1   symptomatology in both males (OR=4.14 CI = 3.42-5.00, <0.001, Table 3) and females

2   (OR=4.68 CI = 3.02-7.26, <0.001, Table 3) in this study.

9

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Dry Eye Disease Among High School Students

1   **Discussion**

2   Although, dry eye disease has received a great deal of attention from health

3   workers and government agencies, large scale studies delineating prevalence of DED

4   and CL use in high school students have not been published so far.

5   The National Eye Institute (NEI) has identified tear film and dry eye research as an

6   important area in need of further research. Although clinical observations have long

7   suggested that dry eye syndromes exist in elder populations, there are few

8   epidemiological data available to describe the magnitude of the problem in high school

9   students. We carried out this cross-sectional prevalence survey to examine the

10   prevalence of severe dry eye symptomatology, clinically diagnosed dry eye and to

11   assess the prevalence of DED and CL use in the aforementioned young population.

12   Our study used the Schaumberg's dry eye questionnaire[2] widely used in the

13   States to enable comparisons of epidemiological dry eye data between US and Japan

14   and also represents the largest epidemiological study in a relatively young population in

15   the world and from private high school students in Japan. We found DES to be

16   relatively common among Japanese high school students.

17   The current study revealed a high prevalence of CL wear related to clinically

18   diagnosed and severe symptoms of dry eye disease.

1 Contact lens wear has often been reported to be associated with dry eye[17], and a

2 significant number of CL-wearing patients experience dryness. Symptoms of dry eye

3 are common in CL wearers, with 50-75% of wearers reporting symptoms of ocular

4 irritation[18-22]. If a conservative estimate is used (50%), approximately 17 million

5 Americans have CL-related dry eye. Of importance, was our observation that SCL users

6 showed a significantly higher prevalence of clinically diagnosed dry and dry eye

7 symptomatology in both sex. The CANDEES study confirmed that dry eye symptoms

8 were more prevalent in contact lens wearers. It was found that virtually half of the

9 contact lens wearers (50.1%) experienced dry eye symptoms compared with just 21.7%

10 of non lens wearers[20].

11 It should be noted that only private high school were selected for the study

12 which was conducted upon a request coming from Keio University health support

13 center to investigate the prevalence of DED and CL use in Keio University affiliated

14 high school.

15 Since all Keio University affiliated high schools were private, we selected four

16 other Tokyo district private high schools, one of which consented to participate in the

17 study.

18 All private high schools require a tuition fee about 10,000 USD/year compared

1   to public/government school which require none. Our selection process might have

2   induced a bias in relation to social economy states and prevalence of DED. Further

3   study looking to differences of DED and CL use prevalence in randomly selected

4   private and public high schools need to be conducted. One other bias was that four out

5   of five private schools were boys only. We believed that further sex matched studies

6   should be carried out.

7   In summary, we found dry eye disease to be common in the Japanese private

8   high school students. Our present study represents the largest epidemiologic data from

9   Japan and in the world describing the prevalence of dry eye syndrome in high schools

10   and its relationship to the aforementioned risk factors. Although further studies are

11   needed to increase our understanding of the significance of this important public health

12   problem, the results of our study may be of guidance for specific precautions such as

13   provision of education, information and guidance on CL wear related problems and

14   their management in high school students.

12

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Table

Table 1. Prevalence of Clinically Diagnosed Dry Eye and Severe Symptoms of Dry Eye

	Number of DES*	Prevalence		
		Estimates	95% Confidence Interval	
Clinically Diagnosed Dry Eye				
Men	123/2848	4.3%	(3.9% - 4.6%)	
Women	47/585	8.0%	(7.4% - 8.4%)	
Severe Symptoms of Dry Eye				
Men	599/2848	21.0%	(20.1% - 21.8%)	
Women	143/585	24.4%	(23.9% - 25.0%)	

Table 2. Logistic Regression Model of Predictors of the Prevalence of Clinically Diagnosed Dry Eye Syndrome

Variable	Number of MEN (n=2,848)	Number with DES (n=123)		Univariate Crude Odds Ratio (95%CI)				P-value	Multivariate Adjusted Odds Ratio (95%CI)				P-value
Contact lens													
No	1,844	39	(2.1%)	1.0					1.0				
SCL	971	81	(8.3%)	4.2	(2.9	-	6.2)	<0.001	4.2	(2.8	-	6.2)	0.019
HCL	33	3	(9.1%)	4.6	(1.4	-	15.8)	<0.001	4.4	(1.3	-	15.4)	<0.001

Variable	Number of WOMEN (n=585)	Number with DES (n=47)		Univariate Crude Odds Ratio (95%CI)				P-value	Multivariate Adjusted Odds Ratio (95%CI)				P-value
Contact lens													
No	291	9	(3.1%)	1.0					1.0				
SCL	267	36	(13.5%)	4.9	(2.3	-	10.3)	<0.001	4.9	(2.3	-	10.3)	<0.001
HCL	27	2	(7.4%)	2.5	(0.5	-	12.2)	<0.001	2.5	(0.5	-	12.2)	<0.001

CI denotes confidence interval.

Table 3. Logistic Regression Model of Predictors of the Prevalence of Severe Symptoms Dry Eye Syndrome

Variable	Number of MEN (n=2,848)	Number with DES (n=599)		Univariate Crude Odds Ratio (95%CI)					P-value	Multivariate Adjusted Odds Ratio (95%CI)					P-value
Contact lens															
No	1,844	230	(12.5%)	1.0						1.0					
SCL	971	360	(37.1%)	4.1	(	3.4	-	5.0	)	<0.001	4.6	(	3.8	-	5.7	)	<0.001
HCL	33	9	(27.3%)	2.6	(	1.2	-	5.7	)	0.015	2.6	(	1.1	-	5.9	)	0.029

Variable	Number of WOMEN (n=585)	Number with DES (n=143)		Univariate Crude Odds Ratio (95%CI)					P-value	Multivariate Adjusted Odds Ratio (95%CI)					P-value
Contact lens															
No	291	33	(11.3%)	1.0						1.0					
SCL	267	100	(37.5%)	4.7	(	3.0	-	7.3	)	<0.001	5.8	(	3.6	-	9.3	)	<0.001
HCL	27	10	(37.0%)	4.6	(	1.9	-	10.9	)	<0.001	5.5	(	2.2	-	13.7	)	0.003

CI denotes confidence interval.

Variables	Total (N=238)	東京 (N=84)	大阪 (N=79)	福岡 (N=35)	愛媛 (N=40)	P-value
調査地区						
東京	84(35.3%)	84(100.0%)	.	.	.	<.001 [*****]
大阪	79(33.2%)	.	79(100.0%)	.	.	
福岡	35(14.7%)	.	.	35(100.0%)	.	
愛媛	40(16.8%)	.	.	.	40(100.0%)	
年齢(歳)	39.7±11.5	37.4±8.2	36.4±9.0	39.7±9.9	51.0±15.9	<.001 [*****]
女性	163(68.5%)	54(64.3%)	53(67.1%)	23(65.7%)	33(82.5%)	0.210 [N.S]
ドライアイ診断						
(1)はい	56(23.5%)	10(11.9%)	10(12.7%)	4(11.4%)	32(80.0%)	<.001 [*****]
(2)いいえ	182(76.5%)	74(88.1%)	69(87.3%)	31(88.6%)	8(20.0%)	
不明	.	.	.	.	.	
ドライアイ不定愁訴重症度・頻度インデックス						
1) 平均値±標準偏差	1.8±1.3	1.7±1.2	1.6±1.2	1.3±1.3	2.8±1.4	<.001 [*****]
4	26(10.9%)	4(4.8%)	4(5.1%)	2(5.7%)	16(40.0%)	<.001 [*****]
3	54(22.7%)	18(21.4%)	19(24.1%)	6(17.1%)	11(27.5%)	
2	63(26.5%)	33(39.3%)	19(24.1%)	5(14.3%)	6(15.0%)	
1	38(16.0%)	10(11.9%)	17(21.5%)	9(25.7%)	2(5.0%)	
0	57(23.9%)	19(22.6%)	20(25.3%)	13(37.1%)	5(12.5%)	
未回答	.	.	.	.	.	
2) 平均値±標準偏差	1.7±1.3	1.6±1.2	1.4±1.0	1.1±1.1	2.8±1.3	<.001 [*****]
4	19(8.0%)	5(6.0%)	.	.	14(35.0%)	<.001 [*****]
3	47(19.7%)	16(19.0%)	13(16.5%)	4(11.4%)	14(35.0%)	
2	64(26.9%)	27(32.1%)	23(29.1%)	10(28.6%)	4(10.0%)	
1	48(20.2%)	16(19.0%)	23(29.1%)	5(14.3%)	4(10.0%)	
0	59(24.8%)	20(23.8%)	20(25.3%)	16(45.7%)	3(7.5%)	
未回答	1(0.4%)	.	.	.	1(2.5%)	
3) 平均値±標準偏差	1.2±1.1	1.0±1.0	0.9±1.0	0.7±0.9	2.3±1.2	<.001 [*****]
4	6(2.5%)	.	.	.	6(15.0%)	<.001 [*****]
3	27(11.3%)	7(8.3%)	6(7.6%)	1(2.9%)	13(32.5%)	
2	57(23.9%)	23(27.4%)	15(19.0%)	8(22.9%)	11(27.5%)	
1	56(23.5%)	20(23.8%)	24(30.4%)	7(20.0%)	5(12.5%)	
0	91(38.2%)	33(39.3%)	34(43.0%)	19(54.3%)	5(12.5%)	
未回答	1(0.4%)	1(1.2%)	.	.	.	
4) 平均値±標準偏差	0.9±1.1	0.8±0.9	0.6±0.9	0.5±0.7	2.2±1.4	<.001 [*****]
4	8(3.4%)	.	.	.	8(20.0%)	<.001 [*****]
3	16(6.7%)	3(3.6%)	4(5.1%)	.	9(22.5%)	
2	41(17.2%)	17(20.2%)	9(11.4%)	3(8.6%)	12(30.0%)	
1	54(22.7%)	23(27.4%)	17(21.5%)	11(31.4%)	3(7.5%)	
0	119(50.0%)	41(48.8%)	49(62.0%)	21(60.0%)	8(20.0%)	
未回答	.	.	.	.	.	
5) 平均値±標準偏差	2.6±1.0	2.6±1.0	2.5±0.8	2.4±1.0	2.9±1.2	0.116 [N.S]
4	42(17.6%)	16(19.0%)	6(7.6%)	4(11.4%)	16(40.0%)	0.062 [N.S]
3	92(38.7%)	34(40.5%)	35(44.3%)	13(37.1%)	10(25.0%)	
2	76(31.9%)	23(27.4%)	32(40.5%)	12(34.3%)	9(22.5%)	
1	21(8.8%)	9(10.7%)	5(6.3%)	4(11.4%)	3(7.5%)	
0	7(2.9%)	2(2.4%)	1(1.3%)	2(5.7%)	2(5.0%)	
未回答	.	.	.	.	.	
6) 平均値±標準偏差	1.7±1.3	1.7±1.2	1.3±1.1	1.4±1.1	2.7±1.3	<.001 [*****]
4	24(10.1%)	7(8.3%)	2(2.5%)	1(2.9%)	14(35.0%)	<.001 [*****]
3	41(17.2%)	17(20.2%)	9(11.4%)	3(8.6%)	12(30.0%)	
2	69(29.0%)	24(28.6%)	25(31.6%)	13(37.1%)	7(17.5%)	
1	49(20.6%)	19(22.6%)	18(22.8%)	9(25.7%)	3(7.5%)	
0	55(23.1%)	17(20.2%)	25(31.6%)	9(25.7%)	4(10.0%)	
未回答	.	.	.	.	.	
7) 平均値±標準偏差	1.6±1.2	1.7±1.2	1.4±1.1	1.5±1.1	1.9±1.3	0.060 [N.S]
4	16(6.7%)	6(7.1%)	3(3.8%)	2(5.7%)	5(12.5%)	0.068 [N.S]
3	42(17.6%)	18(21.4%)	12(15.2%)	3(8.6%)	9(22.5%)	
2	54(22.7%)	18(21.4%)	14(17.7%)	11(31.4%)	11(27.5%)	
1	83(34.9%)	30(35.7%)	32(40.5%)	13(37.1%)	8(20.0%)	
0	43(18.1%)	12(14.3%)	18(22.8%)	6(17.1%)	7(17.5%)	
未回答	.	.	.	.	.	
8) 平均値±標準偏差	1.5±1.1	1.5±1.2	1.4±1.0	1.3±1.1	1.7±1.1	0.541 [N.S]
4	8(3.4%)	5(6.0%)	.	1(2.9%)	2(5.0%)	0.628 [N.S]
3	37(15.5%)	13(15.5%)	13(16.5%)	4(11.4%)	7(17.5%)	
2	64(26.9%)	23(27.4%)	21(26.6%)	10(28.6%)	10(25.0%)	
1	82(34.5%)	24(28.6%)	30(38.0%)	11(31.4%)	17(42.5%)	
0	47(19.7%)	19(22.6%)	15(19.0%)	9(25.7%)	4(10.0%)	
未回答	.	.	.	.	.	
9) 平均値±標準偏差	0.7±1.0	0.7±0.9	0.6±0.9	0.4±0.7	1.3±1.4	<.001 [*****]
4	5(2.1%)	1(1.2%)	1(1.3%)	.	3(7.5%)	0.007 [***]
3	13(5.5%)	2(2.4%)	4(5.1%)	.	7(17.5%)	
2	28(11.8%)	14(16.7%)	5(6.3%)	4(11.4%)	5(12.5%)	
1	52(21.8%)	22(26.2%)	19(24.1%)	5(14.3%)	6(15.0%)	
0	138(58.0%)	45(53.6%)	50(63.3%)	26(74.3%)	17(42.5%)	
未回答	2(0.8%)	.	.	.	2(5.0%)	
10) 平均値±標準偏差	1.7±1.1	1.8±1.1	1.5±1.0	1.4±1.0	2.3±1.3	0.002 [***]
4	14(5.9%)	5(6.0%)	1(1.3%)	.	8(20.0%)	0.004 [***]
3	48(20.2%)	17(20.2%)	14(17.7%)	6(17.1%)	11(27.5%)	
2	74(31.1%)	30(35.7%)	23(29.1%)	10(28.6%)	11(27.5%)	
1	66(27.7%)	20(23.8%)	30(38.0%)	12(34.3%)	4(10.0%)	
0	35(14.7%)	11(13.1%)	11(13.9%)	7(20.0%)	6(15.0%)	
未回答	1(0.4%)	1(1.2%)	.	.	.	
11) 平均値±標準偏差	1.3±1.2	1.4±1.1	1.2±1.0	0.9±0.8	1.8±1.4	0.003 [***]
4	13(5.5%)	4(4.8%)	1(1.3%)	.	8(20.0%)	0.022 [*]
3	29(12.2%)	15(17.9%)	10(12.7%)	.	4(10.0%)	
2	50(21.0%)	15(17.9%)	17(21.5%)	8(22.9%)	10(25.0%)	
1	75(31.5%)	24(28.6%)	28(35.4%)	14(40.0%)	9(22.5%)	
0	71(29.8%)	26(31.0%)	23(29.1%)	13(37.1%)	9(22.5%)	

9

未回答	.	.	.	.	.	

12) 平均値±標準偏差

	0.6±1.2	0.6±1.2	0.4±1.0	0.3±0.7	2.9±1.5	<.001 [*****]
4	4(1.7%)	1(1.2%)	.	.	3(7.5%)	<.001 [*****]
3	11(4.6%)	4(4.8%)	5(6.3%)	.	2(5.0%)	
2	9(3.8%)	3(3.6%)	1(1.3%) -	4(11.4%)	1(2.5%)	
1	4(1.7%)	2(2.4%)	.	2(5.7%)	.	
0	90(37.8%)	29(34.5%)	36(45.6%)	24(68.6%)	1(2.5%)	
未回答	120(50.4%)	45(53.6%)	37(46.8%)	5(14.3%)	33(82.5%)	

視機能障害不定愁訴重症度・頻度インデックス

13) 平均値±標準偏差

	1.6±1.2	1.4±1.2	1.6±1.1	1.2±1.2	2.0±1.5	0.040 [*]
4	16(6.7%)	3(3.6%)	4(5.1%)	1(2.9%)	8(20.0%)	0.065 [N.S]
3	42(17.6%)	17(20.2%)	12(15.2%)	5(14.3%)	8(20.0%)	
2	59(24.8%)	15(17.9%)	28(35.4%)	7(20.0%)	9(22.5%)	
1	61(25.6%)	27(32.1%)	21(26.6%)	9(25.7%)	4(10.0%)	
0	60(25.2%)	22(26.2%)	14(17.7%)	13(37.1%)	11(27.5%)	
未回答	.	.	.	.	.	

14) 平均値±標準偏差

	1.4±1.3	1.2±1.2	1.2±1.1	1.3±1.2	2.3±1.6	<.001 [*****]
4	22(9.2%)	5(6.0%)	1(1.3%)	3(8.6%)	13(32.5%)	0.001 [***]
3	30(12.6%)	9(10.7%)	10(12.7%)	2(5.7%)	9(22.5%)	
2	53(22.3%)	20(23.8%)	20(25.3%)	7(20.0%)	6(15.0%)	
1	52(21.8%)	17(20.2%)	20(25.3%)	14(40.0%)	1(2.5%)	
0	81(34.0%)	33(39.3%)	28(35.4%)	9(25.7%)	11(27.5%)	
未回答	.	.	.	.	.	

15) 平均値±標準偏差

	0.8±1.1	0.5±0.9	0.5±0.7	0.5±0.6	2.1±1.5	<.001 [*****]
4	11(4.6%)	1(1.2%)	.	.	10(25.0%)	<.001 [*****]
3	16(6.7%)	6(7.1%)	1(1.3%)	.	9(22.5%)	
2	16(6.7%)	3(3.6%)	6(7.6%)	1(2.9%)	6(15.0%)	
1	58(24.4%)	18(21.4%)	21(26.6%)	14(40.0%)	5(12.5%)	
0	137(57.6%)	56(66.7%)	51(64.6%)	20(57.1%)	10(25.0%)	
未回答	.	.	.	.	.	

16) 平均値±標準偏差

	0.5±0.9	0.3±0.7	0.5±0.7	0.2±0.5	1.7±1.6	<.001 [*****]
4	3(1.3%)	.	.	.	3(7.5%)	<.001 [*****]
3	7(2.9%)	1(1.2%)	.	.	6(15.0%)	
2	15(6.3%)	6(7.1%)	5(6.3%)	1(2.9%)	3(7.5%)	
1	30(12.6%)	9(10.7%)	14(17.7%)	6(17.1%)	1(2.5%)	
0	127(53.4%)	61(72.6%)	30(38.0%)	27(77.1%)	9(22.5%)	
未回答	56(23.5%)	7(8.3%)	30(38.0%)	1(2.9%)	18(45.0%)	

17) 平均値±標準偏差

	1.1±1.3	1.1±1.2	0.7±0.9	0.7±1.0	2.4±1.5	<.001 [*****]
4	18(7.6%)	6(7.1%)	2(2.5%)	1(2.9%)	9(22.5%)	<.001 [*****]
3	17(7.1%)	6(7.1%)	1(1.3%)	.	10(25.0%)	
2	35(14.7%)	13(15.5%)	11(13.9%)	6(17.1%)	5(12.5%)	
1	60(25.2%)	23(27.4%)	24(30.4%)	10(28.6%)	3(7.5%)	
0	101(42.4%)	36(42.9%)	41(51.9%)	18(51.4%)	6(15.0%)	
未回答	7(2.9%)	.	.	.	7(17.5%)	

18) 平均値±標準偏差

	0.8±1.0	0.7±0.9	0.5±0.7	0.5±0.8	1.7±1.5	<.001 [*****]
4	7(2.9%)	.	.	.	7(17.5%)	<.001 [*****]
3	13(5.5%)	5(6.0%)	1(1.3%)	1(2.9%)	6(15.0%)	
2	25(10.5%)	9(10.7%)	5(6.3%)	3(8.6%)	8(20.0%)	
1	66(27.7%)	26(31.0%)	25(31.6%)	8(22.9%)	7(17.5%)	
0	127(53.4%)	44(52.4%)	48(60.8%)	23(65.7%)	12(30.0%)	
未回答	.	.	.	.	.	

19) 平均値±標準偏差

	0.5±0.9	0.5±0.8	0.4±0.7	0.7±1.0	0.6±1.2	0.520 [N.S]
4	3(1.3%)	.	.	1(2.9%)	2(5.0%)	0.652 [N.S]
3	6(2.5%)	3(3.6%)	.	1(2.9%)	2(5.0%)	
2	25(10.5%)	9(10.7%)	9(11.4%)	5(14.3%)	2(5.0%)	
1	39(16.4%)	16(19.0%)	14(17.7%)	6(17.1%)	3(7.5%)	
0	160(67.2%)	54(64.3%)	56(70.9%)	22(62.9%)	28(70.0%)	
未回答	5(2.1%)	2(2.4%)	.	.	3(7.5%)	

20) 平均値±標準偏差

	0.6±1.0	0.6±0.9	0.4±0.9	0.3±0.6 .	1.3±1.4	<.001 [*****]
4	6(2.5%)	1(1.2%)	.	.	5(12.5%)	0.001 [***]
3	9(3.8%)	3(3.6%)	3(3.8%)	.	3(7.5%)	
2	33(13.9%)	11(13.1%)	10(12.7%)	3(8.6%)	9(22.5%)	
1	30(12.6%)	15(17.9%)	6(7.6%)	5(14.3%)	4(10.0%)	
0	158(66.4%)	52(61.9%)	60(75.9%)	27(77.1%)	19(47.5%)	
未回答	2(0.8%)	2(2.4%)	.	.	.	

21) 平均値±標準偏差

	1.5±1.3	1.4±1.2	1.4±1.1	1.4±1.3	2.0±1.5	0.043 [*]
4	17(7.1%)	4(4.8%)	2(2.5%)	2(5.7%)	9(22.5%)	0.101 [N.S]
3	36(15.1%)	13(15.5%)	11(13.9%)	4(11.4%)	8(20.0%)	
2	69(29.0%)	23(27.4%)	26(32.9%)	14(40.0%)	6(15.0%)	
1	45(18.9%)	16(19.0%)	18(22.8%)	2(5.7%)	9(22.5%)	
0	71(29.8%)	28(33.3%)	22(27.8%)	13(37.1%)	8(20.0%)	
未回答	.	.	.	.	.	

環境因子重症度・頻度インデックス

22) 平均値±標準偏差

	1.4±1.3	1.3±1.2	1.1±1.1	1.1±1.0	2.8±1.4	<.001 [*****]
4	19(8.0%)	1(1.2%)	1(1.3%)	.	17(42.5%)	<.001 [*****]
3	38(16.0%)	15(17.9%)	8(10.1%)	5(14.3%)	10(25.0%)	
2	48(20.2%)	19(22.6%)	20(25.3%)	4(11.4%)	5(12.5%)	
1	52(21.8%)	19(22.6%)	16(20.3%)	15(42.9%)	2(5.0%)	
0	81(34.0%)	30(35.7%)	34(43.0%)	11(31.4%)	6(15.0%)	
未回答	.	.	.	.	.	

23) 平均値±標準偏差

	1.6±1.3	1.6±1.2	1.2±1.2	1.3±1.0	2.6±1.5	<.001 [*****]
4	19(8.0%)	1(1.2%)	1(1.3%)	.	17(42.5%)	<.001 [*****]
3	50(21.0%)	23(27.4%)	14(17.7%)	5(14.3%)	8(20.0%)	
2	48(20.2%)	18(21.4%)	16(20.3%)	8(22.9%)	6(15.0%)	
1	58(24.4%)	23(27.4%)	20(25.3%)	14(40.0%)	1(2.5%)	
0	63(26.5%)	19(22.6%)	28(35.4%)	8(22.9%)	8(20.0%)	
未回答	.	.	.	.	.	

24) 平均値±標準偏差

	1.7±1.3	1.7±1.3	1.4±1.2	1.5±1.1	2.7±1.5	<.001 [*****]
4	26(10.9%)	4(4.8%)	4(5.1%)	1(2.9%)	17(42.5%)	<.001 [*****]
3	51(21.4%)	24(28.6%)	11(13.9%)	7(20.0%)	9(22.5%)	
2	45(18.9%)	16(19.0%)	18(22.8%)	7(20.0%)	4(10.0%)	
1	60(25.2%)	19(22.6%)	24(30.4%)	14(40.0%)	3(7.5%)	
0	54(22.7%)	20(23.8%)	22(27.8%)	6(17.1%)	6(15.0%)	

未回答	2(0.8%)	1(1.2%)	.	.	1(2.5%)	
25) 平均値±標準偏差	0.8±1.2	0.7±1.1	0.4±0.9	0.5±0.7	1.7±1.7	<.001 [*****]
4	12(5.0%)	2(2.4%)	1(1.3%)	.	9(22.5%)	<.001 [*****]
3	14(5.9%)	4(4.8%)	3(3.8%)	1(2.9%)	6(15.0%)	
2	21(8.8%)	12(14.3%)	5(6.3%)	2(5.7%)	2(5.0%)	
1	38(16.0%)	14(16.7%)	11(13.9%)	10(28.6%)	3(7.5%)	
0	139(58.4%)	46(54.8%)	56(70.9%)	22(62.9%)	15(37.5%)	
未回答	14(5.9%)	6(7.1%)	3(3.8%)	.	5(12.5%)	
26) 平均値±標準偏差	1.0±1.2	0.9±1.0	0.8±1.1	0.6±0.8	1.9±1.5	<.001 [*****]
4	8(3.4%)	.	1(1.3%)	.	7(17.5%)	<.001 [*****]
3	25(10.5%)	8(9.5%)	7(8.9%)	1(2.9%)	9(22.5%)	
2	38(16.0%)	14(16.7%)	12(15.2%)	5(14.3%)	7(17.5%)	
1	54(22.7%)	23(27.4%)	15(19.0%)	9(25.7%)	7(17.5%)	
0	112(47.1%)	38(45.2%)	44(55.7%)	20(57.1%)	10(25.0%)	
未回答	1(0.4%)	1(1.2%)	.	.	.	
27) 平均値±標準偏差	0.6±1.0	0.7±1.1	0.4±0.9	0.5±0.7	0.9±1.3	0.175 [N.S]
4	6(2.5%)	3(3.6%)	1(1.3%)	.	2(5.0%)	0.284 [N.S]
3	10(4.2%)	5(6.0%)	3(3.8%)	.	2(5.0%)	
2	16(6.7%)	5(6.0%)	5(6.3%)	3(8.6%)	3(7.5%)	
1	43(18.1%)	18(21.4%)	11(13.9%)	11(31.4%)	3(7.5%)	
0	142(59.7%)	47(56.0%)	57(72.2%)	21(60.0%)	17(42.5%)	
未回答	21(8.8%)	6(7.1%)	2(2.5%)	.	13(32.5%)	
28) 平均値±標準偏差	0.8±1.2	0.8±1.1	0.6±1.0	0.6±0.8	1.6±1.7	0.002 [***]
4	12(5.0%)	3(3.6%)	2(2.5%)	.	7(17.5%)	0.044 [*]
3	14(5.9%)	4(4.8%)	5(6.3%)	1(2.9%)	4(10.0%)	
2	24(10.1%)	13(15.5%)	5(6.3%)	5(14.3%)	1(2.5%)	
1	45(18.9%)	16(19.0%)	15(19.0%)	9(25.7%)	5(12.5%)	
0	127(53.4%)	45(53.6%)	50(63.3%)	19(54.3%)	13(32.5%)	
未回答	16(6.7%)	3(3.6%)	2(2.5%)	1(2.9%)	10(25.0%)	
29) 平均値±標準偏差	1.7±1.5	1.3±1.5	2.3±1.2	2.1±1.3	2.1±1.8	0.009 [***]
4	16(6.7%)	5(6.0%)	5(6.3%)	1(2.9%)	5(12.5%)	0.008 [***]
3	34(14.3%)	13(15.5%)	12(15.2%)	5(14.3%)	4(10.0%)	
2	18(7.6%)	7(8.3%)	8(10.1%)	3(8.6%)	.	
1	14(5.9%)	4(4.8%)	7(8.9%)	2(5.7%)	1(2.5%)	
0	42(17.6%)	31(36.9%)	3(3.8%)	2(5.7%)	6(15.0%)	
未回答	114(47.9%)	24(28.6%)	44(55.7%)	22(62.9%)	24(60.0%)	
スコアA	17.0±9.2	17.0±8.3	14.6±7.5	13.1±7.3	24.9±11.1	<.001 [*****]
スコアB	8.6±6.4	7.8±5.5	7.0±4.4	6.8±4.4	14.8±9.1	<.001 [*****]
スコアC	8.7±6.4	8.4±5.9	7.0±5.9	6.9±4.8	14.0±7.1	<.001 [*****]
スコアD	34.2±19.6	33.2±16.9	28.6±15.2	26.8±13.7	53.8±24.4	<.001 [*****]
スコアE	27.5±1.3	27.8±1.1	27.5±0.9	28.2±0.6	26.1±1.9	<.001 [*****]
スコアによるドライアイ診断	35.0±18.1	34.1±15.0	29.5±13.9	28.0±11.4	54.1±23.1	<.001 [*****]

Plus minus value:mean±sd.

Variables	Total (N=238)	臨床医診断あり (N=56)	臨床医診断なし (N=182)	P-value
調査地区				
東京	84(35.3%)	10(17.9%)	74(40.7%)	<.001 [*****]
大阪	79(33.2%)	10(17.9%)	69(37.9%)	
福岡	35(14.7%)	4(7.1%)	31(17.0%)	
滋賀	40(16.8%)	32(57.1%)	8(4.4%)	
年齢(歳)	39.7±11.5	45.0±14.7	38.1±9.9	<.001 [*****]
女性	163(68.5%)	48(85.7%)	115(63.2%)	0.002 [***]
ドライアイ診断	·			
はい	56(23.5%)	56(100.0%)		<.001 [*****]
いいえ	182(76.5%)	·	182(100.0%)	
不明	·	·	·	
ドライアイ不定愁訴重症度・頻度インデックス				
1) 平均値±標準偏差	1.8±1.3	2.8±1.3	1.5±1.2	<.001 [*****]
4	26(10.9%)	21(37.5%)	5(2.7%)	<.001 [*****]
3	54(22.7%)	17(30.4%)	37(20.3%)	
2	63(26.5%)	9(16.1%)	54(29.7%)	
1	38(16.0%)	4(7.1%)	34(18.7%)	
0	57(23.9%)	5(8.9%)	52(28.6%)	
未回答	·	·	·	
2) 平均値±標準偏差	1.7±1.3	2.6±1.2	1.4±1.1	<.001 [*****]
4	19(8.0%)	14(25.0%)	5(2.7%)	<.001 [*****]
3	47(19.7%)	20(35.7%)	27(14.8%)	
2	64(26.9%)	13(23.2%)	51(28.0%)	
1	48(20.2%)	5(8.9%)	43(23.6%)	
0	59(24.8%)	4(7.1%)	55(30.2%)	
未回答	1(0.4%)	·	1(0.5%)	
3) 平均値±標準偏差	1.2±1.1	1.9±1.1	0.9±1.0	<.001 [*****]
4	6(2.5%)	4(7.1%)	2(1.1%)	<.001 [*****]
3	27(11.3%)	14(25.0%)	13(7.1%)	
2	57(23.9%)	19(33.9%)	38(20.9%)	
1	56(23.5%)	12(21.4%)	44(24.2%)	
0	91(38.2%)	7(12.5%)	84(46.2%)	
未回答	1(0.4%)	·	1(0.5%)	
4) 平均値±標準偏差	0.9±1.1	1.7±1.3	0.7±0.9	<.001 [*****]
4	8(3.4%)	6(10.7%)	2(1.1%)	<.001 [*****]
3	16(6.7%)	8(14.3%)	8(4.4%)	
2	41(17.2%)	17(30.4%)	24(13.2%)	
1	54(22.7%)	12(21.4%)	42(23.1%)	
0	119(50.0%)	13(23.2%)	106(58.2%)	
未回答	·	·	·	
5) 平均値±標準偏差	2.6±1.0	2.8±1.0	2.5±0.9	0.030 [*]
4	42(17.6%)	16(28.6%)	26(14.3%)	0.013 [*]
3	92(38.7%)	23(41.1%)	69(37.9%)	
2	76(31.9%)	11(19.6%)	65(35.7%)	
1	21(8.8%)	4(7.1%)	17(9.3%)	
0	7(2.9%)	2(3.6%)	5(2.7%)	
未回答	·	·	·	
6) 平均値±標準偏差	1.7±1.3	2.4±1.3	1.5±1.2	<.001 [*****]
4	24(10.1%)	14(25.0%)	10(5.5%)	<.001 [*****]
3	41(17.2%)	15(26.8%)	26(14.3%)	
2	69(29.0%)	14(25.0%)	55(30.2%)	
1	49(20.6%)	7(12.5%)	42(23.1%)	
0	55(23.1%)	6(10.7%)	49(26.9%)	
未回答	·	·	·	
7) 平均値±標準偏差	1.6±1.2	1.9±1.3	1.5±1.1	0.016 [*]
4	16(6.7%)	8(14.3%)	8(4.4%)	0.025 [*]
3	42(17.6%)	11(19.6%)	31(17.0%)	
2	54(22.7%)	15(26.8%)	39(21.4%)	
1	83(34.9%)	13(23.2%)	70(38.5%)	
0	43(18.1%)	9(16.1%)	34(18.7%)	
未回答	·	·	·	
8) 平均値±標準偏差	1.5±1.1	1.8±1.0	1.4±1.1	0.034 [*]
4	8(3.4%)	2(3.6%)	6(3.3%)	0.026 [*]
3	37(15.5%)	12(21.4%)	25(13.7%)	
2	64(26.9%)	18(32.1%)	46(25.3%)	
1	82(34.5%)	18(32.1%)	64(35.2%)	
0	47(19.7%)	6(10.7%)	41(22.5%)	
未回答	·	·	·	
9) 平均値±標準偏差	0.7±1.0	1.2±1.3	0.6±0.9	<.001 [*****]
4	5(2.1%)	3(5.4%)	2(1.1%)	<.001 [*****]
3	13(5.5%)	8(14.3%)	5(2.7%)	
2	28(11.8%)	10(17.9%)	18(9.9%)	
1	52(21.8%)	10(17.9%)	42(23.1%)	
0	138(58.0%)	23(41.1%)	115(63.2%)	
未回答	2(0.8%)	2(3.6%)	·	
10) 平均値±標準偏差	1.7±1.1	2.3±1.2	1.6±1.0	<.001 [*****]
4	14(5.9%)	9(16.1%)	5(2.7%)	<.001 [*****]
3	48(20.2%)	17(30.4%)	31(17.0%)	
2	74(31.1%)	16(28.6%)	58(31.9%)	
1	66(27.7%)	8(14.3%)	58(31.9%)	
0	35(14.7%)	6(10.7%)	29(15.9%)	
未回答	1(0.4%)	·	1(0.5%)	
11) 平均値±標準偏差	1.3±1.2	1.8±1.4	1.2±1.1	<.001 [*****]
4	13(5.5%)	8(14.3%)	5(2.7%)	0.004 [***]

3	29(12.2%)	11(19.6%)	18(9.9%)		
2	50(21.0%)	11(19.6%)	39(21.4%)		
1	75(31.5%)	13(23.2%)	62(34.1%)		
0	71(29.8%)	13(23.2%)	58(31.9%)		
未回答	.	.	.		

12) 平均値±標準偏差   0.6±1.2   1.4±1.6   0.5±1.0   <.001 [*****]   0.002 [***]

4	4(1.7%)	2(3.6%)	2(1.1%)	
3	11(4.6%)	5(8.9%)	6(3.3%)	
2	9(3.8%)	1(1.8%)	8(4.4%)	
1	4(1.7%)	1(1.8%)	3(1.6%)	
0	90(37.8%)	9(16.1%)	81(44.5%)	
未回答	120(50.4%)	38(67.9%)	82(45.1%)	

視機能障害不定愁訴重症度・頻度インデックス

13) 平均値±標準偏差   1.6±1.2   1.9±1.4   1.5±1.2   0.033 [*]   0.053 [N.S]

4	16(6.7%)	8(14.3%)	8(4.4%)	
3	42(17.6%)	11(19.6%)	31(17.0%)	
2	59(24.8%)	15(26.8%)	44(24.2%)	
1	61(25.6%)	9(16.1%)	52(28.6%)	
0	60(25.2%)	13(23.2%)	47(25.8%)	
未回答	.	.	.	

14) 平均値±標準偏差   1.4±1.3   2.2±1.4   1.2±1.2   <.001 [*****]   <.001 [*****]

4	22(9.2%)	14(25.0%)	8(4.4%)	
3	30(12.6%)	11(19.6%)	19(10.4%)	
2	53(22.3%)	14(25.0%)	39(21.4%)	
1	52(21.8%)	6(10.7%)	46(25.3%)	
0	81(34.0%)	11(19.6%)	70(38.5%)	
未回答	.	.	.	

15) 平均値±標準偏差   0.8±1.1   1.7±1.5   0.5±0.8   <.001 [*****]   <.001 [*****]

4	11(4.6%)	9(16.1%)	2(1.1%)	
3	16(6.7%)	9(16.1%)	7(3.8%)	
2	16(6.7%)	8(14.3%)	8(4.4%)	
1	58(24.4%)	14(25.0%)	44(24.2%)	
0	137(57.6%)	16(28.6%)	121(66.5%)	
未回答	.	.	.	

16) 平均値±標準偏差   0.5±0.9   1.3±1.4   0.3±0.7   <.001 [*****]   <.001 [*****]

4	3(1.3%)	3(5.4%)	.	
3	7(2.9%)	4(7.1%)	3(1.6%)	
2	15(6.3%)	7(12.5%)	8(4.4%)	
1	30(12.6%)	5(8.9%)	25(13.7%)	
0	127(53.4%)	13(23.2%)	114(62.6%)	
未回答	56(23.5%)	24(42.9%)	32(17.6%)	

17) 平均値±標準偏差   1.1±1.3   2.0±1.4   0.8±1.1   <.001 [*****]   <.001 [*****]

4	18(7.6%)	10(17.9%)	8(4.4%)	
3	17(7.1%)	10(17.9%)	7(3.8%)	
2	35(14.7%)	10(17.9%)	25(13.7%)	
1	60(25.2%)	10(17.9%)	50(27.5%)	
0	101(42.4%)	10(17.9%)	91(50.0%)	
未回答	7(2.9%)	6(10.7%)	1(0.5%)	

18) 平均値±標準偏差   0.8±1.0   1.5±1.4   0.5±0.8   <.001 [*****]   <.001 [*****]

4	7(2.9%)	7(12.5%)	.	
3	13(5.5%)	7(12.5%)	6(3.3%)	
2	25(10.5%)	8(14.3%)	17(9.3%)	
1	66(27.7%)	18(32.1%)	48(26.4%)	
0	127(53.4%)	16(28.6%)	111(61.0%)	
未回答	.	.	.	

19) 平均値±標準偏差   0.5±0.9   0.7±1.1   0.5±0.8   0.160 [N.S]   0.717 [N.S]

4	3(1.3%)	2(3.6%)	1(0.5%)	
3	6(2.5%)	3(5.4%)	3(1.6%)	
2	25(10.5%)	7(12.5%)	18(9.9%)	
1	39(16.4%)	4(7.1%)	35(19.2%)	
0	160(67.2%)	37(66.1%)	123(67.6%)	
未回答	5(2.1%)	3(5.4%)	2(1.1%)	

20) 平均値±標準偏差   0.6±1.0   1.0±1.3   0.5±0.9   0.004 [***]   0.029 [*]

4	6(2.5%)	5(8.9%)	1(0.5%)	
3	9(3.8%)	3(5.4%)	6(3.3%)	
2	33(13.9%)	9(16.1%)	24(13.2%)	
1	30(12.6%)	7(12.5%)	23(12.6%)	
0	158(66.4%)	32(57.1%)	126(69.2%)	
未回答	2(0.8%)	.	2(1.1%)	

21) 平均値±標準偏差   1.5±1.3   2.0±1.4   1.3±1.2   <.001 [*****]   <.001 [*****]

4	17(7.1%)	11(19.6%)	6(3.3%)	
3	36(15.1%)	10(17.9%)	26(14.3%)	
2	69(29.0%)	15(26.8%)	54(29.7%)	
1	45(18.9%)	10(17.9%)	35(19.2%)	
0	71(29.8%)	10(17.9%)	61(33.5%)	
未回答	.	.	.	

環境因子重症度・頻度インデックス

22) 平均値±標準偏差   1.4±1.3   2.5±1.4   1.1±1.1   <.001 [*****]   <.001 [*****]

4	19(8.0%)	15(26.8%)	4(2.2%)	
3	38(16.0%)	18(32.1%)	20(11.0%)	
2	48(20.2%)	10(17.9%)	38(20.9%)	
1	52(21.8%)	4(7.1%)	48(26.4%)	
0	81(34.0%)	9(16.1%)	72(39.6%)	
未回答	.	.	.	

23) 平均値±標準偏差   1.6±1.3   2.7±1.3   1.3±1.1   <.001 [*****]   <.001 [*****]

4	19(8.0%)	18(32.1%)	1(0.5%)	
3	50(21.0%)	18(32.1%)	32(17.6%)	
2	48(20.2%)	10(17.9%)	38(20.9%)	
1	58(24.4%)	4(7.1%)	54(29.7%)	
0	63(26.5%)	6(10.7%)	57(31.3%)	

未回答	.	.	.	
24) 平均値±標準偏差	1.7±1.3	2.7±1.3	1.4±1.2	<.001 [*****]
4	26(10.9%)	20(35.7%)	6(3.3%)	<.001 [*****]
3	51(21.4%)	17(30.4%)	34(18.7%)	
2	45(18.9%)	8(14.3%)	37(20.3%)	
1	60(25.2%)	6(10.7%)	54(29.7%)	
0	54(22.7%)	5(8.9%)	49(26.9%)	
未回答	2(0.8%)	.	2(1.1%)	
25) 平均値±標準偏差	0.8±1.2	1.6±1.6	0.5±0.9	<.001 [*****]
4	12(5.0%)	9(16.1%)	3(1.6%)	<.001 [*****]
3	14(5.9%)	7(12.5%)	7(3.8%)	
2	21(8.8%)	7(12.5%)	14(7.7%)	
1	38(16.0%)	7(12.5%)	31(17.0%)	
0	139(58.4%)	19(33.9%)	120(65.9%)	
未回答	14(5.9%)	7(12.5%)	7(3.8%)	
26) 平均値±標準偏差	1.0±1.2	1.6±1.4	0.8±1.0	<.001 [*****]
4	8(3.4%)	6(10.7%)	2(1.1%)	<.001 [*****]
3	25(10.5%)	10(17.9%)	15(8.2%)	
2	38(16.0%)	12(21.4%)	26(14.3%)	
1	54(22.7%)	9(16.1%)	45(24.7%)	
0	112(47.1%)	19(33.9%)	93(51.1%)	
未回答	1(0.4%)	.	1(0.5%)	
27) 平均値±標準偏差	0.6±1.0	0.7±1.0	0.6±1.0	0.574 [N.S]
4	6(2.5%)	1(1.8%)	5(2.7%)	0.573 [N.S]
3	10(4.2%)	2(3.6%)	8(4.4%)	
2	16(6.7%)	5(8.9%)	11(6.0%)	
1	43(18.1%)	7(12.5%)	36(19.8%)	
0	142(59.7%)	25(44.6%)	117(64.3%)	
未回答	21(8.8%)	16(28.6%)	5(2.7%)	
28) 平均値±標準偏差	0.8±1.2	1.4±1.6	0.7±1.0	<.001 [*****]
4	12(5.0%)	10(17.9%)	2(1.1%)	0.004 [***]
3	14(5.9%)	4(7.1%)	10(5.5%)	
2	24(10.1%)	5(8.9%)	19(10.4%)	
1	45(18.9%)	7(12.5%)	38(20.9%)	
0	127(53.4%)	22(39.3%)	105(57.7%)	
未回答	16(6.7%)	8(14.3%)	8(4.4%)	
29) 平均値±標準偏差	1.7±1.5	2.3±1.7	1.6±1.4	0.012 [*]
4	16(6.7%)	11(19.6%)	5(2.7%)	0.011 [*]
3	34(14.3%)	6(10.7%)	28(15.4%)	
2	18(7.6%)	3(5.4%)	15(8.2%)	
1	14(5.9%)	2(3.6%)	12(6.6%)	
0	42(17.6%)	8(14.3%)	34(18.7%)	
未回答	114(47.9%)	26(46.4%)	88(48.4%)	
スコアA	17.0±9.2	23.7±10.3	14.9±7.8	<.001 [*****]
スコアB	8.6±6.4	13.4±8.4	7.1±4.8	<.001 [*****]
スコアC	8.7±6.4	13.8±6.9	7.1±5.4	<.001 [*****]
スコアD	34.2±19.6	50.8±23.1	29.1±15.2	<.001 [*****]
スコアE	27.5±1.3	26.7±1.9	27.7±1.0	<.001 [*****]
スコアによるドライアイ診断	35.0±18.1	51.3±21.8	30.0±13.4	<.001 [*****]

Plus minus value:mean±sd.

Variables	Total (N=476)	Normal[NEW CRITERIA] (N=119)	PDE[NEW CRITERIA] (N=186)	DDE[NEW CRITERIA] (N=171)	P-value
Ward					
Tokyo	168(35.3%)	59(49.6%)	44(23.7%)	65(38.0%)	<.001 [*****]
Osaka	158(33.2%)	39(32.8%)	69(37.1%)	50(29.2%)	
Fukuoka	70(14.7%)	16(13.4%)	43(23.1%)	11(6.4%)	
Keio Univ	80(16.8%)	5(4.2%)	30(16.1%)	45(26.3%)	
Age(yr)	39.7±11.5	36.3±9.1	39.5±11.3	42.3±12.6	<.001 [*****]
Women	326(68.5%)	66(55.5%)	129(69.4%)	131(76.6%)	<.001 [*****]
Right eye	238(50.0%)	61(51.3%)	97(52.2%)	80(46.8%)	0.569 [N.S]
Left eye	238(50.0%)	58(48.7%)	89(47.8%)	91(53.2%)	
[OLD CRITERIA]					
Schirmer Test≤5mm	154(32.4%)	.	73(39.2%)	81(47.4%)	<.001 [*****]
BUT≤5s	326(68.5%)	.	159(85.5%)	167(97.7%)	<.001 [*****]
Fluorescein≥1pt	324(68.1%)	35(29.4%)	122(65.6%)	167(97.7%)	<.001 [*****]
Rose bengal≥3pts	109(22.9%)	.	5(2.7%)	104(60.8%)	<.001 [*****]
Diagnosis					
Normal	84(17.6%)	84(70.6%)	.	.	<.001 [*****]
PDE	109(22.9%)	35(29.4%)	74(39.8%)	.	
DDE	283(59.5%)	.	112(60.2%)	171(100.0%)	
[NEW CRITERIA]					
Schirmer Test≤5mm	154(32.4%)	.	73(39.2%)	81(47.4%)	<.001 [*****]
BUT≤5s	326(68.5%)	.	159(85.5%)	167(97.7%)	<.001 [*****]
Fluorescein≥3pt	151(31.7%)	.	9(4.8%)	142(83.0%)	<.001 [*****]
Rose bengal≥3pts	109(22.9%)	.	5(2.7%)	104(60.8%)	<.001 [*****]
Diagnosis					
Normal	119(25.0%)	119(100.0%)	.	.	<.001 [*****]
PDE	186(39.1%)	.	186(100.0%)	.	
DDE	171(35.9%)	.	.	171(100.0%)	
[OLD-NEW CRITERIA]					
Schirmer Test					
No-No	316(66.4%)	119(100.0%)	110(59.1%)	87(50.9%)	<.001 [*****]
No-Yes	.	.	.	.	
Yes-No	.	.	.	.	
Yes-Yes	154(32.4%)	.	73(39.2%)	81(47.4%)	
BUT					
No-No	148(31.1%)	119(100.0%)	27(14.5%)	2(1.2%)	<.001 [*****]
No-Yes	.	.	.	.	
Yes-No	.	.	.	.	
Yes-Yes	326(68.5%)	.	159(85.5%)	167(97.7%)	
Fluorescein					
No-No	152(31.9%)	84(70.6%)	64(34.4%)	4(2.3%)	<.001 [*****]
No-Yes	.	.	.	.	
Yes-No	173(36.3%)	35(29.4%)	113(60.8%)	25(14.6%)	
Yes-Yes	151(31.7%)	.	9(4.8%)	142(83.0%)	
Rose Bengal					
No-No	365(76.7%)	119(100.0%)	181(97.3%)	65(38.0%)	<.001 [*****]
No-Yes	.	.	.	.	
Yes-No	.	.	.	.	
Yes-Yes	109(22.9%)	.	5(2.7%)	104(60.8%)	
Diagnosis					
Normal-Normal	84(17.6%)	84(70.6%)	.	.	<.001 [*****]
Normal-PDE	.	.	.	.	
Normal-DDE	.	.	.	.	
PDE-Normal	35(7.4%)	35(29.4%)	.	.	
PDE-PDE	74(15.5%)	.	74(39.8%)	.	
PDE-DDE	.	.	.	.	
DDE-Normal	.	.	.	.	
DDE-PDE	112(23.5%)	.	112(60.2%)	.	
DDE-DDE	171(35.9%)	.	.	171(100.0%)	
[EXAMINATION]					
Schirmer					
mean±sd	13.6±10.9	22.6±10.2	11.3±9.7	9.3±8.6	<.001 [*****]
median[IQR]	10.0[5.0-20.0]	22.5[14.0-35.0]	7.0[4.0-16.0]	6.0[3.5-12.0]	<.001 [*****]
BUT					
mean±sd	4.5±2.8	8.0±2.5	3.8±2.0	2.8±1.3	<.001 [*****]
median[IQR]	4.0[3.0-6.0]	7.0[6.0-9.0]	3.0[3.0-5.0]	3.0[2.0-3.0]	<.001 [*****]
Fluorescein					
mean±sd	1.9±2.2	0.4±0.6	1.0±0.9	4.2±2.3	<.001 [*****]
median[IQR]	1.0[0.0-3.0]	0.0[0.0-1.0]	1.0[0.0-2.0]	4.0[3.0-6.0]	<.001 [*****]
Rose bengal					
mean±sd	1.5±1.6	0.4±0.6	0.8±0.8	3.0±1.7	<.001 [*****]
median[IQR]	1.0[0.0-2.0]	0.0[0.0-1.0]	1.0[0.0-1.0]	3.0[2.0-4.0]	<.001 [*****]

IQR:interquartile range

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	N	%
	2	0.84
	18	7.56
	19	7.98
	25	10.50
	58	24.37
	61	25.63
	63	26.47
	73	30.67
	113	47.48
	121	50.84
	160	67.23
	166	69.75
	167	70.17
	176	73.95
	184	77.31
	189	79.41
	192	80.67
	206	86.55
	208	87.39
	211	88.66
	222	93.28
	228	95.80
	229	96.22
	230	96.64
	231	97.06
	232	97.48
	233	97.90
	235	98.74
	237	99.58
	238	100.00

X-axis categories: 8.6, 8.9, 9.6, 17.2, 17.9, 19.2, 20.8, 25.9, 26.8, 34.5, 35.7, 38.5, 41.7, 43.1, 44.6, 48.1, 51.7, 53.6, 57.7, 60.3, 62.5, 67.3, 68.2, 71.4, 72.9, 77.6, 79.5, 80.4, 96.2, 98.2
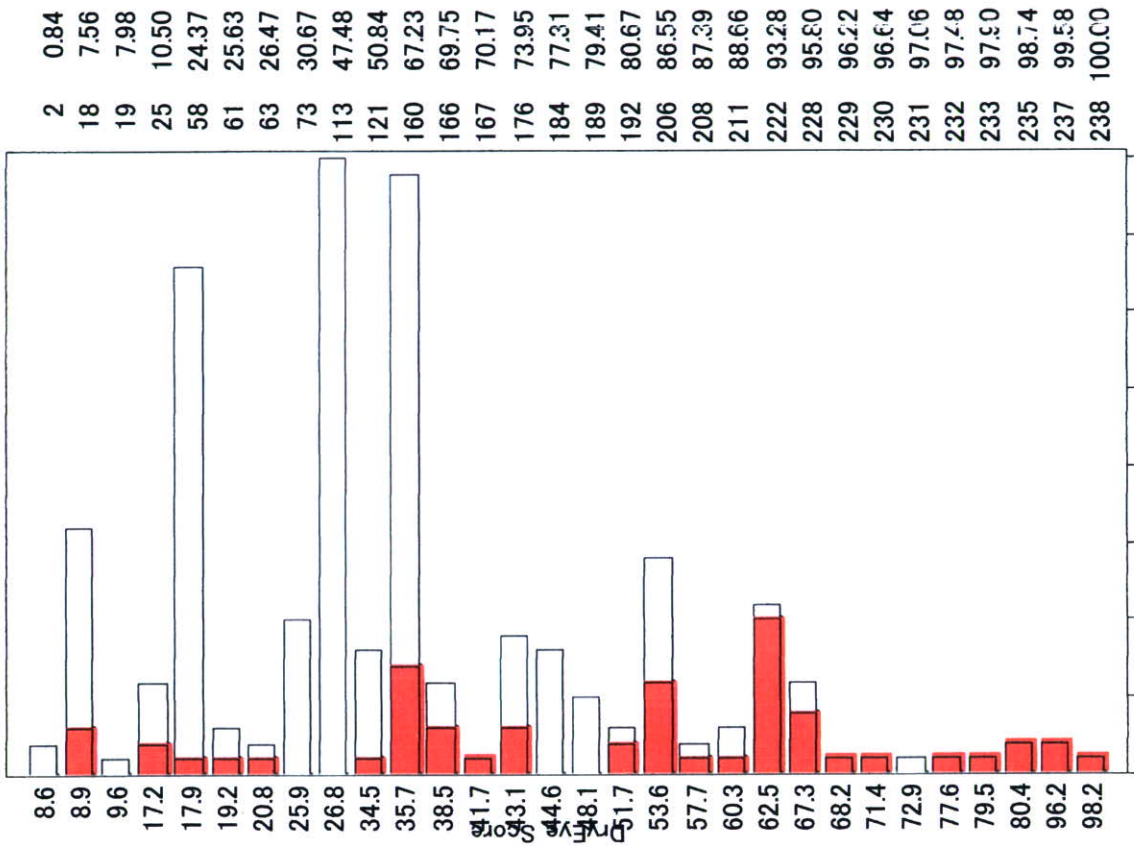
Number of Pts

Dry Eye   Normal
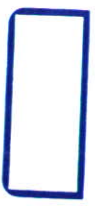
Distribution of No. of Answer and Total Score(Questionary Survey)