSC. The strongest association was found with visual symptoms ($\chi^2=422.92$, V=0.247), particularly with poor night vision in PSC. Diet and supplement intake had a significant effect (V up to 0.289), with poor nutrition associated with a higher prevalence of PSC.

Table 1. Distribution of senile cataract types among study participants (N=1,385)

Type of senile cataract	Frequency (n)	Percentage (%)
Cortical cataract (CC)	651	47.0
Nuclear sclerotic cataract (NSC)	335	24.2
Posterior subcapsular cataract (PSC)	171	12.3
NSC+PSC	128	9.2
NSC+CC	65	4.7
CC+PSC	35	2.5

Table 4 presents the results of multivariate logistic regression, determining factors associated with senile cataract types, using CC as the reference. Women had a significantly higher odds of developing PSC (OR=3.62, 95% CI: 1.90–6.89) and a noticeably higher odds of developing NSC+PSC (OR=16.25, 95% CI: 2.67–98.98). Never-smokers had a significantly lower odds of developing PSC (OR=0.02, 95% CI: 0.01–0.05), implying a strong protective effect. Rural residence (OR=4.15, 95% CI: 1.29–13.35) and diabetes (OR=4.02, 95% CI: 1.15–14.05) increased the odds of developing NSC+PSC. Arthritis was a strong predictor for developing NSC (OR=3.60), CC+PSC (OR=4.12), and PSC. Diabetes reduced the risk of developing NSC (OR=0.40), but increased the risk of developing mixed types, especially NSC+CC (OR=8.42).

Discussion

This study, conducted in Bangladesh hospitals on 1,385 patients, provides a detailed clinical understanding of senile cataract. The predominant cataract morphology was CC, followed by NSC and PSC; mixed forms constitute a noteworthy minority. The distribution is generally consistent with the published worldwide data, viz., CC typically accounts for approximately 70% of age-related cataract cases [16]. However, the observed proportion of PSC in this study significantly exceeded the 5% typically reported internationally [16]. This finding suggests that population factors operate in Bangladesh.

The prevalence of CC among this cohort likely reflects its multifactorial pathogenesis, as this subtype has a strong association with environmental exposure, particularly UV radiation and oxidative stress [3,8]. Bangladesh's tropical geography, characterized by high levels of solar radiation throughout the year, may contribute to the increased burden of CC. This is further supported by a strong correlation between unprotected sunlight exposure and cataract morphology: mixed cataracts and NSC were more common among individuals without adequate protection.

It was established that age is an important factor determining cataract morphology, with nuclear sclerosis showing a progressive increase with age. This is consistent with the understanding that age-related aggregation of lens proteins primarily manifests as nuclear opacities [1]. Interestingly, PSC and mixed cataracts are more common in middle-aged groups (41–60 years), suggesting that systemic comorbidities in conjunction with lifestyle factors may accelerate cataract development in relatively young individuals. This is clinically important, because these cataract morphologies tend to lead to earlier vision loss and should be promptly recognized and treated.

Marked gender differences in the distribution of cataract types were observed, with mixed and PSC morphologies more common in women, as revealed by regression analysis, indicating that female gender statistically significantly increases the likelihood of these phenotypes. This discrepancy may be due to postmenopausal hormonal changes affecting lens metabolism, the longer life expectancy in women, and differences in health-seeking behavior [1]. Studies reporting prevalence of cataracts in women are consistent with these observations; therefore, gender-specific eye care strategies are needed.

Residence emerged as an important factor, as rural residents had higher rates of NSC and PSC than urban residents. Rural residence was statistically significantly associated with an increased likelihood of mixed cataracts. This finding supports previous studies showing that rural populations in developing countries face more barriers to eye care, delayed presentation, and higher exposure to environmental risk factors such as agricultural chemicals and no sunlight protection [5,17]. The higher prevalence of PSC among rural residents may also reflect delayed presentation to medical care, since this morphology causes early cerebral visual impairment that manifests itself only when functional decline becomes severe.

Systemic comorbidities were strongly associated with specific cataract phenotypes, highlighting the interplay between ocular health and systemic health. Diabetes mellitus was a significant prognostic factor, associated with a reduced likelihood of developing pure nuclear sclerosis, albeit a significantly increased likelihood of developing mixed cataracts. This pattern is consistent with studies documenting accelerated cataract development in patients with diabetes due to osmotic stress, oxidative damage, and the formation of advanced glycation end-products [8]. A new finding was a strong association between arthritis and various types of cataracts, including NSC and mixed cataracts. Although this association is less well studied (according to available publications), its potential mechanisms include chronic systemic inflammation (e.g., arthritis) and, importantly, corticosteroid use. The latter is a known risk factor for PSC [2]. Similarly, the observed association between asthma and PSC may also reflect corticosteroid exposure.

Smoking status had one of the strongest associations with cataract type. Current smokers had a significantly higher prevalence of PSC. Never smoking was a strong protector across several types of cataracts. Previous studies linking smoking to cataract development through oxidative damage, cadmium accumulation in the lens, and depletion of antioxidant defenses support these findings [3,8]. This emphasizes that smoking cessation is a manageable goal for cataract prevention.

Dietary habits revealed major associations with cataract types: maintaining a balanced diet had the strongest effect. People with poor dietary habits had disproportionately higher rates of PSC, while those consuming a balanced diet on a daily basis were associated with a more advantageous distribution of cataract type proportions. This finding supports research highlighting how antioxidant vitamins, carotenoids, and adequate protein intake help maintain lens health and slow down opacification [9].

The significant proportion of mixed-morphology cataracts in this cohort highlights the inherent complexity of age-related lens changes and the limitations of simplified classification systems. Mixed-morphology cataracts may result from advanced disease or the convergence of multiple pathogenetic mechanisms. The identified risk factor profiles showed particularly strong associations with female gender, rural residence, and diabetes, suggesting that mixed-

morphology cataracts may represent a clinically significant subgroup with specific etiologies.

Table 2. The relationship between sociodemographic profile and types of senile cataract among study participants (N=1,385)

Factor	Category	Senile cataract type						Total	χ^2	df	p	Cramer's V
		CC	CC+PSC	NSC	NSC+CC	NSC+PSC	PSC					
Age (years)	31–40	23 (47.9%)	2 (4.2%)	9 (18.8%)	0 (0%)	14 (29.2%)	0 (0%)	48	191.23	25	<.001	.166
	41–50	78 (34.7%)	9 (4.0%)	47 (20.9%)	30 (13.3%)	30 (13.3%)	31 (13.8%)	225				
	51–60	244 (47.1%)	0 (0%)	115 (22.2%)	35 (6.8%)	54 (10.4%)	70 (13.5%)	518				
	61–70	205 (47.1%)	24 (5.5%)	129 (29.7%)	0 (0%)	15 (3.4%)	62 (14.3%)	435				
	71–80	93 (64.1%)	0 (0%)	29 (20.0%)	0 (0%)	15 (10.3%)	8 (5.5%)	145				
	≥81	8 (57.1%)	0 (0%)	6 (42.9%)	0 (0%)	0 (0%)	0 (0%)	14				
Gender	Female	367 (46.6%)	2 (0.3%)	182 (23.1%)	43 (5.5%)	92 (11.7%)	101 (12.8%)	787	52.64	5	<.001	.195
	Male	284 (47.5%)	33 (5.5%)	153 (25.6%)	22 (3.7%)	36 (6.0%)	70 (11.7%)	598				
Religion	Muslim	598 (48.6%)	33 (2.7%)	327 (26.6%)	51 (4.1%)	121 (9.8%)	100 (8.1%)	1,230	202.75	5	<.001	.383
	Non-Muslim	53 (34.2%)	2 (1.3%)	8 (5.2%)	14 (9.0%)	7 (4.5%)	71 (45.8%)	155				
Education	Graduate	66 (63.5%)	0 (0%)	14 (13.5%)	15 (14.4%)	0 (0%)	9 (8.7%)	104	186.76	25	<.001	.164
	Higher secondary	80 (55.9%)	2 (1.4%)	14 (9.8%)	0 (0%)	23 (16.1%)	24 (16.8%)	143				
	Illiterate	101 (52.6%)	0 (0%)	42 (21.9%)	21 (10.9%)	14 (7.3%)	14 (7.3%)	192				
	Postgraduate	32 (82.1%)	0 (0%)	7 (17.9%)	0 (0%)	0 (0%)	0 (0%)	39				
	Primary	268 (37.2%)	33 (4.6%)	219 (30.4%)	29 (4.0%)	77 (10.7%)	95 (13.2%)	721				
	Secondary	104 (55.9%)	0 (0%)	39 (21.0%)	0 (0%)	14 (7.5%)	29 (15.6%)	186				
Occupation	Business	107 (51.7%)	3 (1.4%)	37 (17.9%)	0 (0%)	14 (6.8%)	46 (22.2%)	207	314.68	20	<.001	.238
	Housewife	291 (47.4%)	0 (0%)	143 (23.3%)	43 (7.0%)	85 (13.8%)	52 (8.5%)	614				
	Unemployed	39 (43.3%)	0 (0%)	37 (41.1%)	7 (7.8%)	0 (0%)	7 (7.8%)	90				
	Specialist	135 (51.5%)	0 (0%)	40 (15.3%)	15 (5.7%)	15 (5.7%)	57 (21.8%)	262				
	Unskilled worker	79 (37.3%)	32 (15.1%)	78 (36.8%)	0 (0%)	14 (6.6%)	9 (4.3%)	212				
Residence	Rural	262 (47.0%)	9 (1.6%)	159 (28.5%)	7 (1.3%)	56 (10.0%)	64 (11.5%)	557	35.04	5	<.001	.159
	Urban	389 (47.0%)	26 (3.1%)	176 (21.3%)	58 (7.0%)	72 (8.7%)	107 (12.9%)	828				

Table 3. Association between clinical factors, lifestyle factors and types of senile cataract among study participants (N=1,385)

Factor	Category	CC	CC+PSC	NSC	NSC+CC	NSC+PSC	PSC	Total	χ^2	df	p	Cramer's V
Family history of cataracts	No	250(55.1%)	20(4.4%)	103(22.7%)	8(1.8%)	39(8.6%)	34(7.5%)	454	112.38	10	<.001	.201
	Unknown	209(40.0%)	15(2.9%)	143(27.4%)	50(9.6%)	54(10.3%)	51(9.8%)	522				
	Yes	192(46.9%)	0 (0%)	89 (21.7%)	7 (1.7%)	35 (8.6%)	86 (21.0%)	409				
Chronic medical conditions	Arthritis	19(36.5%)	7(13.5%)	26(50.0%)	0	0	0	52	221.08	25	<.001	.179
	Asthma	17(47.2%)	0	0	0	0	19(52.8%)	36				
	Cancer	20(76.9%)	0	6(23.1%)	0	0	0	26				
	Diabetes	159(60.9%)	0	30(11.5%)	21(8.0%)	20(7.7%)	31(11.9%)	261				
	Hypertension	153(40.6%)	1(0.3%)	94(24.9%)	22(5.8%)	37(9.8%)	70(18.6%)	377				
	None	283(44.7%)	27(4.3%)	179(28.3%)	22(3.5%)	71(11.2%)	51(8.1%)	633				
Smoking habit	Never smoked	530(49.1%)	26(2.4%)	258(23.9%)	50(4.6%)	99(9.2%)	116(10.7%)	1,079	95.45	10	<.001	.186
	Quit	114(50.4%)	2(0.9%)	57(25.2%)	7(3.1%)	22(9.7%)	24(10.6%)	226				
	Current	7(8.8%)	7(8.8%)	20(25.0%)	8(10.0%)	7(8.8%)	31(38.8%)	80				
Exposure to sunlight without UV protection	No	220(52.6%)	11(2.6%)	68(16.3%)	14(3.3%)	29(6.9%)	76(18.2%)	418	41.84	5	<.001	.174
	Yes	431(44.6%)	24(2.5%)	267(27.6%)	51(5.3%)	99(10.2%)	95(9.8%)	967				
First noticed vision loss	1–2 years ago	210(46.4%)	34(7.5%)	124(27.4%)	29(6.4%)	38(8.4%)	18(4.0%)	453	158.60	10	<.001	.239
	<1 year ago	92 (36.8%)	0	50(20.0%)	8(3.2%)	31(12.4%)	69(27.6%)	250				
	>2 years ago	349(51.2%)	1(0.1%)	161(23.6%)	28(4.1%)	59(8.7%)	84(12.3%)	682				
Current symptoms	Blurry vision	524(45.6%)	24(2.1%)	312(27.1%)	63(5.5%)	80(7.0%)	147(12.8%)	1,150	422.92	40	<.001	.247
	Vision glare and halos	31 (66.0%)	0	7 (14.9%)	2 (4.3%)	7 (14.9%)	0	47				
	Poor night vision	8(19.5%)	0	0	0	17(41.5%)	16(39.0%)	41				
	Faded or yellow vision	35(85.4%)	0	6(14.6%)	0	0	0	41				
	Diplopia	15(57.7%)	0	7(26.9%)	0	0	0	26				
Eye injury	No	614(47.5%)	35(2.7%)	320(24.8%)	65(5.0%)	120(9.3%)	138(10.7%)	1,292	92.28	10	<.001	.183
	Yes	37(43.5%)	0	7(8.2%)	0	8 (9.4%)	33(38.8%)	85				
	Unknown	0	0	8(100%)	0	0	0	8				
History of eye diseases/surgeries	None	515(47.5%)	35(3.2%)	284(26.2%)	57(5.3%)	104(9.6%)	90(8.3%)	1,085	122.79	15	<.001	.172
	Glaucoma	8(50%)	0	0	0	0	8(50%)	16				
	Cataract surgery	80(38.5%)	0	47(22.6%)	8(3.8%)	23(11.1%)	50(24.0%)	208				
	Retinal diseases	48(63.2%)	0	4(5.3%)	0	1(1.3%)	23(30.3%)	76				
Exposure to bright sunlight/UV radiation	Daily	414(46.5%)	19(2.1%)	271(30.5%)	29(3.3%)	69(7.8%)	88(9.9%)	890	120.75	10	<.001	.209
	Occasionally	215(52.7%)	9(2.2%)	57(14.0%)	22 (5.4%)	45(11.0%)	60(14.7%)	408				
	Rarely Never	22(25.3%)	7(8.0%)	7(8.0%)	14(16.1%)	14(16.1%)	23(26.4%)	87				
Balanced diet	Daily	236(46.3%)	2 (0.4%)	107(21.0%)	36(7.1%)	44(8.6%)	85(6.7%)	510	232.15	10	<.001	.289
	Occasionally	415(50.6%)	26(3.2%)	222(27.1%)	29(3.5%)	77(9.4%)	51 (6.2%)	820				
	Rarely/Never	0	7 12.7%)	6 (10.9%)	0	7(12.7%)	35 (63.6%)	55				
Dietary supplements	No	563(46.3%)	33(2.7%)	294(24.2%)	65(5.3%)	128(10.5%)	132(10.9%)	1215	46.95	5	<.001	.184
	Yes	88(51.8%)	2(1.2%)	41(24.1%)	0	0	39(22.9%)	170				
Visual acuity	Both eyes	117(59.7%)	0	50(25.5%)	7(3.6%)	7(3.6%)	15(7.6%)	196	70.55	10	<.001	.160
	Left eye	230(42.9%)	17(3.2%)	125(23.3%)	7(1.3%)	70(13.1%)	87(16.3%)	536				
	Right eye	304(46.6%)	18(2.8%)	160(24.5%)	51(7.8%)	51(7.8%)	69(10.6%)	653				

Table 4. Multivariate logistic regression for predicting types of senile cataract (reference category: CC)

Cataract type	Predictor	B	SE	Wald χ^2	*p*	OR	95% CI for OR
CC+PSC	Female (vs. Male)	–5.01	1.43	12.24	<.001	0.01	[0.00, 0.11]
	Rural residence	–0.48	0.48	1.03	.310	0.62	[0.24, 1.57]
	Arthritis	3.69	1.25	8.79	.003	4.12	[3.49, 6.81]
NSC	Age 31–40 years	–1.60	0.76	4.42	.036	0.20	[0.05, 0.90]
	Age 71–80 years	–1.80	0.67	7.27	.007	0.17	[0.05, 0.61]
	Never-smoker	–2.02	0.51	15.91	<.001	0.13	[0.05, 0.36]
	Arthritis	1.28	0.44	8.47	.004	3.60	[1.52, 8.54]
	Diabetes	–0.93	0.26	13.32	<.001	0.40	[0.24, 0.65]
NSC+CC	Rural residence	–1.02	0.51	4.04	.044	0.36	[0.13, 0.98]
	Never-smoker	–4.48	0.86	27.21	<.001	0.01	[0.00, 0.06]
	Diabetes	2.13	0.62	12.01	.001	8.42	[2.52, 28.12]
NSC+PSC	Female gender	2.79	0.92	9.15	.002	16.25	[2.67, 98.98]
	Rural residence	1.42	0.60	5.69	.017	4.15	[1.29, 13.35]
	Family history (No)	–1.99	0.65	9.23	.002	0.14	[0.04, 0.49]
	Diabetes	1.39	0.64	4.73	.030	4.02	[1.15, 14.05]
PSC	Female (vs. Male)	1.29	0.33	15.33	<.001	3.62	[1.90, 6.89]
	Never-smoker	–4.16	0.58	52.33	<.001	0.02	[0.01, 0.05]

OR, odds ratio; CI, confidence interval. Only statistically and clinically relevant predictors are shown; $p<0.05$ indicates statistical significance.

Conclusion

This hospital-based study found that CC is the most common type of senile cataract in Bangladesh, followed by NSC and PSC; mixed morphologies accounted for a noteworthy minority. Specific cataract phenotypes were significantly associated with age, gender, place of residence, systemic comorbidities (diabetes and arthritis), smoking, sunlight exposure, and nutritional status. Women, rural residents, diabetics, and smokers are at significantly higher risk of developing mixed and anterior subcapsular forms: they are more likely to cause early visual impairment and therefore require prompt intervention. This study provides important epidemiological data that can assist in targeted screening, prevention, and resource allocation in Bangladesh.

Conflict of interest. The authors confirm no personal or professional conflicts of interest pertaining to any aspect of this study.

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