Section Three : Questions about Dental Health to Assess Knowledge

Question 16: What are the important things to keep our teeth and gums healthy ?

Table 1.16 Important things to keep teeth and gums healthy by locality

Keep teeth and gums healthy *	Urban	Rural	Total
Correct diet	49 - 4%	56 - 6%	105 - 5%
Reduce sugar	241 - 21%	199 - 21%	440 - 21%
Toothbrushing	709 - 63%	601 - 64%	310 - 63%
Check-ups	578 - 5%	44 - 5%	102 - 5%
Other	28 - 3%	8 - 1%	36 - 2%
Don't know	43 - 4%	31 - 3%	74 - 4%
Total	1128 - 100%	939 - 100%	2067 - 100%

* single response allowed

Question 17: Which food can damage teeth ?

Table 1.17 Food that can cause tooth damage, by locality

Cause of tooth decay*	Urban	Rural	Total
Sugary food	698 - 63%	537 - 58%	1235 - 61%
Soft & sticky food	77- 7%	142 - 15%	219 - 11%
Hard food	241 - 22%	211- 22%	452 - 22%
Other	66 - 6%	7 - 17%	73 - 3%
Don't know	28 - 2%	34 - 4%	62 - 3%
Total	1110 - 100%	931 - 100%	2041 - 100%

*single response allowed

Section Four: Questions about Perception and Knowledge of Orthodontic Treatment

Question 19: Do you like the appearance of your teeth ?

Table 1.19 Schoolchildren perception of their teeth appearance, by locality

Good appearance	Urban	Rural	Total
Yes	369 - 33%	338 - 36%	707 - 35%
No	464 - 42%	320 - 35%	784 - 38%
Don't know	279 - 25%	274 - 29%	553 - 27%
Total	1112 - 100%	932 - 100%	2044 - 100%

Question 20. If "no"(to Q19), what about your teeth do you most dislike ?

Table 1.20 The "most disliked" tooth appearance, by locality

Dislike most	Urban	Rural	Total
Shape of tooth	183 - 26%	292 - 34%	475 - 31%
Colour	137 - 19%	138 - 16%	275 - 17%
Size	59 - 8%	119 - 14%	178 - 12%
Missing upper incisor	14 - 2%	22 - 2%	36 - 2%
Stick out	64 - 9%	38 - 5%	102 - 7%
Crooked	176 - 25%	183 - 22%	359 - 23%
Gap between teeth	17 - 2%	28 - 3%	45 - 3%
Others	60 - 9%	23 - 3%	83 - 5%
Total	710 - 100%	843 - 100%	1553 - 100%

Question 21: Do you know that the appearance of crowding or protruding teeth could be improved ?

Table 1.21 Knowledge of improving tooth appearance, by locality

Improve appearance	Urban	Rural	Total
Yes	621 - 57%	168 - 18%	789 - 39%
No	467 - 43%	751 - 82%	1218 - 61%
Total	1088 - 100%	919 - 100%	2007 - 100%

Question 22: Do you know how long that treatment would take ?

Table 1.22 Knowledge of length of orthodontic treatment, by locality

Know length of orthodontic treatment	Urban	Rural	Total
Yes	358 - 45%	126 - 23%	484 - 36%
No	437 - 55%	416 - 77%	853 - 64%
Total	795 - 100%	542 - 100%	1337 - 100%

Question 23: Do you **think** your teeth need to be straightened ?

Table 1.23 Perceived need to have teeth straightened, by locality

Need teeth straightened	Urban	Rural	Total
Yes	755 - 69%	738 - 80%	1493 - 74%
No	190 - 17%	89 - 10%	279 - 14%
Don't know	150 - 14%	101 - 11%	251 -12%
Total	1095 - 100%	928 - 100%	2023 - 100%

Question 24: If it is **necessary**, would you like to have your teeth straightened?

Table 1.24 Willingness to have teeth straightened, by locality

Willingness of treatment	Urban	Rural	Total
Yes	821 - 75%	748 - 81%	1569 - 78%
No	128 - 12%	89 - 10%	217 - 11%
Don't know	141 - 13%	88 - 10%	229 - 11%
Total	1090 - 100%	925 - 100%	2015 - 100%

Question 26: Do you think the teeth which have a good alignment, will improve your appearance and confidence?

Table 1.26 Good tooth alignment will improve appearance and confidence, by locality

Good alignment improve appearance	Urban	Rural	Total
Yes	856 - 91%	745 - 83%	160 - 87%
No	87 - 9%	156 - 17%	243 - 13%
Don't know	-	-	-
Total	943 - 100%	901 - 100%	1844 - 100%

Schoolchildren Self-Assessment of the Aesthetic Component

Question 25: Here is the scale of 10 photographs of teeth showing different levels of attractiveness. Number 1 is considered the most attractive and number 10 is the least attractive.

Where would you put your teeth on this scale ?

1 2 3 4 5 6 7 8 9 10

Table 1.25a Schoolchildren self-assessment of Aesthetic Component, by locality (detailed)

AC Grade	Urban	Rural	Total	Treatment Need
1	309 - 27%	246 - 26%	555 - 27%	1931 - 94% No/Slight Need of Treatment
2	449 - 40%	330 - 36%	779 - 38%	
3	222 - 20%	198 - 21%	420 - 20%	
4	100 - 9%	77 - 8%	177 - 9%	
5	22 - 2%	15 - 1%	37 - 1%	94 - 4% Borderline Need of Treatment
6	9 - 1%	30 - 3%	39 - 2%	
7	3 - 0.3%	15 - 2%	18 - 1%	
8	7 - 1%	17 - 2%	24 - 1%	29 - 2% Definite Need of Treatment
9	2 - 0.2%	2 - 0.2%	4 - 1%	
10	-	1 - 0.1%	1 - 0%	
Total	1123 - 100%	931 - 100%	2054 - 100%	

Table 1.25b Schoolchildren self-assessment of Aesthetic Component, by locality

AC Grade	Urban	Rural	Total	Treatment Need
1 - 4	1080 - 96%	851 - 91%	1931 - 94%	No Need Treatment
5 - 7	34 - 3%	60 - 6%	94 - 4%	Borderline Need of Treatment
8 - 10	9 - 1%	20 - 3%	29 - 2%	Definite Need of Treatment
Total	1123 - 100%	931 - 100%	2054 - 100%	

Response to **Question 27** has been omitted. The question was not appropriate as more than 99 percent responded that they want to be good looking.

Survey One - Results of Clinical Examination Using the IOTN

Table 1.27a Dentist assessment of Dental Health Component, by locality (detailed)

DHC Grade	Urban	Rural	Total	Treatment Need
1	-	2 - 0.2%	2 - 0.2%	655 - 32% No/Slight Need of Treatment
2 a	89 - 8%	50 - 5%	139 - 7%	
2 b	13 - 1%	10 - 1%	23 - 1%	
2 c	13 - 1%	5 - 0.5%	18 - 1%	
2 d	147 - 13%	128 - 14%	275 - 13%	
2 e	3 - 0.3%	1 - 0.1%	4 - 0.2%	
2 f	8 - 1%	6 - 1%	14 - 1%	
2 g	100 - 9%	80 - 9%	180 - 9%	
3 a	128 - 11%	200 - 21%	328 - 16%	921 - 45% Borderline Need of Treatment
3 b	36 - 3%	11 - 1%	47 - 2%	
3 c	43 - 4%	40 - 4%	83 - 4%	
3 d	216 - 19%	161 - 17%	377 - 18%	
3 e	21 - 2%	9 - 1%	30 - 2%	
3 f	31 - 3%	25 - 3%	56 - 3%	
4 a	28 - 3%	30 - 3%	58 - 3%	483 - 23% Definite Need of Treatment
4 b	11 - 1%	4 - 0.4%	15 - 1%	
4 c	36 - 3%	7 - 1%	43 - 2%	
4 d	88 - 8%	84 - 9%	172 - 8%	
4 e	11 - 1%	1 0.1%	12 - 1%	
4 f	10 - 1%	3 - 0.3%	13 - 1%	
4 h	13 - 1%	30 - 3%	43 - 2%	
4 l	3 - 0.3%	1 - 0.1%	4 - 0.2%	
4m	3 - 0.3%	-	3 - 0.1%	
4 t	3 - 0.3%	1 - 0.1%	4 - 0.2%	
4 x	1 - 0.1%	-	1 - 0%	
5 a	29 - 3%	18 - 2%	47 - 2%	
5 i	33 - 3%	31 - 3%	64 - 3%	
5m	2 - 0.2%	-	2 - 0.1%	
5p	2 - 0.2%	-	2 - 0.1%	
Total	**1121 - 100%**	**938 - 100%**	**2059 - 100%**	

Table 1.27b Dentist assessment of Dental Health Component, by locality

DHC Grade	Urban	Rural	Total	Treatment Need
1 - 2	373 - 33%	282 - 30%	655 - 32%	No/Slight Need of Treatment
3	475 - 43%	446 - 48%	921 - 45%	Borderline Treatment Need
4 - 5	273 - 24%	210 - 22%	483 - 23%	Definite Need of Treatment
Total	1121 - 100%	938 - 100%	2059 - 100%	

Table 1.28b Dentist assessment of Dental Health Component, by gender

DHC Grade	Female	Male	Total	Treatment Need
1 - 2	355 - 34.5%	300 - 29%	655 - 32%	No/Slight Need of Treatment
3	458 - 44.5%	463 - 45%	921 - 45%	Borderline Treatment Need
4 - 5	217 - 21%	266 - 26%	483 - 23%	Definite Need of Treatment
Total	1030 - 100%	1029 - 100%	2059 - 100%	

Table 1.28a Dentist assessment of Dental Health Component, by gender (detailed)

DHC Grade	Female	Male	Total	Treatment Need
1	1 - 0.1%	1 - 0.1%	2 - 0.1%	655 - 32% No/Slight Need of Treatment
2a	75 - 7%	64 - 6%	139 - 7%	
2b	11 - 1%	12 - 1%	23 - 1%	
2c	11 - 1%	7 - 1%	18 - 1%	
2d	150 - 15%	125 - 12%	275 - 13%	
2e	3 - 0.3%	1 - 0.1%	4 - 0.2%	
2f	5 - 1%	7 - 1%	14 - 1%	
2g	99 - 10%	83 - 8%	180 - 9%	
3a	146 - 14%	183 - 18%	328 - 16%	921 - 45% Borderline Need of Treatment
3b	27 - 3%	20 - 2%	47 - 2%	
3c	47 - 4%	36 - 4%	83 - 4%	
3d	200 - 19%	174 - 17%	377 - 18%	
3e	14 - 1%	16 - 2%	30 - 2%	
3f	24 - 2%	32 - 3%	56 - 3%	
4a	29 - 3%	29 - 3%	58 - 3%	483 - 23% Definite Need of Treatment
4b	7 - 1%	8 - 1%	15 - 1%	
4c	26 - 3%	17 - 2%	43 - 2%	
4d	82 - 8%	90 - 9%	172 - 8%	
4e	6 - 1%	6 - 1%	12 - 1%	
4f	4 - 0.4%	9 - 1%	13 - 1%	
4h	22 - 2%	21 - 2%	43 - 2%	
4l	2 - 0.2%	2 - 0.2%	4 - 0.2%	
4m	1 - 0.2%	2 - 0.2%	3 - 0.1%	
4t	2 - 0.2%	2 - 0.2%	4 - 0.2%	
4x	1 - 0.1%	-	1 - 0%	
5a	9 - 1%	38 - 4%	47 - 2%	
5i	25 -2%	39 - 4%	64 - 3%	
5m	1 - 0.1%	1 - 0.1%	2 - 0.1%	
5p	-	2 - 0.2%	2 - 0.1%	
Total	**1030 - 100%**	**1029 -100%**	**2059 - 100%**	

Table 1.29a Dentist assessment of Aesthetic Component, by locality (detailed)

AC Grade	Urban	Rural	Total	Treatment Need
1	1 - 0.1%	1 - 0.1%	2 - 0.1%	905 - 44% No/Slight Need of Treatment
2	120 - 11%	83 - 9%	203 - 10%	
3	129 - 12%	137 - 15%	266 - 13%	
4	213 - 19%	221 - 23%	434 - 21%	
5	181 - 16%	111 - 12%	292 - 14%	799 - 39% Borderline Need of Treatment
6	139 - 12%	139 - 15%	278 - 14%	
7	123 - 11%	106 - 11%	229 - 11%	
8	158 - 14%	103 - 11%	261 - 13%	357 - 37% Definite Need of Treatment
9	48 - 4%	26 - 3%	74 - 3%	
10	12 - 1%	10 - 1%	22 - 1%	
Total	1124 - 100%	937 - 100%	2061 - 100%	

Table 1.29b Dentist assessment of Aesthetic Component, by locality

AC Grade	Urban	Rural	Total	Treatment Need
1 - 4	463 - 42%	442 - 47%	905 - 44%	No Need Treatment
5 - 7	443 - 39%	356 - 38%	799 - 39%	Borderline Need of Treatment
8 - 10	218 - 19%	139 - 15%	357 - 17%	Definite Need of Treatment
Total	1124 - 100%	937 - 100%	2061 - 100%	

Table 1.30a Dentist assessment of Aesthetic Component, by gender (detailed)

AC Grade	Female	Male	Total	Treatment Need
1	1 - 0.1%	1 - 0.1%	2 - 0.1%	904 - 44% No/Slight Need of Treatment
2	115 - 11%	88 - 9%	203 - 10%	
3	146 - 14%	120 - 12%	266 - 13%	
4	235 - 23%	198 - 19%	433 - 21%	
5	131 - 13%	161 - 15%	292 - 14%	798 - 39% Borderline Need of Treatment
6	137 - 13%	141 - 14%	278 - 14%	
7	118 - 11%	110 - 11%	228 - 11%	
8	119 - 12%	142 - 14%	261 - 13%	357 - 17% Definite Need of Treatment
9	21 - 2%	53 - 5%	74 - 3%	
10	8 - 1%	14 - 1%	22 - 1%	
Total	1031 - 100%	1028 - 100%	2059 - 100%	

Table 1.30b Dentist assessment of Aesthetic Component, by gender

AC Grade	Female	Male	Total	Treatment Need
1 - 4	497 - 48%	407 - 40%	904 - 44%	No Need Treatment
5 - 7	386 - 37%	412 - 40%	798 - 39%	Borderline Need of Treatment
8 - 10	148 - 15%	209 - 20%	357 - 17%	Definite Need of Treatment
Total	1031 - 100%	1028 - 100%	2059 - 100%	

Survey Two - Results of the Questionnaire (schoolchildren and their parents)

Sample size : 686 Schoolchildren and 679 Parents

Section One: Questions about Dental Attendance and Past Dental Treatment

Question 1 : Schoolchildren : Have you ever been to the dentist ?

Parents : Have you ever taken your child to the dentist ?

Table 2.1a Dental attendance, by locality (schoolchildren)

Dental attendance	Urban	Rural	Total
Yes	317 - 91%	245 - 73%	562 - 82%
No	32 - 9%	92 - 27%	124 - 18%
Total	349 - 100%	337 - 100%	686 - 100%

Table 2.1b Dental attendance of child, by locality (parents)

Dental attendance	Urban	Rural	Total
Yes	309 - 90%	207 - 62%	516 - 76%
No	36 - 10%	126 - 38%	162 - 24%
Total	345 - 100%	333 - 100%	678 - 100%

Question 2: **Schoolchildren :** Do you go to the dentist when you have trouble ?

Parents : Do you take your children to the dentist only if they have trouble?

Table 2.2a Visit only due to a tooth problem, by locality (schoolchildren)

Problem	Urban	Rural	Total
Yes	210 - 66%	188 - 76%	398 - 71%
No	108 - 34%	58 - 24%	166 - 29%
Total	318 - 100%	246 - 100%	564 - 100%

Table 2.2b Visit only due to a tooth problem of child, by locality (parents)

Problem	Urban	Rural	Total
Yes	188 - 61%	173 - 84%	361 - 70%
No	121 - 39%	33 - 16%	154 - 30%
Total	309 - 100%	206 - 100%	515 - 100%

Question 3: **Schoolchildren :** Do you go to the dentist regularly ?

Parents : Do you take your children to the dentist regularly ?

Table 2.3a Regular visits, by locality (schoolchildren)

Regular visits	Urban	Rural	Total
Yes	79 - 25%	37 - 15%	116 - 20%
No	240 - 75%	209 - 85%	449 - 80%
Total	319 - 100%	246 - 100%	565 - 100%

Table 2.3b Regular visits of child, by locality (parents)

Regular visits	Urban	Rural	Total
Yes	90 - 29%	33 - 16%	123 - 24%
No	219 - 78%	173 - 84%	392 - 76%
Total	309 - 100%	206 - 100%	515 - 100%

Question 4: **Schoolchildren :** You go to the dentist regularly, what is for ?
Parents : What is your purpose (for your child) to visit the dentist regularly ?

Table 2.4a Reason for regular visits, by locality (schoolchildren)

Reasons	Urban	Rural	Total
Routine check-up	17 - 19%	9 - 23%	26 - 20%
Filling	42 - 45%	20 - 51%	62 - 47%
Orthodontic treatment	32 - 34%	10 - 26%	42 - 32%
Filling & Orthod.treatm.	2 - 2%	-	2 - 1%
Total	93 - 100%	39 - 100%	132 - 100%

Table 2.4b Reason for regular visits of child, by locality (parents)

Reasons	Urban	Rural	Total
Routine check-up	36 - 39%	14 - 41%	50 - 40%
Filling	29 - 32%	15 - 44%	44 - 35%
Orthodontic treatment	26 - 29%	5 - 15%	31 - 25%
Filling & Orthod.treatm.	-	-	-
Total	91 - 100%	34 - 100%	125 - 100%

Question 5: **Schoolchildren :** Who told you to go to the dentist ?

Parents : Did you tell your children to visit the dentist ?

Table 2.5a Person who suggested visit to dentist, by locality (schoolchildren)

Recommendation	Urban	Rural	Total
Parents	306 - 96%	192 - 78%	498 - 88%
Teachers	5 - 2%	31 - 13%	36 - 7%
Both	-	12 - 5%	12 - 2%
Others	6 - 2%	11 - 4%	17 - 3%
Total	317 - 100 %	246 - 100%	563 - 100%

Table 2.5b Recommendation from parent for child's visit to dentist, by locality

Recommendation	Urban	Rural	Total
Yes	278 - 90%	163 - 79%	441 - 86%
No	31 - 10%	43 - 21%	74 - 14%
Total	309 - 100%	206 - 100%	515 - 100%

Question 6: **Schoolchildren :** When did you last go to the dentist?

Parents : When was the last time you took them to the dentist?

Table 2.6a Time since last visit to dentist, by locality (schoolchildren)

Last visit to dentist	Urban	Rural	Total
6 months ago	169 - 54%	114 - 46%	283 - 51%
Year ago	50 - 16%	63 - 26%	113 - 20%
1-2 years ago	51 - 16%	39 - 16%	90 - 16%
More than 2 years	44 - 14%	30 - 12%	74 - 13%
Total	314 - 100%	246 - 100%	560 - 100%

Table 2.6b Time since last visit of child to the dentist, by locality (parents)

Last visit to dentist	Urban	Rural	Total
6 months ago	185 - 60%	86 - 42%	271 - 52%
Year ago	59 - 19%	42 - 20%	101 - 20%
1-2 years ago	37 - 12%	31 - 15%	68 - 13%
More than 2 years	28 - 9%	47 - 23%	75 - 15%
Total	309 - 100%	206 - 100%	515 - 100%

Question 7: **Schoolchildren :** Do you go to.....

Parents : Do you and you family usually go to.....

Table 2.7a Type of dentist visited, by locality (schoolchildren)

Type of dentist	Urban	Rural	Total
Private	255 - 82%	29 - 12%	284 - 51%
Public health centre	15 - 5%	134 - 55%	149 - 26%
School dentist	8 - 2%	17 - 7%	25 - 4%
Dental hospital	34 - 11%	65 - 26%	99 - 18%
Others	-	1 - 0.4%	1 - 0.2%
Total	312 - 100%	246 - 100%	558 - 100%

Table 2.7b Type of dentist visited by family, by locality (parents)

Type of dentist	Urban	Rural	Total
Private	264 - 86%	30 - 15%	289 - 57%
Public health centre	12 - 4%	121 - 59%	133 - 26%
School dentist	-	-	-
Dental hospital	29 - 9 %	45 - 22%	74 - 14%
Others	4 - 1%	9 - 4%	13 - 3%
Total	309 - 60%	205 - 40%	514 - 100%

Question 8: **Schoolchildren :** Have you had any teeth filled ?

Parents : No equivalent question for this number

Table 2.8 Experience of tooth filling, by locality (schoolchildren)

Filling	Urban	Rural	Total
Yes	235 - 74%	89 - 36%	324 - 57%
No	76 - 24%	141 - 57%	217 - 39%
Don't know	7 - 2%	16 - 7%	23 -4%
Total	318 - 100%	246 - 100%	564 - 100%

Question 9: **Schoolchildren :** Have you had any teeth taken out?

Parents : No equivalent question for this number

Table 2.9 Experience of tooth extraction, by locality (schoolchildren)

Extraction	Urban	Rural	Total
Yes	280 - 88%	186 - 76%	466 - 83%
No	35 - 11%	56 - 23%	91 - 16%
Don't know	3 - 1%	4 - 1%	7 - 1%
Total	318 - 100%	246 - 100%	564 - 100%

Question 10: Schoolchildren : Why did you have your teeth taken out?

Parents: No equivalent question for this number

Table 2.10 Reason for tooth extraction, by locality (schoolchildren)

Reason	Urban	Rural	Total
Caries	42 - 15%	62 - 32%	104 - 22%
Orthodontic treatment	44 - 16%	16 - 9%	60 - 13%
Deciduous teeth	180 - 65%	109 - 57%	289 - 62%
Don't know	12 - 4%	4 - 2%	16 - 3%
Total	278 - 100%	191 - 100%	469 - 100%

Question 11: Schoolchildren : Who has taken out your teeth?

Parents : No equivalent question for this number

Table 2.11 Person who did tooth extraction, by locality (schoolchildren)

Tooth extraction by	Urban	Rural	Total
Medical doctor	8 - 3%	11 - 5%	19 - 4%
Dentist	268 - 94%	169 - 88%	437 - 91%
Nurse	4 - 1%	5 - 3%	9 - 2%
Other	5 - 2%	8 - 4%	13 - 3%
Total	285 - 100%	193 - 100%	478 - 100%

Section Two: Questions about Dental Health Knowledge and Behaviour

Question 12 : Schoolchildren : I have been given advice regarding oral health care from ...

Q.8 : Parents : I have been given advice regarding oral health care from .....

Table 2.12a Source of dental health information, by locality (schoolchildren)

Information source	Urban	Rural	Total
Teacher	22 - 6%	55 - 16%	77 - 11%
Dentist	67 - 19%	91 - 27%	158 - 23%
Parents	68 - 20%	42 -13%	110 - 16%
Books	12 - 4%	12 - 4%	23 - 4%
Other	1 - 0.3%	4 - 1%	5 - 1%
Combination	177 - 51%	133 - 39%	310 - 45%
Total	347 - 100%	337 - 100%	684 - 100%

Table 2.12b Source of dental health information, by locality (parents)

Information source	Urban	Rural	Total
School meeting	13 - 4%	35 - 11%	48 - 7%
Dentist	114 - 33%	117 - 35%	231 - 34%
Reading books	41 - 12%	64 - 19%	105 - 16%
Other resources	15 - 4%	21 - 6%	36 - 5%
Combination	162 - 46%	95 - 28%	257 - 38%
Total	345 - 100%	332 - 100%	677 - 100%

Question 13 : **Schoolchildren :** How often do you brush your teeth?

Q.9 : **Parents :** How many times a day you recommend your children to brush their teeth?

Table 2.13a Frequency of toothbrushing, by locality (schoolchildren)

Frequency	Urban	Rural	Total
Twice a day	325 - 93%	292 - 87%	617 - 90%
Once a day	18 - 5%	38 - 11%	56 - 8%
Once a week	2 - 1%	5 - 2%	7 - 1%
Never	-	2 - 0.6%	2 - 0.3%
Other frequency	4 - 1%	-	4 - 1%
Total	349 - 100%	337 - 100%	686 - 100%

Table 2.13b Parents recommendation for toothbrushing, by locality (parents)

Frequency	Urban	Rural	Total
Twice a day	170 - 50%	117 - 35%	287 - 42%
Once a day	170 - 49%	206 - 62%	376 - 56%
Once a week	3 - 1%	6 - 2%	9 - 1%
Never	-	-	-
Other frequency	2 - 1%	3 - 1%	5 - 1%
Total	332 - 100%	617 - 100%	677 - 100%

Question 14 : Schoolchildren : The proper time for toothbrushing is .....

Q.10 : Parents : The proper time for toothbrushing is .....

Table 2.14a Proper time for toothbrushing, by locality (schoolchildren)

Proper time for brushing teeth	Urban	Rural	Total
After breakfast & dinner	149 - 43%	144 - 43%	293 - 43%
Before breakfast &go to bed	181 - 52%	170 - 50%	351 - 51%
Time is not important	5 - 1%	20 - 6%	25 - 4%
Others	12 - 4%	3 - 1%	15 - 2%
Total	347 -100%	337 - 100%	684 - 100%

Table 2.14b Proper time for toothbrushing, by locality (parents)

Proper time for brushing teeth	Urban	Rural	Total
After breakfast & dinner	170 - 49%	117 - 35%	287 - 42%
Before breakfast &go to bed	170 - 49%	206 - 62%	376 - 56%
Time is not important	3 - 1%	6 - 2%	9 - 1%
Others	2 - 1%	3 - 1%	5 - 1%
Total	345 -100%	332 - 100%	677 - 100%

Question 15: Schoolchildren : The toothbrush that I use at home is my own toothbrush
Parents : No equivalent question for this number

Table 2.15a Have their own toothbrush, by locality (schoolchildren)

Have toothbrush	Urban	Rural	Total
Yes	345 - 99%	285 - 85%	630 - 92%
No	4 - 1%	52 - 15%	56 - 8 %
Total	349 - 100%	337 - 100%	686 - 100%

Question 16 : Schoolchildren: Do you use toothpaste to brush your teeth ?
Q.11 : Parents : Does your family use toothpaste to brush their teeth ?

Table 2.16a Use of toothpaste, by locality (schoolchildren)

Use toothpaste	Urban	Rural	Total
Yes	343 - 97.3%	298 - 88%	640 - 93%
Not always	5 - 2%	7 - 2%	12 - 2%
Never	1 - 0.3%	32 - 10%	33 - 5%
Total	349 - 100%	337 - 100%	686 - 100%

Table 2.16b Use of toothpaste to brush the teeth, by locality (parents)

Use toothpaste	Urban	Rural	Total
Yes	344 - 99.7%	321 - 96 %	665 - 98%
Not always	-	3 - 1%	3 - 0.4%
Never	1 - 0.3%	10 - 3%	11 - 2%
Total	345 - 100%	334 - 100%	679 - 100%

Question 17 : **Schoolchildren :** Do you use other things besides a toothbrush and toothpaste to clean your teeth?

Q.12 : **Parents :** Do you use other things besides toothbrush and toothpaste to clean your teeth ?

Table 2.17a Use other things to clean teeth, by locality (schoolchildren)

Use other cleaning	Urban	Rural	Total
Yes	8 - 2%	7 - 2%	15 - 2%
No	341 - 98%	330 - 98%	671 - 98%
Total	349 - 100%	337 - 100%	686 - 100%

Table 2.17b Use other things to clean teeth, by locality (parents)

Use other cleaning	Urban	Rural	Total
Yes	5 - 1%	5 - 1%	10 - 1%
No	340 - 99%	329 - 99%	669 - 100%
Total	345 - 100%	334 - 100%	679 - 100%

Question 18: **Schoolchildren :** The school I attended has a dental clinic with a dentist

Parents : No equivalent question for this number

Table 2.18 Availability of dental clinic and dentist at school (schoolchildren)

School dental clinic	Urban	Rural	Total
Yes	168 - 48%	46 - 14%	214 - 65%
No	181 - 52%	291 - 86%	472 - 35%
Total	349 - 100%	337 - 100%	686 - 100%

Section Three : Questions about Dental Health to Assess Knowledge

Question 19 : **Schoolchildren:** What are the important things we should do to keep our teeth and gums healthy ?

Q.16 : **Parents:** What are the important things to keep our teeth and gums healthy ?

Table 2.19a Important things to keep teeth and gums healthy, by locality (schoolchildren)

Keep teeth and gums healthy *	Urban	Rural	Total
Correct diet total responses	108 - 31%	100 - 30%	208 - 30%
Reduce sugar total responses	206 - 59%	155 - 46%	361 - 53%
Toothbrushing total responses	303 - 87%	271 - 80%	574 - 84%
Check-ups total responses	111 - 32%	99 - 29%	210 - 31%
Don't know	5 - 1%	7 - 2%	12 - 2%
Total N= Total responses	348 - 100% 733	337 - 100% 632	685 - 100% 1365

* multiple responses allowed

Table 2.19b Important things to keep our teeth and gums healthy, by locality (parents)

Keep teeth and gums healthy *	Urban	Rural	Total
Correct diet total responses	164 - 48%	142 - 42%	306 - 45%
Reduce sugar total responses	225 - 65%	179 - 54%	404 - 59%
Toothbrushing total responses	313 - 91%	283 - 85%	596 - 88%
Check-ups total responses	193 - 56%	94 - 28%	287 - 42%
Don't know	1 - 0.3%	8 - 2%	9 - 1%
Total N= Total responses	345 - 100% 896	334 - 100% 706	679 - 100% 1602

*multiple responses allowed

Question 20 : Schoolchildren : Which food can damage teeth?
Q.17 : Parents : Which food can damage teeth ?

Table 2.20a Food that can cause damage to teeth, by locality (schoolchildren)

Cause of damage teeth*	Urban	Rural	Total
Sugary food total responses	272 - 78%	237 - 70%	509 - 74%
Soft - sticky food total responses	89 - 28%	111 - 33%	200 - 29%
Hard food total responses	233 - 67%	161 - 48%	394 - 58%
Don't know	8 - 2%	13 - 4 %	21 - 3%
Total N= Total responses	348 - 100% 602	337 - 100% 522	685 - 100% 1124

*multiple responses allowed

Table 2.20b Food that can cause damage to teeth, by locality (parents)

Cause of damage teeth*	Urban	Rural	Total
Sugary food total responses	200 - 58%	242 - 73%	442 - 66%
Soft-sticky food total responses	130 - 38%	115 - 34%	245 - 36%
Hard food total responses	109 - 61%	168 - 51%	277 - 56 %
Don't know	3 - 1%	17 - 5%	20 - 3%
Total N= Total responses	345 - 100% 442	333 - 100% 542	678 -100% 984

* multiple responses allowed

Section Four : Question about Perception and Knowledge of Orthodontic Treatment

Question 22 : Schoolchildren : Do you like the appearance of your teeth ?

Q.19 : Parents : Do you like the appearance of your child's teeth ?

Table 2.22a Perception of their teeth appearance, by locality (schoolchildren)

Good appearance	Urban	Rural	Total
Yes	150 - 43%	86 - 26%	236 - 35%
No	171 - 49%	220 - 65%	391 - 57%
Don't know	27 - 8%	31 - 9%	58 - 8%
Total	348 - 100%	337 - 100%	685 - 100%

Table 2.22b Perception of their child's teeth appearance, by locality (parents)

Good appearance	Urban	Rural	Total
Yes	199 - 58%	169 - 51%	368 - 54%
No	125 - 36%	112 - 34%	237 - 35%
Don't know	21 - 6%	52 - 16%	72 - 11%
Total	345 - 100%	333 - 100%	678 - 100%

Question 23 : **Schoolchildren:** If the answer (22) is "no", what do you most dislike about your teeth?

Q.20 : **Parents:** If the answer (19) is "no", what do you most dislike about your child's teeth?

Table 2.23a The "most disliked" tooth appearance, by locality (schoolchildren)

Dislike most	Urban	Rural	Total
Shape of tooth	25 -10%	24 - 8%	49 - 9%
Colour	51 - 20%	59 - 19%	110 - 20%
Size	24 - 10%	39 - 13%	63 - 11%
Caries	37 - 15%	76 - 25%	113 - 20%
Missing upper incisor	2 - 1%	6 - 2%	8 - 1%
Stick out	27 - 11%	12 - 4%	39 - 7%
Crooked	70 - 28%	75 - 25%	144 - 26%
Gap between teeth	14 - 5%	16 - 5%	30 - 5%
Total	250 - 100%	307 - 100%	557 - 100%

Table 2.23b The "most disliked" child's tooth appearance, by locality (parents)

Dislike most	Urban	Rural	Total
Shape of tooth	4 - 2%	12 - 7%	16 - 5%
Colour	24 - 14%	35 - 19%	59 - 17%
Size	9 - 5%	17 - 9%	26 - 7%
Caries	17 - 10%	37 - 20%	54 - 15%
Missing upper incisor	-	4 - 2%	4 - 1%
Stick out	23 - 14%	17 - 9%	40 - 12%
Crooked	80 - 48%	52 - 28%	132 - 38%
Gap between teeth	9 - 5%	9 - 5%	18 - 5%
Total	183 - 100%	166 - 100%	349 - 100%

Question 24 : **Schoolchildren :** Do you know that the appearance of crowded or protruding teeth could be improved ?

Q.21 : **Parents :** Do you know that the appearance of the crowding or protruding teeth could be improved ?

Table 2.24a Knowledge of improving tooth appearance, by locality (schoolchildren)

Improve appearance	Urban	Rural	Total
Yes	235 - 68%	182 - 54%	417 - 61%
No	113 - 32%	155 - 46%	685 - 39%
Total	348 - 100%	337 - 100%	685 - 100%

Table 2.24b Knowledge of improving tooth appearance, by locality (parents)

Improve appearance	Urban	Rural	Total
Yes	282 - 82%	151 - 45%	433 - 64%
No	62 - 18%	181 - 55%	243 - 36%
Total	344 - 100%	332 - 100%	676 - 100%

Question 25 : Schoolchildren : Do you know how long the treatment would take ?

Q.22 : Parents : Do you know how long the treatment would take ?

Table 2.25a Knowledge of length of orthodontic treatment, by locality (schoolchildren)

Know length of orthodontic treatment	Urban	Rural	Total
Yes	80 - 33%	32 - 17%	112 - 26%
No	162 - 67%	156 - 83%	318 - 74%
Total	242 - 100%	188 - 100%	430 - 100%

Table 2.25b Knowledge of length of orthodontic treatment by locality (parents)

Know length of orthodontic treatment	Urban	Rural	Total
Yes	145 - 53%	46 - 33%	191 - 46%
No	128 - 47%	95 - 67%	223 - 54%
Total	273 - 100%	141 - 100%	414 - 100%

Question 26 : Schoolchildren : Do you **think** your teeth need to be straightened?

Q.23 : Parents : Do you **think** your child's teeth need to be straightened?

Table 2.26a Perceived need to have teeth straightened, by locality (schoolchildren)

Need teeth straightened	Urban	Rural	Total
Yes	222 - 65%	241 - 73%	463 - 69%
No	62 - 18%	42 - 13%	104 - 15%
Don't know	60 - 17%	49 - 15%	109 - 16%
Total	344 - 100%	332 - 100%	676 - 100%

Table 2.26b Perceived need to have child's teeth straightened, by locality (parents)

Need teeth straightened	Urban	Rural	Total
Yes	125 - 36%	120 - 36%	245 - 36%
No	180 - 52%	155 - 47%	335 - 50%
Don't know	40 - 12%	55 - 17%	95 - 14%
Total	345 - 100%	330 - 100%	675 - 100%

Question 27 : **Schoolchildren:** If it is **necessary**, would you like to have your teeth straightened?

Q.24 : **Parents:** If it is **necessary**, I would like my child to have orthodontic treatment

Table 2.27a Willingness to have teeth straightened, by locality (schoolchildren)

Willingness of treatment	Urban	Rural	Total
Yes	255 - 73%	249 - 74%	504 - 74%
No	65 - 19%	57 - 17%	122 - 18%
Don't know	29 - 8%	30 - 9%	59 - 8%
Total	349 - 100%	336 - 100%	685 - 100%

Table 2.27b Willingness to have child's teeth straightened, by locality (parents)

Willingness of treatment	Urban	Rural	Total
Yes	118 - 84%	105 - 71%	223 - 77%
No	23 - 16%	39 - 26%	62 - 21%
Don't know	-	5 - 3%	5 - 2%
Total	141 - 100%	149 - 100%	290 - 100%

Question 28 : **Schoolchildren :** If you have a malocclusion and need treatment, how would you feel if this required monthly visit to the dentist over a long period?

Q.25 : **Parents :** How would you feel if the treatment required monthly visit to the dentist over a long period?

Table 2.28a Opinion on visits required to the dentist over a long period, by locality (schoolchildren)

Long period visits	Urban	Rural	Total
Very keen	201 -74%	202 - 74%	403 - 74%
Doubtful	53 - 20%	59 - 22%	112 - 21%
Not interested	17 - 6%	12 - 4%	29 - 5%
Total	271 - 100%	273 - 100%	544 - 100%

Table 2.28b Opinion on visits required to the dentist over a long period, by locality (parents)

Long period visits	Urban	Rural	Total
Very keen	118 - 84%	105 - 71%	223 - 77%
Doubtful	23 - 16%	39 - 26%	62 - 21%
Not interested	-	5 - 3%	5 - 2%
Total	141 - 100%	149 - 100%	290 - 100%

Question 29 : Schoolchildren : Do you think the teeth which have a good alignment will improve your appearance and confidence ?

Q.26 : Parents : Do you think the teeth which have a good alignment will improve your child's appearance and confidence ?

Table 2.29a Good tooth alignment will improve appearance and confidence, by locality (schoolchildren)

Good alignment improves appearance	Urban	Rural	Total
Yes	330 - 95%	294 - 87%	624 - 91%
No	10 - 3%	17 - 5%	27 - 4%
Don't know	8 - 2%	26 - 8%	34 - 5%
Total	348 - 100%	337 - 100%	685 - 100%

Table 2.29b Good tooth alignment will improve appearance and confidence of child, by locality (parents)

Good alignment improves appearance	Urban	Rural	Total
Yes	338 - 98%	301 - 91%	639 - 95%
No	-	8 - 2%	8 - 1%
Don't know	7 - 2%	22 - 6%	29 - 4%
Total	331 - 100%	345 - 100%	676 - 100%

Question 30 : **Schoolchildren :** What do you think would be a problem if you need the orthodontics treatment ?

Q.27 : **Parents :** What do you think would be a problem if your child needs the orthodontics treatment ?

Table 2.30a Problems if orthodontic treatment needed, by locality (schoolchildren)

Problems	Urban	Rural	Total
Expensive (a)	93 - 27%	103 - 31%	196 - 29%
Regular visits (b)	221 - 64%	186 - 56%	407 - 60%
Others (a+b)	33 - 9%	36 - 13%	79 - 11%
Total	347 - 100%	335 - 100%	682 - 100%

Table 2.30b Problems if orthodontic treatment of child needed, by locality (parents)

Problems	Urban	Rural	Total
Expensive (a)	91 - 27%	113 - 36%	204 - 31%
Regular visits (b)	139 - 40%	130 - 41%	269 - 41%
Others (a+b)	115 - 33%	72 - 23%	187 - 28%
Total	345 - 100%	315 - 100%	660 - 100%

Schoolchildren and Parent Assessment of the Aesthetic Component

Question 31 : **Schoolchildren :** Here is the scale of 10 photographs of teeth showing different levels of attractiveness. Number 1 is considered the most attractive and number 10 is the least attractive.

Where would you put your teeth on this scale ?

Q.29 : **Parents :** Here is the scale of 10 photographs of teeth showing different levels of attractiveness. Number 1 is considered the most attractive and number 10 is the least attractive.

Where would you put your child's teeth on this scale ?

1 2 3 4 5 6 7 8 9 10

Table 2.31 Schoolchildren self-assessment of Aesthetic Component, by locality (detailed)

AC Grade	Urban	Rural	Total	Treatment Need
1	121 - 35%	114 - 34%	235 - 34%	619 - 90% No/Slight need of Treatment
2	105 - 30%	95 - 28%	200 - 29%	
3	80 - 23%	51 - 15%	131 - 19%	
4	25 - 7%	28 - 8%	53 - 8%	
5	3 - 1%	11 - 3%	14 - 2%	43 - 6% Borderline Need of Treatment
6	6 - 2%	11 - 3%	17 - 2%	
7	1 - 0.3%	11 - 3%	12 - 2%	
8	7 - 2%	10 - 3%	17 - 3%	24 - 4% Definite Need of Treatment
9	-	4 - 1%	4 - 1%	
10	1 - 0.3%	2 - 1%	3 - 0.4%	
Total	349 - 100%	337 - 100%	686 - 100%	

Table 2.31a Schoolchildren self-assessment of Aesthetic Component, by locality

AC Grade	Urban	Rural	Total	Treatment Need
1 - 4	331 - 95%	288 - 85%	619 - 90%	No/Slight Need of Treatment
5 - 7	10 - 3%	33 - 10%	43 - 6%	Borderline Need of Treatment
8 - 10	6 - 2%	16 - 5%	22 - 4%	Definite Need of Treatment
Total	349 - 100%	337 - 100%	686 - 100%	

Table 2.31b Schoolchildren self-assessment of Aesthetic Component, by gender (detailed)

AC Grade	Female	Male	Total	Treatment Need
1	118 - 34%	117 - 34%	235 - 34%	619 - 90% No/Slight need of Treatment
2	99 - 28%	101 - 30%	200 - 29%	
3	68 - 20%	63 - 18%	131 - 19%	
4	27 - 8%	26 - 8%	53 - 8%	
5	4 - 1%	10 - 3%	14 - 2%	43 - 6% Borderline Need of Treatment
6	7 - 2%	10 - 3%	17 - 3%	
7	9 - 3%	3 - 1%	12 - 2%	
8	9 - 3%	8 - 2%	17 - 3%	24 - 4% Definite Need of Treatment
9	3 - 1%	1 - 0.3%	4 - 1%	
10	1 - 0.3%	2 - 1%	3 - 0.4%	
Total	345 - 100%	341 - 100%	686 - 100%	

Table 2.31c Schoolchildren self-assessment of Aesthetic Component, by gender

AC Grade	Female	Male	Total	Treatment Need
1 - 4	312 - 90%	307 - 90%	619 - 90%	No/Slight Need of Treatment
5 - 7	20 - 6%	23 - 7%	43 - 6%	Borderline Need of Treatment
8 - 10	13 - 4%	11 - 3%	24 - 4%	Definite Need of Treatment
Total	345 - 100%	341 - 100%	686 - 100%	

Table 2.31d Parent-assessment of child's Aesthetic Component, by locality (detailed)

AC Grade	Urban	Rural	Total	Treatment Need
1	123 - 38%	112 - 36%	235 - 37%	602 - 95% No/Slight Need of Treatment
2	98 - 30%	101 - 32%	199 - 31%	
3	63 - 19%	56 - 18%	119 - 19%	
4	30 - 9%	19 - 6%	49 - 8%	
5	2 - 1%	6 - 2%	8 - 1%	28 - 4% Borderline Need of Treatment
6	7 - 2%	9 - 3%	16 - 2%	
7	-	4 - 1%	4 - 1%	
8	2 - 1%	3 - 1%	5 - 1%	7 - 1% Definite Need of Treatment
9	-	-	-	
10	-	2 - 1%	2 - 0.3%	
Total	325 - 100%	312 - 100%	637 - 100%	

Table 2.31e Parent-assessment of child's Aesthetic Component, by locality

AC Grade	Urban	Rural	Total	Treatment Need
1 - 4	314 - 96%	288 - 92%	602 - 95%	No/Slight Need Treatment
5 - 7	9 - 3%	19 - 6%	28 - 4%	Borderline Need of Treatment
8 - 10	2 - 1%	5 - 2%	7 - 1%	Definite Need of Treatment
Total	325 - 100%	312 - 100%	637 - 100%	

Survey 2 - Results of Clinical Examination Using the Index of Orthodontic Treatment Need

The Dental Health Component

Table 2.32 Dentist assessment of Dental Health Component, by locality (detailed)

DHC Grade	Urban	Rural	Total	Treatment Need
1	1 - 0.3%	-	1 - 0.1%	210 - 31% No/Slight Need of Treatment
2a	41 - 12%	25 - 7%	66 - 10%	
2c	2 - 1%	-	2 - 0.3%	
2d	43 - 12%	40 - 12%	83 - 12%	
2f	1 - 0.3%	-	1 - 0.1%	
2g	34 - 10%	23 - 7%	57 - 8%	
3a	69 - 20%	70 - 21%	139 - 20%	310 - 45% Borderline Need of Treatment
3b	4 - 1%	3 - 1%	7 - 1%	
3c	8 - 2%	3 - 1%	11 - 2%	
3d	79 - 23%	74 - 22%	153 - 22%	
3e	-	-	-	
3f	-	-	-	
4a	13 - 4%	13 - 4%	26 - 4%	166 - 24% Definite Need of Treatment
4b	3 - 1%	2 - 0.6%	5 - 1%	
4c	1 - 0.3%	1 - 0.3%	2 - 0.3%	
4d	38 - 11%	45 - 13%	83 - 12%	
4h	1 - 0.3%	16 - 5%	17 - 3%	
4l	5 - 1%	1 - 0.3%	6 - 1%	
5a	5 - 1%	6 - 1%	11 - 2%	
5i	1 - 0.3%	15 - 5%	16 - 2%	
Total	349 - 100%	337 - 100%	686 - 100%	

Table 2.32a Dentist assessment of Dental Health Component, by locality

DHC Grade	Urban	Rural	Total	Treatment Need
1 - 2	122 - 35%	88 - 26%	210 - 31%	No/Slight Need Treatment
3	160 - 46%	150 - 45%	310 - 45%	Borderline Treatment Need
4 - 5	67 - 19%	99 - 29%	166 - 24%	Definite Need of Treatment
Total	349 - 100%	337 - 100%	686 - 100%	

Table 2.32b Dentist assessment of Dental Health Component, by gender

DHC Grade	Female	Male	Total	Treatment Need
1 - 2	105 - 30%	105 - 31%	210 - 31%	No/Slight Need Treatment
3	154 - 45%	156 - 46%	310 - 45%	Borderline Treatment Need
4 - 5	86 - 25%	80 - 23%	166 - 24%	Definite Need of Treatment
Total	345 - 100%	341 - 100%	686 - 100%	

Table 2.32c Dentist assessment of Dental Health Component, by gender (detailed)

DHC Grade	Female	Male	Total	Treatment Need
1	-	1 - 0.3%	1 - 0.1%	210 - 31% No/Slight Need of Treatment
2a	35 - 10%	31 - 9%	66 - 10%	
2c	2 - 0.6%	-	2 - 0.3%	
2d	36 - 10%	47 - 14%	83 - 12%	
2f	1 - 0.3%	-	1 - 0.1%	
2g	31 - 9%	26 - 8%	57 - 8%	
3a	64 - 19%	75 - 22%	139 - 20%	310 - 45% Borderline Need of Treatment
3b	4 -1%	3 - 1%	7 - 1%	
3c	7 - 2%	4 - 1%	11 - 2%	
3d	79 - 23%	74 - 22%	153 - 22%	
3e	-	-	-	
3f	-	-	-	166 - 24% Definite Need of Treatment
4a	9 - 3%	17 - 5%	26 - 4%	
4b	3 - 1%	2 - 0.6%	5 - 1%	
4c	-	2 - 0.6%	2 - 0.3%	
4d	48 - 14%	35 - 10%	83 - 12%	
4h	10 - 3%	7 - 2%	17 - 3%	
4l	3 - 1%	3 - 1%	6 - 1%	
5a	6 - 2%	5 - 1%	11 - 2%	
5i	7 - 2%	9 - 3%	16 - 2%	
Total	345 - 100%	341 - 100%	686 - 100%	

The Aesthetic Component

Table 2.33 Dentist assessment of Aesthetic Component, by locality (detailed)

AC Grade	Urban	Rural	Total	Treatment Need
1	3 - 0.9%	-	3 - 0.4%	332 - 48% No/Slight need of Treatment
2	63 - 18%	55 - 16%	118 - 17%	
3	54 - 16%	22 - 7%	76 - 11%	
4	73 - 21%	62 - 18%	135 - 20%	
5	19 - 5%	31 - 9%	50 - 7%	257 - 38% Borderline Need of Treatment
6	55 - 16%	71 - 21%	126 - 19%	
7	44 - 13%	37 - 11%	81 - 12%	
8	31 - 9%	46 - 14%	77 - 11%	97 - 14% Definite Need of Treatment
9	7 - 3%	9 - 2%	16 - 2%	
10	-	4 - 1%	4 - 1%	
Total	349 - 100%	337 - 100%	686 - 100%	

Table 2.33a Dentist assessment of Aesthetic Component, by locality

AC Grade	Urban	Rural	Total	Treatment Need
1 - 4	193 - 55%	139 - 41%	332 - 48%	No/Slight Need of Treatment
5 - 7	118 - 34%	139 - 41%	257 - 38%	Borderline Need of Treatment
8 - 10	38 - 11%	59 - 28%	97 - 14%	Definite Need of Treatment
Total	349 - 100%	337 - 100%	686 - 100%	

Table 2.33b Dentist assessment of the Aesthetic Component, by gender (detailed)

AC Grade	Female	Male	Total	Treatment Need
1	1 - 0.3%	2 - 0.6%	3 - 0.4%	332 - 48% No/Slight need of Treatment
2	66 - 19%	52 - 15%	118 - 17%	
3	33 - 10%	43 - 13%	76 - 11%	
4	71 - 21%	64 - 19%	135 - 20%	
5	18 - 5%	32 - 9%	50 - 7%	257 - 38% Borderline Need of Treatment
6	66 - 19%	60 - 18%	126 - 19%	
7	36 - 10%	45 - 13%	81 - 12%	
8	45 - 13%	32 - 9%	77 - 11%	97 - 14% Definite Need of Treatment
9	8 - 2%	8 - 2%	16 - 2%	
10	1 - 0.3%	3 - 0.9%	4 - 0.6%	
Total	345 - 100%	341 - 100%	686 - 100%	

Table 2.33c Dentist assessment of the Aesthetic Component, by gender

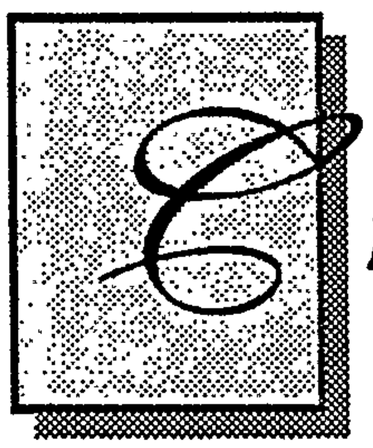
AC Grade	Female	Male	Total	Treatment Need
1 - 4	171 - 50%	161 - 47%	332 - 48%	No/Slight Need of Treatment
5 - 7	120 - 35%	137 - 40%	257 - 38%	Borderline Need of Treatment
8 - 10	54 - 15%	43 - 13%	97 - 14%	Definite Need of Treatment
Total	345 - 100%	341 - 100%	686 - 100%	

Table 2.33d Dentist assessment of the Aesthetic Component, by ethnic group (detailed)

AC Grade	JJ	CC	SR	Other-Mixed	Total
1	2 - 0.1%	2 - 0.3%	- .	1 - 0.3%	5 - 0.2%
2	198 - 12%	86 - 11%	5 - 10%	32 - 11%	321 - 12%
3	194 - 12%	99 - 13%	9 - 17%	40 - 14%	342 - 12%
4	354 - 21%	147 - 19%	8 - 16%	60 - 21%	569 - 21%
5	183 - 11%	114 - 15%	7 - 14%	38 - 14%	342 - 12%
6	265 - 16%	98 - 13%	9 - 17%	32 - 11%	404 - 15%
7	193 - 12%	71 - 10%	8 - 16%	38 - 13%	310 - 11%
8	199 - 12%	106 - 14%	4 - 8%	29 - 10%	338 - 12%
9	49 - 3%	29 - 4%	1 - 2%	11 - 4%	90 - 4%
10	16 - 1%	5 - 1%	-	5 - 2%	26 - 1%
Total	1653 - 100%	757 - 100%	51 - 100%	286 - 100%	2747 - 100%

Table 2.33e Dentist assessment of the Aesthetic Component, by ethnic group

AC Grade	JJ	CC	SR	Other-Mixed	Total
1 - 4	748 - 45%	334 - 43%	22 - 43%	133 - 46%	1237 - 45%
5 - 7	641 - 39%	283 - 38%	24 - 47%	108 - 38%	1056 - 38%
8 - 10	264 - 16%	140 - 19%	5 - 10%	45 - 16%	454 - 17 %
Total	1653 - 100%	757 - 100%	51 - 100%	286 - 100%	2747 - 100%



ANALYSIS OF DATA (105 - 170)

Study Sample *105*

Locality 105

Gender Distribution 105

Ethnic Group 106

Occupation of Father 108

Section One : Dental Attendance and Past Dental Treatment ***109***

Dental Attendance (Question 1) 109

Conclusion for Dental Attendance 111

Reasons for Visiting Dentist 112

Last Visit to Dentist 112

Person Who Suggested the Schoolchildren Visit Dentist 113

Type of Dentist Visited 113

Experience of Tooth Filling 115

Experience of Tooth Extraction 115

Reason for Tooth Extraction 118

Person who did Tooth Extraction 118

Summary : Section One of the Questionnaires ***119***

Section Two : Dental Health Knowledge and Behaviour ***120***

Source of Dental Health Information 120

Frequency of Toothbrushing 121

Proper Time for Toothbrushing 122

Have Their Own Toothbrush 123

Use of Toothpaste 124

Use of Other Things to Clean Teeth 125

Dental Clinic at School 127

Summary : Section Two of the Questionnaires ***128***

Section Three : Questions about Dental Health to Assess Knowledge *129*
Important Things to Do to Keep the Teeth and Gums Healthy 129
Food that Can Damage Tooth 130
Summary : Section Three of the Questionnaires *132*
Section Four : Perception and Knowledge of Orthodontic Treatment *133*
Perception of Teeth Appearance 133
Most Disliked Tooth Appearance 136
Knowledge of Improving Tooth Appearance 139
Knowledge of Length of Orthodontic Treatment 141
Perceived Need to Have the Teeth Straightened 143
Willingness to Have Teeth Straightened (if necessary) 143
Opinion on Influence of Good Tooth Alignment 145
Problems that Would Appear if Orthodontic Treatment is Needed 147
Opinion on Monthly Visits to Dentist over a Long Period
if Orthodontic Treatment Needed 148
Summary : Section Four of the Questionnaires *149*
Schoolchildren and Parent Assessment of Aesthetic Component *150*
Comparison of Schoolchild, Dentist and Parent Assessments 155
Summary : Schoolchildren and Parent Assessment of Aesthetic Component *157*
Clinical Examination Using the Index of Orthodontic Treatment Need (IOTN) *158*
Dentist Assessment of the Dental Health Component 158
Dentist Assessment of the Aesthetic Component 166
Summary : Dentist Assessment of Dental Health Component and Aesthetic
Component *170*

Chapter Six

ANALYSIS OF DATA

Study Sample

Locality

The sample numbers in this study, as shown in **Table 1** (page 50) by **locality,** were **slightly more** from **urban areas, 1477 or 53%,** compared with **1276 or 47%** from **rural areas.** The number of urban schoolchildren involved, came from only **15 urban schools**; this means **approximately 98** schoolchildren in **each urban school**, compared with the **rural areas (1276 children** in **39 schools)** where there were **approximately 33 schoolchildren** in **each school.** It is obvious that the **density** of schoolchildren in **urban schools** is **three times greater** compared with **the rural schools.** This is important information for planning dental health services.

Gender Distribution

There was a 50:50 distribution **by gender** in this study (**Table 2 -** page 50), an appropriate proportion between female and male schoolchildren for making comparisons for any sex differences with the IOTN. In relation to locality it is shown that both urban and rural areas have roughly the same number of male and female schoolchildren. It is of interest to know whether the female schoolchildren have more demand for orthodontic treatment. These data will be reported in a later section that analysed the relation of gender to the demand for orthodontic treatment. However, **Mohlin (1982)** claimed that the prevalence of malocclusion was not influenced by the gender classification.

In **Table 4** (page 106), the **gender by ethnic group** classification showed similar **female** to **male ratios.** There were fewer females than males in the Javanese schoolchildren **(49%:51%)** and the Same Race ethnic group **(45%:55%)**; but more female schoolchildren than males in the Chinese **(53%:47%)** and Other-mixed ethnic group **(52%:48%)**.

Table 4 Distribution of female to male ratios within ethnic group

Ethnic group	Female	Male	Total
Javanese - JJ	**807 (49%)**	**849 (51%)**	**1656 (100%)**
Chinese - CC	**400 (53%)**	**359 (47%)**	**759 (100%)**
Same Race	**23 (45%)**	**28 (55%)**	**51 (100%)**
Other-Mixed	**148 (52%)**	**137 (48%)**	**285 (100%)**
Total	**1378 (50%)**	**1373 (50%)**	**2751 (100%)**

Ethnic Group

Based on the ethnic groups (**Table 3 -** page 51), the majority of samples analysed in the study was **Javanese (60%)**, followed by **Chinese (28%)**, and other ethnic groups.

Distribution of the ethnic groups by locality **(Table 5a)** revealed that in **rural areas** there are more of **Javanese origin (93%)** school-children compared to the other ethnic groups. On the other hand, only **0.1%** of **rural** schoolchildren were of Chinese origin, while **2%** were from the Same-Race (pure) ethnic groups and **5%** from Other-mixed ethnic group background. In contrast, in the **urban areas** about **46%** of the sample were found to be Chinese and only **38%** of Javanese origin, followed by other mixed ethnic groups.

The concentration of the Chinese schoolchildren in the urban areas of Surabaya does not mean that they all also live in the city and the Javanese live mostly in the "peripheral" or sub-urban areas. Most private schools are concentrated in the city and many Chinese families send their children to these schools, while most Javanese children attend the state schools located near their neighbourhood. This situation should be considered in dental health planning for schoolchildren in Surabaya, since these two majority ethnic groups have different cultural backgrounds that need a different approach.

With **ethnic group** by **gender (Table 5b)**, distributions were similar. The Javanese female schoolchildren comprised **59%** of the female sample compared with **62%** of the male sample being Javanese. The other ratios were: Chinese female compared to Chinese male **(29%:26%)**; Same-Race ethnic group female compared to their male counterparts **(2%:2%)**; Other-mixed group **(10%:10%)**.

Table 5a Ethnic classification, by locality

Ethnic group	Urban	Rural	Total
Javanese - JJ	631 (38%)	1025 (93%)	1656 (60%)
Chinese - CC	759 (46%)	1 (0.1%)	760 (28%)
Same Race - SR	34 (2%)	17 (2%)	51 (2%)
Other - Mixed	227 (14%)	59 (5%)	286 (10%)
Total	1651 (100%)	1102 (100%)	2753 (100%)

Table 5b Ethnic classification, by gender

Ethnic group	Female	Male	Total
Javanese - JJ	807 (59%)	849 (62%)	1656 (60%)
Chinese - CC	400 (29%)	359 (26%)	759 (28%)
Same Race	23 (2%)	28 (2%)	51 (2%)
Other-Mixed	148 (10%)	137 (10%)	285 (10%)
Total	1378 (100%)	1373 (100%)	2751 (100%)

Occupation of Father

The occupation level of father from Survey 2 is shown by locality in **Table 6a**. Fathers in the urban areas **(92%)** had higher occupational levels than those in the rural areas **(32%)**.

The ethnic difference of occupation of fathers is shown in **Table 6b** with the Chinese having higher levels at **90%** than the other ethnic groups. It should be noted that there are many more Chinese in the urban sample.

Table 6a Occupation of father, by locality

Occupation father	Urban	Rural	Total
Low	28 - 8%	227 - 68%	255 - 37%
High	319 - 92%	107 - 32%	426 - 63%
Total	347 - 100%	334 - 100%	681* - 100%

* 5 were unemployed

Table 6b Occupation of father, by ethnic group

Occupation Father	Javanese - JJ	Chinese - CC	Others (SR&Mixed)	Total
Low	222 - 46%	13 - 10%	20 - 29%	255 - 37%
High	264 - 54%	113 - 90%	49 - 71%	426 - 63%
Total	486 - 100%	126 - 100%	69 - 100%	681 - 100%

Section One : Dental Attendance and Past Dental Treatment

Dental Attendance

Question: Have you ever been to the dentist ?

This question was answered by **2733 (99%)** schoolchildren in Survey 1 and Survey 2.

The results of the whole survey, **by locality** are shown in **Table 7a**: It is observed that only **74%** of the schoolchildren have experienced a visit to dentist. The remaining **26%** have never seen a dentist during their life time and this occurs mostly among rural schoolchildren **(47%)**.
In urban areas only a small percentage **(11%)** have never visited the dentist. This fact should be considered in the planning of dental health services in this country, since it is difficult to achieve the target if the children never visit the dental clinic.

Table 7a Dental attendance, by locality

Attendance	Urban	Rural	Total
Yes	1458 (89%)	573 (53%)	2031 (74%)
No	187 (11%)	515 (47%)	702 (26%)
Total	1645 (100%)	1088 (100%)	2733 (100%)

The data of attendance to dentist from the schoolchildren was supported with the answers from the parents in Survey 2 **(Table 7b)**. The analysis showed that **62%** of parents of schoolchildren living in **rural** areas surveyed claimed that their children **have been to a dentist,** while **38%** said that their children **have never been** to a dentist. In the **urban** areas, however, the majority of parents **(90%)** claimed that their children surveyed **had been** to a dentist while **10%** said that their children **had never visited** a dentist.

Table 7b Dental attendance of schoolchildren according to their parents, by locality

Attendance	Urban	Rural	Total
Yes	**309 (90%)**	**207 (62%)**	**516 (76%)**
No	**36 (10%)**	**126 (38%)**	**162 (24%)**
Total	**345 (100%)**	**333 (100%)**	**678 (100%)**

In relation to the father's occupation **(Table 7c)**, Chi-square tests show that in the **urban areas**, there is **no statistical difference** between the **dental attendance** of schoolchildren from families with a **low** occupation father and those **with a high** occupation father ($X^2_{df\,1} = 0.08$; $p > 0.05$). In **rural areas**, the association between **dental attendance** and **occupation of the schoolchildren's father (Table 7c)** showed **no statistical significance** ($X^2_{df\,1} = 3.76$; $p > 0.05$).

Table 7c Dental attendance of schoolchildren, by occupation of father

Urban	Low Occupation	High Occupation	Total
Yes	**24 - 92%**	**291 - 91%**	**315 - 91%**
No	**2 - 8%**	**30 - 9%**	**32 - 9%**
Total	**26 - 100%**	**321 - 100%**	**347 - 100%**
Rural	**Low Occupation**	**High Occupation**	**Total**
Yes	**157 - 70%**	**87 - 80%**	**244 - 73%**
No	**68 - 30%**	**22 - 20%**	**90 - 27%**
Total	**225 - 100%**	**108 - 100%**	**334 - 100%**

Looking at the relationship of father's occupation to dental attendance, in **urban areas** there is **no difference in dental attendance** between children from families with either **a high or low occupation father.** In **rural areas** there is also **no statistical difference in dental attendance** between children from families with **a low occupation father (70%)** and children with **high occupation father (80%).**

In relation to **ethnic group**, the attendance to dentist is shown in **Table 7d**:

Table 7d Dental attendance, by ethnic group

Attendance	JJ	CC	SR	Other-Mixed	Total
Yes	**1029 (63%)**	**712 (94%)**	**43 (84%)**	**247 (88%)**	**2031 (74%)**
No	**613 (37%)**	**46 (6%)**	**8 (16%)**	**35 (12%)**	**702 (26%)**
Total	**1642 (100%)**	**758 (100%)**	**51 (100%)**	**282 (100%)**	**2733 (100%)**

Analysis of dental attendance by **ethnic group (Table 7d)**, by Chi-square found that there was a **significant difference** amongst the four ethnic groups ($X^2 = 298$, $p<0.01$).

It is observed that **63%** of Javanese schoolchildren have experience of going to a dentist while **37%** of them have not been to a dentist at all. In contrast, **94%** of Chinese schoolchildren have experienced a dental visit while only **6%** of schoolchildren from the same ethnic group had not been to a dentist at the time that the survey was carried out. In comparison, the attendance was **84%** of Same-race (pure) and **88%** in Other-mixed ethnic group. From these data it could be clarified that the Chinese origin schoolchildren who live mostly in the urban areas of Surabaya have more contact with the dentist compared to other ethnic groups.

Conclusions for Dental Attendance

It can be concluded for the attendance of the schoolchildren to dentist:

- about **26%** of the total sample have **never visited a dentist**, especially in the rural area where almost half of the schoolchildren (**47%**) have never visited a dentist by the age of 12 years.
- the attendance to dentist was not related to the level of father's occupation
- the Chinese origin schoolchildren showed the highest attendance (**94%**) in visiting the dentist.
- these findings are important information for planning dental health services.

Reasons for Visiting Dentist

In the results of survey 1 **(Table 1.2 -** page 52) it is observed that the major reason for visiting a dentist was **"if there is trouble in their teeth" (48%)**, followed by **"for routine check up" (35%)** and other reasons. This data was supported by the answer of parents **(Survey 2, Table 2.2b -** page 71) that the majority of parents **(70%)** took their children to the dentist only if the children have a problem with their teeth. This means that they come to the dentist for curative purpose, not for prevention. It is important to emphasis that "prevention is better than treatment" in dental health education programs for the schoolchildren and the parents.

In Survey 2 visit to dentist, if having a tooth problem, was not influenced by gender **(69% female : 72% male)**. In urban area the status of father's occupation seems to have no effect on attendance (**67% low** occupation father : **66% high** occupation father). However, in rural area a difference was seen between schoolchildren from high and low occupation father **(82% : 67%)**.

Regular visits to dentists were made by **20%** of the schoolchildren or **24%** of them according to their parents **(Tables 2.3a and 2.3b)**. This small percentage of regular visits could be explained the community perception that dental clinics are only for curative purposes.

Last Visit to Dentist

In Survey 1 **(Table 1.3)** it was found that the majority of the schoolchildren had visited their dentist a long time ago (more than 2 years). This happened both in the urban and rural areas **(34% : 35%)**. This data was related to the previous questions in that only a small percentage of the schoolchildren visit the dentist on a regular basis and they come only if having a tooth problem.

The data from Survey 2 **(Table 2.6a** and **2.6b)** was different from Survey 1, only a small percentage of the schoolchildren had visited the dentist more than 2 years ago **(14% urban** and **12% rural)**. This data was collected about one year after the first survey; probably there was a change since the survey team first visit to the schools that the teacher or the parents has suggested they to go to dentist for a check-up.

Person who Suggested Schoolchildren Visit Dentist

In the second survey, the children and their parents were asked about people who advised the children to visit a dentist and the results are shown in **Table 2.5a** and **2.5b** (page 73).

It was observed that the majority of schoolchildren **(88%)** were advised by their parents to visit the dentist; more in urban **(97%)** than in rural areas **(78%)**. The parents' answer supports this data, since **86%** of parents suggested their children visit a dentist. The second source who advised the schoolchildren was their teacher **(7%)**. It is clear that the role of the parents in advising their children to visit a dentist is very important. Therefore to obtain high attendance of schoolchildren for visiting the dentist, the factor of parents is very important, more so than the teacher or other person.

Type of Dentist Visited

According to Survey 1 **(Table 1.4 -** page 53) a **private dentist** was the first choice of the majority of children **(57%)** if they have a tooth problem. Especially in the **urban** community, most of the schoolchildren **(74%)** prefer to go to a **private dentist** in the evening time because the parents can come together with their children; this is difficult to do during working time. In the **rural** community, **most** of schoolchildren **visit the Health Centre (57%)** or **Dental hospital (22%)** for dental treatment. This tendency seems related to the health facilities available in the community and the level of father's occupation. In **urban** areas there are many private dentists that are available in the evening time with a relatively high cost for treatment.

Table 8 shows that in **urban areas**, around **82%** of schoolchildren of the **high occupation father** visit the private dentist compared to **11% in rural** area. Even the schoolchildren of **low occupation** family in the **urban** area prefer to **visit a private dentist (79%)** and the remaining **21%** go to the Public Health Centre or other dental clinics.

Table 8a Type of dentist visited by schoolchildren, by occupation of father (urban)

Type of dentist	Low	High	Total
Private dentist	19 - 79%	234 - 82%	253 - 82%
Public Health Centre	1 - 4%	14 - 5%	15 - 5%
Dentist at school	1 - 4%	7 - 2%	8 - 2%
Dental hospital	3 - 13%	31 - 11%	34 - 11%
Total	24 - 100%	286 - 100%	310 - 100%

Table 8b Type of dentist visited by schoolchildren, by occupation of father (rural)

Type of dentist	Low	High	Total
Private dentist	17 - 11%	14 - 16%	31 - 13%
Public Health Centre	93 - 59%	38 - 44%	131 - 53%
Dentist at school	14 - 9%	3 - 3%	17 - 7%
Dental hospital	34 - 21%	32 - 37%	66 - 27%
Total	158 - 100%	87 - 100%	245 - 100%

Experience of Tooth Filling

The information on the experience of having teeth filled was shown in **Table 1.5** (page 53) for Survey 1 and **Table 2.8** (page 76) for Survey 2.

The whole results were as follows **(Table 9)** :

Table 9 Experience of tooth filling, by locality

Filling	Urban	Rural	Total
Yes	998 - 72%	237 - 35%	1235 - 60%
No	366 - 26%	392 - 58%	758 - 36%
Don't know	34 -2%	46 - 7%	80 - 4%
Total	1398 - 100%	675 - 100%	2073 - 100%

In the whole survey, by locality, the analysis showed that **72%** of **urban schoolchildren** and **35%** of **rural** schoolchildren have had fillings in their teeth. While **26%** of the **urban** schoolchildren and **58%** from the **rural** claimed that they did not have any teeth filled. This information, especially for **rural** schoolchildren, did not mean that they were caries free. Probably they did not know whether they had dental caries or not, since many of those in rural areas **(47% - Table 7a)** had never visited a dentist. If comparison is made with the data of dental attendance **(Table 7a)**, from **2031** schoolchildren who ever visited a dentist, **1235 (60%)** of them had the experience of tooth filling. It is possible to make a conclusion that the majority of them visit the dentist for dental caries problems. This information is important for planning the dental health services.

Experience of Tooth Extraction

From **Tables 1.6** (page 54) **and 2.9** (page 76) it is shown that the majority of subject had the experience of tooth extraction. By locality, **75%** of **urban** schoolchildren and **50%** of the **rural** schoolchildren had experienced tooth extraction **(Table 10a)**. This means **more tooth extraction** experience among **urban** schoolchildren compared to the rural community. The question does not differentiate which teeth were taken out, whether the permanent or the deciduous teeth.

Table 10a Experience of tooth extraction, by locality (whole survey)

Extraction	Urban	Rural	Total
Yes	1043 - 75%	334 - 49%	1377 - 66%
No	325 - 23%	307 - 45%	632 - 31%
Don't know	30 - 2%	34 - 6%	64 - 3%
Total	1398 - 100%	675 - 100%	2073 - 100%

By **gender** distribution as shown in **Table 10b**, the percentage of male and female who had experience of tooth extraction was equal **(79% and 79%)**.

Table 10b Experience of tooth extraction, by gender

Extraction	Female	Male	Total
Yes	819 - 79%	801 - 79%	1620 - 79%
No	205 - 20 %	192 - 19%	397 - 19%
Don't know	9 - 1%	18 - 2%	37 - 2%
Total	1033 - 100%	1011 - 100%	2044 - 100%

It was also observed in Survey 2 that in the urban area, the percentage of tooth extraction of those who had been to a dentist and had a high occupation father was almost the same as that with low occupation father **(Table 10c).**

Table 10c Experience of tooth extraction of child, by occupation of father (Survey 2)

Extraction Urban	Low Occupation	High Occupation	Total
Yes	21 - 88%	257 - 88%	278 - 88%
No	3 - 12%	32 - 11%	35 - 11%
Don't know	0	3 - 1%	3 - 1%
Total	24 - 100%	292 - 100%	316 - 100%
Extraction Rural	**Low Occupation**	**High Occupation**	**Total**
Yes	114 - 72%	71 - 82%	185 - 76%
No	41 - 26%	15 - 17%	56 - 23%
Don't know	3 - 2%	1 - 1%	4 - 1%
Total	158 - 100%	87 - 100%	245 - 100%

In urban, **88%** of the schoolchildren of low occupation father had ever gone to the dentist to have their tooth extracted, **12%** of them had never have their tooth extracted while in high occupation father **88%** had ever go to the dentist to have their tooth extracted, **11%** of them had never have their tooth extracted. In the rural area, **72%** of the schoolchildren of low occupation father had been to the dentist to have their tooth extracted, compared with **82%** with high occupation father.

A higher proportion of those who had ever visited a dentist had received extractions **(79%)** than had received fillings **(60%).**

Reason for Tooth Extraction

From the results of question 8 in the first survey **(Table 1.8)**, the main **reason for tooth extraction** was given as **dental caries (44%)**, followed by orthodontic treatment and other causes. As previously mentioned, the prevalence of caries is high in Indonesia and it is reasonable that tooth extraction was due to caries. The "question mark" is that orthodontic treatment was given as a second reason of tooth extraction in the responses. This is not logical, especially in rural area where there are no facilities for orthodontic treatment. Probably there was some mis-interpretation of "orthodontic treatment" with "dental treatment". There was also a large "don't know" response. For Survey 2 the question allowed for (retained) deciduous teeth and this accounted for **62%** of responses **(Table 2.10)**. The results for this questionable data have been omitted from consideration.

Person who did Tooth Extraction

From the schoolchildren answers **(Table 1.7 and 2.11)** it is observed that the tooth extractions were done **mostly by a dentist (86% and 91%)**. A small percentage was performed by a **medical doctor (6% and 4%)**, followed by **other people (7% and 3%)**.

The locality of schoolchildren seems to have no influence on the person most likely to carry out tooth extraction. As in Survey 1, **83%** of **urban** and **92%** of **rural** schoolchildren went to the dentist for tooth extraction and in Survey 2 the percentage was **94%** and **88%** respectively. These data indicate that people are aware that the dentist is the person who should be visited if there is a tooth problem. People other than a dentist, a doctor or a nurse, could be a family member or those schoolchildren who did the tooth extraction of deciduous teeth by themselves. The extraction of permanent teeth is not possible using the traditional way.

Summary : Section One of the Questionnaires

The results of section one of the questionnaire which relates to **dental attendance** and **past dental treatment** of the schoolchildren can be summarised as follows :

- a high percentage (**47%**) of **rural** schoolchildren have never visited a dentist, compared to only **11%** in the **urban** community;
- greater attendance to dentist was **related to a higher level of father's occupation in the rural,** but not in urban areas;
- the **Chinese** origin schoolchildren have the **highest attendance to the dentist (94%)**, followed by the **Other mixed ethnic group (88%)** and **84%** in the **Same Race**, while the **Javanese** schoolchildren have the **lowest percentage of dental attendance**;
- the schoolchildren **did not visit** the dentist **on a regular basis**, especially in **rural areas**;
- the **major reason** for visiting the dentist in urban and rural areas was **"tooth trouble"**, that means for curative purpose including tooth extraction.
- for the schoolchildren who had visited a dentist, the last visit for one third of them was more than two years ago;
- the **majority (57%)** of schoolchildren prefer to **visit a private dentist** if they have a tooth problem; this is found especially in **urban** areas (**74%**) while **in rural** communities most of the schoolchildren (**57%**) visit the dentist in **the Public Health Centre.**

This is related to the availability of private dental services in urban areas which have more private dentists and who are available at their clinic in the evening;

- the experience of tooth filling was observed in the majority of sample (**61%**) who had ever been to the dentist. Much more in urban than in rural areas (**72% and 35%**).

These data indicated that caries is a major problem of those who ever visited a dentist;

- **tooth extraction** was experienced by **79%** of **schoolchildren (81%** in **urban** and **75%** in **rural**), and **most of these tooth extractions** were done by dentists (**88%**).

Section Two : Dental Health Knowledge and Behaviour

Source of Dental Health Information

The principal sources of dental health information for the schoolchildren were shown in **Table 1.9** for Survey 1 and **Table 2.12a** for Survey 2. Results for the whole survey are shown in **Table 11**:

Table 11 Source of dental health information for children, by locality

Information source	Urban	Rural	Total
Teacher	170 - 11%	184 - 15%	354 - 13%
Dentist	583 - 40%	684 - 54%	1267 - 47%
Parents	403 - 28%	199 - 16%	602 - 22%
Books	74 - 5%	43 - 3%	117 - 4%
Other	37 - 2%	26 - 2%	63 - 2%
Combination	177 - 12%	133 - 10%	310 - 11%
Total	1444 - 100%	1269 - 100%	2713 - 100%

It is observed that the **majority** of **schoolchildren** got their **dental health information from the dentist**, followed by **parents** and **teachers**. In **rural areas**, the role of **parents** and **teacher** were **the same (parents 16%, teacher 15%)**. **Dentists** in **rural areas** give more dental health education **compared** to **urban areas (54% in rural : 40% in urban)**, while the parents in **urban** areas give **more dental health education** compared to the **parents in the rural** community **(28% in urban : 16% in rural)**. It was found that only **a small percentage** of **schoolchildren** got their **dental health information from books**; perhaps there were only a few books available on this subject. By **fathers' occupation, gender** and **ethnic groups** distribution **the results** were **almost the same** and **the dentist** was the **first source in giving dental health education** to the schoolchildren. From the answer of **the parents** of the schoolchildren about this matter it was also found that the majority considered their children received information on dental health from the dentist **(Table 2.12b)**.

Frequency of Toothbrushing

The data on the frequency of brushing the teeth were shown in **Table 1.10** and **Table 2.13a/b.**

For the whole survey the results are shown in **Table 12 :**

Table 12 Frequency of toothbrushing, by locality

Toothbrushing	Urban	Rural	Total
Twice a day	1203 - 83%	1085 - 86%	2288 - 84%
Once a day	151 - 10%	143 - 11%	294 - 11%
Once a week	9 - 1%	15 - 1%	24 -1%
Never	4 - 0.3%	6 - 0.5%	10 - 0.4%
Other frequency	87 - 6%	17 - 1%	104 - 4%
Total	1266 - 100%	1454 - 100%	2720 - 100%

Most of the **schoolchildren (84%)** claimed that they **brushed their teeth twice a day** and only a small percentage **(11%)** do this **once a day.** This means that they have a good habit for dental health, but interestingly there were still **0.3%** of **urban** and **0.5% rural** schoolchildren who **never brush** their teeth, but only rinse the teeth with water, while **others** means they brushed their teeth more than twice a day or more than three times a day or they brush the teeth everytime after eating. **By locality** it was found that there is **no difference between** the **urban** and **rural** schoolchildren **for the frequency of toothbrushing.** The **frequency of toothbrushing** according to the **schoolchildren** was **higher** than the **frequency parents' advise.** According to the parents' answer, the majority of **parents advised** their children **to brush** the teeth only **once a day.** It seems that the schoolchildren were advised by other people (teacher or dentist) to brush their teeth more than the parent's advice.

Proper Time for Toothbrushing

Combining the questionnaire answers (**Tables 1.11** and **2.14a**), it is shown that most of the schoolchildren say that the proper time to brush their teeth is after breakfast and dinner (**62%**) followed by before breakfast and before going to bed (**29%**). The picture for the whole survey by location on this subject is shown in **Table 13a**:

Table 13a Proper time for toothbrushing, by locality (whole survey)

Time brushing teeth	Urban	Rural	Total
After breakfast & dinner	896 - 62%	784 - 62%	1680 - 62%
Before breakfast & go to bed	378 - 26%	418 - 33%	796 - 29%
Time is not important	44 - 3%	38 - 3%	82 - 3%
Others	137 - 9%	28 - 2%	165 - 6%
Total	1455 - 100%	1268 - 100%	2723 - 100%

From **Table 13a**, it is seen that **most** of the **schoolchildren know a good habit for dental health** as **the majority** of the schoolchildren both in **urban** and **rural** communities claimed that the correct time to brush their teeth is after breakfast and dinner (**62% : 62%**).

The answers of the **parents** (Survey 2) on the **proper time for toothbrushing** were as follows in **Table 13b.** It reveals that the majority of parents both in urban and rural areas claimed that the correct time to brush the teeth is **before breakfast** and **in the evening before going to bed** (**49% in urban** and **62% in rural, total 56%**), followed by after breakfast and dinner (**49%** in **urban** and **35%** in **rural, total 42%**). This means that the children may not follow their parents' advice (to brush the teeth before breakfast and go to bed), but may do the right thing; that is brushing the teeth after breakfast and dinner. **Only a few** of the parents said **it is not important whether before or after meal time** (**1%** in **urban** and **2%** in **rural**) while the rest of **1%** of **urban** and **1%** of **rural** schoolchildren gave **"other"** answer which included while having a shower in the morning or in the early evening.

Table 13b Proper time for toothbrushing, by locality (parents)

Time brushing teeth	Urban	Rural	Total
After breakfast & dinner	170 - 49%	117 - 35%	287 - 42%
Before breakfast and go to bed	170 - 49%	206 - 62%	376 - 56%
Time is not important	3 - 1%	6 - 2%	9 - 1%
Other	2 - 1%	3 - 1%	5 - 1%
Total	345 -100%	332 - 100%	677 - 100%

Have their Own Toothbrush

The answers from the schoolchildren about having their own toothbrush were shown in **Table 1.12** (Survey 1) and **Table 2.15** (Survey 2).

The results of the whole survey were as shown in **Table 14a**:

Table 14a Have their own toothbrush, by locality (whole survey)

Have toothbrush	Urban	Rural	Total
Yes	1411 - 96%	1049 - 82%	2460 - 90%
No	62 - 4%	225 - 18%	287 - 10%
Total	1473 - 100%	1274 - 100%	2747 - 100%

Most of the schoolchildren **(90%) use their own toothbrush** and about **10%** still **share** the toothbrush with other people in the family. Surprisingly, in the urban area there were still a few schoolchildren **(4%)** sharing a toothbrush in the family.

If analysed by ethnic group, the results are as shown in **Table 14b :**

Table 14b Have their own toothbrush, by ethnic group (whole survey)

Have toothbrush	JJ	CC	SR	Other -Mixed	Total
Yes	**1423 - 86%**	**726 - 96%**	**47 - 92%**	**264 - 92%**	**2460 - 90%**
No	**230 - 14%**	**31 - 4%**	**4 - 8%**	**22 - 8%**	**287 - 10%**
Total	**1653 - 100%**	**757 - 100%**	**51 - 100%**	**286 - 100%**	**2747 - 100%**

According to **ethnic group,** about **14%** of the **Javanese** schoolchildren do not have their own toothbrush compared to **4% Chinese** and **8% Same-Race ethnic** group and **Other-mixed** ethnic group. This means that in the family of the Javanese they share the toothbrush more often than other ethnic groups. Probably this is due to their socio-economic situation or they have the different culture, beliefs and opinion that a toothbrush belongs to the family and not the individual.

Use of Toothpaste

The schoolchildren's answers on the use of toothpaste were shown in **Tables 1.14** (Survey 1) and **2.16a/b** (Survey 2). The results of the whole survey are as in **Table 15**:

Table 15 Use of toothpaste, by locality (whole survey)

Use toothpaste	Urban	Rural	Total
Yes	**1445 - 99%**	**1030 - 87%**	**2475 - 94%**
Not always	**13 - 1%**	**72 - 6%**	**85 - 3%**
Never	**2 - 0.1%**	**81 - 7%**	**83 - 3%**
Total	**1460 - 100%**	**1183 - 100%**	**2643 - 100%**

In the whole survey **(Table 15)**, by locality, almost all **urban** schoolchildren **(99%) use toothpaste** to clean the teeth and **87%** of **rural** schoolchildren said that they also use it. These data were supported by the answers of **the parents** who claimed that **98%** of them use toothpaste in the family. Around **3%** of schoolchildren **never used toothpaste** in brushing their teeth. **Most of these** live in rural areas **(5%** in **Survey 1** and **10%** in **Survey 2)** and the majority were from low occupation families.

It was also shown that the percentage of **female** schoolchildren who **use toothpaste** was **slightly more** than the **male (96% : 91%)**. Around **10%** of the **Javanese** schoolchildren **never** or **not always used toothpaste.** This is **relatively high** compared to **other ethnic** groups **(Chinese 1%, Same Race 6% and Other-Mixed 2%).**

Use of Other Things to Clean Teeth

The information on using other things besides toothbrush and toothpaste to clean the teeth was given in the **Table 1.13** (Survey 1) and **Table 2.17a/b** (Survey 2). The results of the whole survey are as shown in **Table 16a**:

Table 16a Use other things to clean teeth, by locality (whole survey)

Use other cleaning	Urban	Rural	Total
Yes	208 - 14%	115 - 9%	323 - 12%
No	1262 - 86%	1145 - 91%	2407 - 88%
Total	1470 - 100%	1260 - 100%	2730 - 100%

From **Table 16a** it is observed that **12%** of the schoolchildren **used other things** to clean their teeth **(14%** in **urban** and **9%** in **rural).** "Other things" to clean teeth in urban areas means dental floss, special solution for mouth washing, while in rural areas it means coconut fibres and pumice.

By **ethnic group** the distribution was as follows :

Table 16b Use other things to clean teeth, by ethnic group (whole survey)

Use other cleaning	JJ	CC	SR	Other-Mixed	Total
Yes	140 - 9%	139 - 18%	1 - 2%	43 - 15%	323 - 12%
No	1500 - 91%	616 - 82%	50 - 98%	241 - 85%	2407 - 88%
Total	1640 - 100%	755 - 100%	51 - 100%	284 - 100%	2730 - 100%

From **Table 16b**, it is shown that the **Chinese ethnic group (18%)** were more likely to use **other things** to clean their teeth, followed by **Other-Mixed (15%)** group and **Javanese (9%)**.

From the question to the parents about the use of other things, the answers were as follows :

Table 16c Use other things to clean teeth in the family, by locality (parents)

Use other cleaning	Urban	Rural	Total
Yes	5 - 1%	5 - 1%	10 - 1%
No	340 - 99%	329 - 99%	669 - 100%
Total	345 - 100%	334 - 100%	679 - 100%

According to the parents' answers in **Table 16c**, the number of family who use other things was much less (both 1% in urban or rural area) compared with the schoolchildren's answers.

Dental Clinic at School

The presence of a dental clinic at school was shown in **Table 1.15** for Survey 1 and **Table 2.18** for Survey 2. The results of the whole survey are as shown in **Table 17a**:

Table 17a Availability of dental clinic at school, by locality (whole survey)

School dental clinic	Urban	Rural	Total
Yes	1190 - 81%	565 - 45%	1755 - 65%
No	276 - 19%	691 - 55%	967 - 35%
Total	1466 - 100%	1256 - 100%	2722 - 100%

From **Table 17a**, it is observed that **65%** of the respondents claimed that there is a **dental clinic at school** which takes care of dental health activities. By **locality**, the **urban** schools have more access to **dental clinics (81%)** compared to only **45%** in the **rural area**. This could be a problem for providing the orthodontic services in the rural areas for the future.

Table 17b Availability of dental clinic at school, by ethnic group (whole survey)

School dental clinic	JJ	CC	SR	Other-Mixed	Total
Yes	812- 50%	708 - 93%	30 - 61%	205 - 92%	1755 - 66%
No	819 - 50%	51 - 7%	19 - 39%	19 - 8%	908 - 34%
Total	1631 - 100%	759 - 100%	49 - 100%	224 - 100%	2663 - 100%

By **ethnic group**, the availability of the dental clinic at their schools was as shown in **Table 17b**: The Chinese children have the highest opportunity **(93%)** to have dental health services in their school since most of their schools have a dental clinic, if compared with other ethnic groups. In general, more Chinese families have better economic conditions compared to any other ethnic group and a dental clinic was also more available at the schools they attended.

Summary: Section Two of the Questionnaires

The results of the questionnaire on **dental health knowledge and behaviour** (Section 2) can be summarised as follows:

- **dentists** are **the main source of information** on dental health knowledge for the schoolchildren, followed by parents, and teachers;
- the majority of schoolchildren already have the good habit of cleaning the teeth by toothbrush;
- most **schoolchildren brush their teeth twice daily at the right time**, that was after breakfast and after dinner;
- most of the **urban schoolchildren have their own toothbrush** in their house, but 18% of rural schoolchildren do not have their own but have to share with the other members of their family;
- **toothpaste was used by 99% of urban** schoolchildren and **87% of rural** schoolchildren;
- **14% of urban** schoolchildren **use other things** beside toothbrush and toothpaste to clean their teeth compared to **9% in the rural areas**;
- that the **school had a dental clinic** was claimed by **81% of urban** schoolchildren and **45% of rural** schoolchildren;
- the **Chinese ethnic** group has the **highest percentage** in **owning their toothbrush, use of toothpaste** and **having a dental clinic at school.**

Section 3: Questions about Dental Health to Assess Knowledge

Important Things to Do to Keep Teeth and Gums Healthy

The results of questionnaire on this subject were shown in **Tables 1.16 and 2.19a/b**.

According to the **locality**, the results of the whole survey were as follows in **Table 18a**:

Table 18a Important things to keep teeth and gums healthy, by locality (whole survey)

Keep teeth and gums healthy*	Urban	Rural	Total
Correct diet total responses	156 - 9%	157 - 10%	313 - 9%
Reducing sugar total responses	445 - 24%	355 - 23%	800 - 24%
Toothbrushing total responses	1010 - 55%	873 - 56%	1883 - 55%
Check-ups total responses	168 - 9%	144 - 9%	312 - 9%
Don't know	48 - 3%	38 - 2%	86 - 3%
Total N= Total responses	1476 1827 - 100%	1276 1567 - 100%	2752 3394 - 100%

*multiple responses allowed

Many of the schoolchildren (**55%** in **urban** and **56%** in **rural**) gave their opinion consistently that toothbrushing is the only important thing to do to keep the teeth and gums healthy, after including the combined answers with toothbrushing it has the highest ranking. The second opinion "reducing sugar or sweet food" was **24%** from the total answer (**24%** in **urban** and **23%** in **rural**). This means that most of the schoolchildren have been aware that these two factors are important in dental health to keep the teeth and gums healthy.

According to the answer of the **parents**, they gave a different opinion on this subject as shown in **Table 18b**:

Table 18b Important things to keep teeth and gums healthy, by locality (parents)

Keep teeth and gums healthy *	Urban	Rural	Total
Health food total responses	164 - 18%	142 - 20%	306 - 19%
Reducing sugar total responses	225 - 25%	179 - 25%	404 - 25%
Toothbrush total responses	313 - 35%	283 - 40%	596 - 37%
Check-ups total responses	193 - 21%	94 - 13%	287 - 18%
Don't know	1 - 0.1%	8 - 1%	9 - 0.5%
Total N= Total responses	345 896 - 100%	334 706 - 100%	679 1602 - 100%

* multiple responses allowed

To answer the question regarding the important thing to do to keep the teeth and the gums healthy, it is observed that according to the parents all of the four alternatives were important, as could be seen from **Table 18b**;

By **locality** it was found that in the rural area most of the **parents** chose toothbrushing as the most important thing, but only **13%** thought check-ups were important. On the other hand, parents from urban area gave more combined answers to this question. This opinion indicated that the knowledge of parents in rural community was different from those who live in urban area.

Food That Can Damage Tooth

The schoolchildren answers regarding the food that can damage the tooth or can cause tooth damage were shown in **Table 1.17** and **Table 2.20**.

Results for the whole survey on this subject were as in **Table 19a**:

It is observed, that many of the schoolchildren **(52%)** understand that sugary food can "damage" the teeth (it means it can cause tooth damage or dental caries) followed by hard food.
Parents also gave sugary foods as damaging **(45%)** as well as soft-sticky and hard foods as indicated in **Table 19b.**

Table 19a Food that can cause tooth damage, by locality (whole survey)

Cause of tooth decay	Urban	Rural	Total
Sugary food	779 - 54 %	648 - 50 %	1427 - 52 %
Soft-Sticky food	82 - 6 %	172 - 13 %	254 - 9 %
Hard food	291 - 20 %	286 - 22 %	577 - 21 %
Others	264 - 18 %	145 - 11 %	409 - 15 %
Don't know	36 - 2 %	49 - 4 %	85 - 3 %
Total	1452 - 100%	1300 - 100%	2752 - 100%

Table 19b Food that can cause tooth damage, by locality (parents)

Cause of tooth decay*	Urban	Rural	Total
Sugary food total responses	200 - 45%	242 - 45%	442 - 45%
Soft-Sticky food total responses	130 - 29%	115 - 21%	245 - 25%
Hard food total responses	109 - 25%	168 - 31%	277 - 28%
Don't know	3 - 1%	17 - 3%	20 - 2%
Total N= Total responses	345 442 - 100%	333 542 - 100%	678 984 - 100%

* multiple responses allowed

Summary: Section Three of the Questionnaires

The results of the questionnaire on dental health to assess knowledge can be summarised as follows:

- most of the schoolchildren know the ways to keep the teeth and gums healthy;
- schoolchildren living in urban and rural areas gave similar answers to the question about the important things to do to keep the teeth and gums healthy, but their parents had different opinions;
- the majority of schoolchildren (urban and rural) know the food that can damage the tooth, but **only 52%** indicated sugary food as the cause of decay.

Section Four: Perception and Knowledge of Orthodontic Treatment

Perception of Teeth Appearance

Question: Do you like the appearance of your teeth?

This question was designed to assess the schoolchildren's level of satisfaction and their perception of their dental appearance. The child's perceptions of their dental appearance and their concern with the improvement of their appearance are considerable importance in determining both treatment demand and subsequent level of co-operation during treatment **(Shaw 1981a, Shaw et al. 1991b).**

The perception of their teeth appearance was shown in the **Table 1.19** and **Table 2.22a/b.** Results for the whole survey on this subject are shown in **Table 20a**:

Table 20a Schoolchildren perception of their teeth appearance, by locality (whole survey)

Good appearance	Urban	Rural	Total
Yes	519 - 35%	424 - 33%	943 - 35%
No	635 - 44%	540 - 43%	1175 - 43%
Don't know	306 - 21%	305 - 24%	611 - 22%
Total	1460 - 100%	1269 - 100%	2729 - 100%

The results of analysis for the **whole survey** according to **locality**, regarding the appearance of their teeth revealed that **35% of urban** and **33% of rural** schoolchildren said they do like their own teeth appearance. This means that they were **satisfied** with their appearance, while **44% of urban** schoolchildren and **43% of schoolchildren** in **rural** areas stated that they were not satisfied with the appearance of their teeth. This indicated that the demand for better appearance of the teeth is potentially high, since the majority of the children were not satisfied with their teeth appearance. There is **no statistical difference** found between **schoolchildren** in the **urban** and **rural** communities on their perception of their teeth **($X^2 = 3.9$, $p > 0.05$)**.

Interestingly, there was quite a high percentage of schoolchildren **(21% in urban** and **24% in**

rural) who do not know whether their teeth have good appearance or not. It seems that they may not care about their teeth appearance and it does not bother them at all or they have not yet considered how they look, or they never think about "beauty" at that age.

By **gender**, the results revealed that in the whole survey **(Table 20b), 46% of female and 40% of male schoolchildren** stated that they were **not satisfied with the appearance** of their teeth. **A significant difference** was found between **male** and **female** schoolchildren **(X^2=10.9, p< 0.05)**. It could be understood that the females expected a better teeth appearance compared with the male schoolchildren. From **Table 26b**, it appears that more male schoolchildren do not know or do not care about their teeth appearance compared with the female schoolchildren **(24% male compared with 21% female** schoolchildren).

Table 20b Schoolchildren perception of their teeth appearance, by gender (whole survey)

Good appearance	Female	Male	Total
Yes	452 - 33%	489 - 36%	941 - 35%
No	630 - 46%	545 - 40%	1175 - 43%
Don't know	283 - 21%	328 - 24%	611 - 22%
Total	1365 - 100%	1362 - 100%	2727 - 100%

Shaw (1981a), in a study of factors influencing the desire for orthodontic treatment in 9-12 year old schoolchildren found that more females considered themselves of below average attractiveness and more than twice as many females as males were dissatisfied with their dental appearance. The differences were not as great in Indonesian schoolchildren as in those in the United Kingdom.

The results of analysis in Survey 2 according to **parents and locality** on the appearance of their child's teeth **(Table 20c)** found that the majority of parents **(54%)** feel that the appearance was good and only **35%** were not satisfied while the remaining **11%** did not know whether the appearance of their children was satisfactory or unsatisfactory or they do not care about it.

By locality, 58% parents of **urban** schoolchildren and **51% parents** of **rural** schoolchildren said they were **satisfied** with their **children's appearance** while **36% parents** of **urban** schoolchildren and **34% parents** of schoolchildren in **rural** stated that they were **not satisfied** with their **children's teeth appearance** and the **other 6% parents** of **urban** schoolchildren and **16%** of **rural** schoolchildren said that their **children's appearance did not bother them at all.**

Table 20c Perception of parents regarding the tooth appearance of their children

Good appearance	Urban	Rural	Total
Yes	199 - 58%	169 - 51%	368 - 54%
No	125 - 36%	112 - 34%	237 - 35%
Don't know	21 - 6%	52 - 16%	72 - 11%
Total	345 - 100%	333 - 100%	678 - 100%

This means that the demand for better teeth appearance was higher in the children compared with their **parents.** Only a small number of parents did not know or care about the teeth appearance of their children compared to the schoolchildren **(11% parents compared to 22% children).** This was **mostly observed** in the rural areas where **16%** of the **parents did not know** whether the **teeth appearance** of their children was **good or not (Table 20c).**

Surprisingly, no difference is shown in perception of their teeth appearance by **ethnic group** as shown in **Table 20d.** The results of analysis according to the **ethnic group** regarding the appearance of their teeth revealed that most of the schoolchildren, **34%** of **Javanese** schoolchildren, **36%** of **Chinese, 26%** of **Same-Race ethnic group and 27%** of schoolchildren from the **Other-Mixed** ethnic group claimed that they were satisfied with their appearance. On the other hand, **44%** of **Javanese** schoolchildren, **43%** of **Chinese, 49%** of **Same-Race ethnic group and 40%** of schoolchildren from the **Others-Mixed** ethnic group stated that they were not satisfied with the appearance of their teeth. The rest of them, **22%** of **Javanese** schoolchildren, **21%** of **Chinese, 25%** of **Same-Race ethnic group and 23%** of schoolchildren from the **Other-Mixed** ethnic group said that their appearance does not bother them much.

Table 20d Schoolchildren perception of their teeth appearance, by ethnic group (whole survey)

Good appearance	Javanese-JJ	Chinese-CC	Same-Race	Others-mixed	Total
Yes	556 - 34%	270 - 36%	13 - 26%	104 - 27%	943 - 35%
No	716 - 44%	322 - 43%	25 - 49%	112 - 40%	1175 - 43%
Don't know	372 - 22%	163 - 21%	13 - 25%	63 - 23%	611 - 22%
Total	1644 - 100%	755 - 100%	51 - 100%	279 - 100%	2729 - 100%

"Most disliked" Tooth Appearance

Question: What do you most dislike about your teeth?

This question was designed to discover the occlusal trait which is most disliked by the schoolchildren and the answers are shown in the following **Table 21a** :

Table 21a Most disliked tooth appearance, by locality (whole survey)

Dislike most	Urban	Rural	Total
Shape of tooth	208 - 22%	316 - 28%	524 - 25%
Colour	188 - 20%	197 - 17%	385 - 18%
Size	83 - 9%	158 - 14%	241 - 11%
Caries	51 - 5%	98 - 9%	152 - 7%
Missing upper incisor	66 - 7%	44 - 4%	110 - 5%
Stick out	202 - 21%	194 - 17%	393 - 19%
Crooked	90 - 9%	105 - 9%	195 - 9%
Gap between teeth	72 - 8%	38 - 3%	110 - 5%
Total	960 - 100%	1150 - 100%	2110- 100%

From **Table 21a** it is claimed that the abnormality most disliked by the majority of schoolchildren was the **shape of the teeth (25%)**, followed by **stick out (19%)** and **colour (18%)**.
The children in Survey 1 **(Table 1.20)** and Survey 2 **(Table 2.23a)** differed in their opinions about shape of the teeth.

By **locality** the result was almost similar, but in **rural** areas there were **more who dislike the shape (28% in rural : 22% in urban)** and **dental caries (9% in rural : 5% in urban)**. The last **three abnormalities of the teeth** were **related to orthodontic problems; i.e. stick out, crooked and gaps between teeth.**

From **Table 21a**, the total percentage of abnormalities which were related to orthodontic problems was **38%** for **urban**, **29%** for **rural** and **34%** for the **whole sample**. These could be considered as a potential demand for orthodontic treatment.

By **ethnic group** the distribution was as shown in **Table 21b**:

Table 21b Most disliked tooth appearance, by ethnic group (whole survey)

Dislike most	Javanese-JJ	Chinese-CC	Same-Race	Others-mixed	Total
Shape of tooth	367 - 26%	95 - 21%	11 - 24%	51 - 25%	524 - 25%
Colour	239 - 17%	94 - 21%	6 - 13%	46 - 23%	385 - 18%
Size	186 - 13%	33 - 7%	4 - 9%	18 - 9%	241 - 11%
Caries	113 - 8%	24 - 5%	6 - 13%	6 - 3%	149 - 7%
Missing upper incisor	59 - 4%	39 - 9%	3 - 7%	9 - 5%	110 - 5%
Stick out	254 - 18%	93 - 21%	6 - 13%	43 - 21%	393 - 19%
Crooked	132 - 9%	42 - 9%	6 - 13%	15 - 8%	195 - 9%
Gap between teeth	68 - 5%	26 - 6%	3 - 7%	13 - 7%	110 - 5%
Total	1418 - 100%	446 - 100%	45 - 100%	201 - 100%	2110 - 100%

It is shown that the majority of the three ethnic groups (**Javanese, Same Race and Other-Mixed) dislike** the **shape** of their teeth as a **first choice.** In the **Chinese ethnic** group the same **percentage** was seen for the three abnormalities: **shape, colour and stick out** which were also **emphasised** by the **Other-Mixed group.** By ethnic group, the distribution of the last three abnormalities which are related to orthodontic problems were **32% in Javanese, 36% in Chinese, 33% in Same Race** and **36% in Other-Mixed group.** This means that the lowest potential demand for orthodontic treatment was in the Javanese ethnic group, while the Chinese and Mixed Group have a slightly higher potential demand.

By **gender analysis** the responses were as follows in **Table 21c**:
From **Table 21c** it is observed that **most** of the **abnormalities** which were **disliked** by **female** schoolchildren were **slightly higher** in percentage **compared with** the **male** schoolchildren, **except** for **colour** and **dental caries.** The total percentage of the last **three abnormalities** which **related** to **orthodontic** problem was **35% in female** compared to **32% in male** schoolchildren.

Table 21c Most disliked tooth appearance, by gender (whole survey)

Dislike most	Female	Male	Total
Shape of tooth	269 - 26%	255 - 24%	524 - 25%
Colour	177 - 17%	208 - 20%	385 - 18%
Size	127 - 12%	114 - 11%	241 - 11%
Caries	56 - 5%	93 - 9%	149 - 7%
Missing upper incisor	59 - 6%	51 - 5%	110 - 5%
Stick out	199 - 19 %	196 - 18%	395 - 19%
Crooked	100 - 10%	95 - 9%	195 - 9%
Gap between teeth	62 - 6%	48 - 5%	110 - 5%
Total	1049 - 100%	1060 - 100%	2110- 100%

The answers from the **parents** to the question on this subject (Survey 2) were as in **Table 21d**:

It is observed from **Table 21d** that the parents' opinion on the abnormalities of their children's teeth which they mostly disliked were different from their children, especially for shape.

The majority of **parents disliked** the **crooked teeth (38%)**, followed by **colour (17%)** and **dental caries (15%)**.

The **total percentage** of the last three abnormalities were **67%** in **urban** and **42%** in **rural** areas. This number was quite different from the schoolchildren opinion and could be considered as the potential demand of the parents for orthodontic treatment for their children.

Table 21d Most disliked child's tooth appearance, by locality as assessed by parents

Dislike most	Urban	Rural	Total
Shape of tooth	4 - 2%	12 - 7%	16 - 5%
Colour	24 - 14%	35 - 19%	59 - 17%
Size	9 - 5%	17 - 9%	26 - 7%
Caries	17 - 10%	37 - 20%	54 - 15%
Missing upper incisor	-	4 - 2%	4 - 1%
Stick out	23 - 14%	17 - 9%	40 - 12%
Crooked	80 - 48%	52 - 28%	132 - 38%
Gap between teeth	9 - 5%	9 - 5%	18 - 5%
Total	183 - 100%	166 - 100%	349 - 100%

Knowledge of Improving Tooth Appearance

The schoolchildren were asked whether they know that the appearance of crowded or protruded teeth could be improved with orthodontic treatment.

The results for the whole survey were as in **Table 22a:**

Table 22a Knowledge of improving tooth appearance by locality (whole survey)

Improve appearance	Urban	Rural	Total
Yes	856 - 60%	350 - 28%	1206 - 45%
No	580 - 40%	906 - 72%	1486 - 55%
Total	1256 - 100%	1436 - 100%	2692 - 100%

The results of analysis for the **whole survey** for the question regarding the knowledge of orthodontic treatment, **by locality,** revealed more than half of the **urban** schoolchildren **(60%)** know that the appearance of the teeth can be improved by orthodontic treatment, while only **28%** of the schoolchildren **in rural** areas know about it. The remaining **40%** of **urban** schoolchildren and most of the **rural** schoolchildren **(72%)** did not know about it.

By **ethnic group**, the distribution of knowledge on this topic was as follows in **Table 22b**:
It is shown that the majority of the **Chinese (60%)** and **"Other-Mixed" (56%)** ethnic schoolchildren compared to only **36%** of the Javanese schoolchildren know that the appearance of the teeth can be improved by orthodontic treatment.

Table 22b Knowledge of improving tooth appearance, by ethnic group (whole survey)

Improve appearance	Javanese-JJ	Chinese-CC	Same-Race	Others-mixed	Total
Yes	582 - 36 %	449 - 61%	19 - 39%	156 - 56%	1206 - 45%
No	1047 - 64%	287 - 39%	30 - 61%	122 - 44%	1486 - 55%
Total	1629 - 100%	736 - 100%	49 - 100%	278 - 100%	2692 - 100%

By **gender analysis** the distribution is as shown in **Table 22c**:

Half of the **female** schoolchildren **(50%)** know about improving teeth appearance by orthodontic treatment compared to **40%** of male schoolchildren. With parent answers to this question **(Table 2.24b),** it was found that only **45%** of the **parents** in **rural** areas know that the teeth appearance could be improved. This is in contrast with the majority of **parents** in urban areas **(82%)** and all parents **(64%)** who knew teeth appearance can be improved by orthodontic treatment.

Table 22c Knowledge of improving tooth appearance, by gender (whole survey)

Improve appearance	Female	Male	Total
Yes	673 - 50%	532 - 40%	1205 - 45%
No	676 - 50%	809 - 60%	1485 - 55%
Total	1349 - 100%	1341 - 100%	2690 - 100%

Knowledge of Length of Orthodontic Treatment

The schoolchildren and their parents were asked whether they know approximately how long orthodontic treatment would take. The answers to this question were given in **Table 1.22** and **Table 2.25a/b**. For the whole survey the data are as in **Table 23a** :

It is observed that the **majority** of schoolchildren said they **do not know** how long is **the length of orthodontic treatment**, both in urban or rural communities, but the percentage was **less** in **urban** schoolchildren (**58% in urban** compared to **78% in rural**).

Table 23a Knowledge of length of orthodontic treatment, by locality (whole survey)

Know length of orthodontic treatment	Urban	Rural	Total
Yes	438 - 42%	158 - 22%	596 - 34%
Don't know	599 - 58%	572 - 78%	1171 - 66%
Total	1037 - 100%	730 - 100%	1767 - 100%

By **ethnic group**, the distribution is shown in **Table 23b:**

For those who know the length of orthodontic treatment; the results for the whole survey by **ethnic group** revealed that only **26%** of **Javanese** schoolchildren know about it, compared with **47%** of the **Chinese** schoolchildren who knew about the time required to complete orthodontic treatment.

By **gender** analysis it was found that **female** schoolchildren know the length of orthodontic treatment was **slightly more** than the **males (35% female** compared with **32% male).**

Table 23b Knowledge of length of orthodontic treatment, by ethnic group (whole survey)

Know length of orthodontic treatment	Javanese-JJ	Chinese-CC	Same-Race	Others-mixed	Total
Yes	271 - 26%	235 - 47%	12 - 41%	78 - 37%	596 - 34%
Don't know	757 - 74%	262 - 53%	17 - 59%	135 - 63%	1171 - 66%
Total	1028 - 100%	497 - 100%	29 - 100%	213 - 100%	1767 - 100%

The answers from the **parents** to this question are as in **Table 23c** :

Survey 2 by **locality**, revealed that more parents in urban areas know the time required for orthodontic treatment to finish **(53%** in **urban** and **33%** in **rural).** In comparison **47%** of **urban** parents and **67%** of **rural** parents did not know how long the treatment would take to complete.

Table 23c Knowledge of length of orthodontic treatment, by locality (parents)

Know length of orthodontic treatment	Urban	Rural	Total
Yes	145 - 53%	46 - 33%	191 - 46%
No	128 - 47%	95 - 67%	223 - 54%
Total	273 - 100%	141 - 100%	414 - 100%

Perceived Need to have Teeth Straightened

Question: Do you **think** your teeth need to be straightened?

This question was designed to assess the level of demand for orthodontic treatment of the schoolchildren. The schoolchildren and their parents were asked about their opinion on straigthening the child's teeth; whether they think treatment is necessary. The answers were shown on the **Table 1.23** and **Table 2.26a/b.**

The results of the whole survey are as shown in **Table 24** :

Table 24 Perceived need to have teeth straightened, by locality (whole survey)

Need teeth straightened	Urban	Rural	Total
Yes	977 - 68%	979 - 78%	1956 -72%
No	252 - 17%	131 - 10%	383 - 14%
Don't know	210 - 15%	150 - 12%	360 - 13%
Total	1439 - 100%	1260 - 100%	2699 - 100%

The majority of schoolchildren **(72%)** thought that their teeth **need to be straightened**, especially in the **rural** area (**68%** in **urban** compared to **78%** in **rural** area). But the parents' opinions were different, in that **half** of them **(50%)** thought that it is not necessary to straighten their children's teeth, while only **36%** thought it is **necessary (Table 2.26b).** However, there was a high percentage **(77%)** willing to have orthodontic treatment for their child **(Table 2.27b).**

Willingness to Have Teeth Straightened (if necessary)

Question: If it is **necessary**, would you like to have your teeth straightened?

This question was designed to assess the willingness for orthodontic treatment of the schoolchildren. The schoolchildren and their parents were asked about their opinion on straightening teeth; if this was substantially necessary, are they willing to have the treatment or not. The results of their willingness to have teeth straightened were presented in **Table 1.24** and **Table 2.27a/b** and for the whole survey are shown in **Table 25a :**

Table 25a Willingness to have teeth straightened, by locality (whole survey)

Willingness of having treatment	Urban	Rural	Total
Yes	**1076 - 75%**	**997 - 79%**	**2073 - 77%**
No	**193 - 13%**	**146 - 12%**	**339 - 12%**
Don't know	**170 - 12%**	**118 - 9%**	**288 - 11%**
Total	**1439 - 100%**	**1261 - 100%**	**2700 - 100%**

For the **whole survey, by locality 75%** of schoolchildren in **urban** and **79%** in **rural** claimed they would be **willing to have treatment** if their teeth need to be straightened. On the other hand, 13% of schoolchildren in urban and 12% in rural stated that they do not feel they need orthodontic treatment and many schoolchildren (12% in urban and 9% in rural) do not know. Interestingly, **rural** schoolchildren have the **greater demand.**

By **ethnic** group, the distribution was as in **Table 25b:**

It is observed that the **Chinese** schoolchildren have the **lowest** percentage (70%) **willing to have their teeth straightened**, while in the Javanese **(79%)** and other ethnic groups **(80%)** the potential demand was higher.

Table 25b Willingness to have teeth straightened, by ethnic group (whole survey)

Willingness of treatment	Javanese-JJ	Chinese-CC	Same-Race	Others-mixed	Total
Yes	**1292 - 79%**	**518 - 70%**	**41 - 80%**	**222 - 80%**	**2073 - 77%**
No	**190 - 12%**	**107 - 15%**	**7 - 14%**	**35 - 13%**	**339 - 13%**
Don't know	**153 - 9%**	**112 - 15%**	**3 - 6%**	**20 - 7%**	**288 - 11%**
Total	**1635 - 100%**	**737 - 100%**	**51 -100%**	**277 - 100%**	**2700 - 100%**

With **analysis** by gender, the distribution was as in **Table 25c**:

Table 25c Willingness to have teeth straightened, by gender (whole survey)

Willingness of having treatment	Female	Male	Total
Yes	**1042 - 77%**	**1030 - 76%**	**2072 - 77%**
No	**170 - 13%**	**168 - 13%**	**338 - 13%**
Don't know	**138 - 10%**	**150 - 11%**	**288 - 11%**
Total	**1350 - 100%**	**1348 - 100%**	**2698 - 100%**

Results for the **whole** survey, regarding the willingness for orthodontic treatment by **gender** revealed **77% of female** and **76%** of the **male** schoolchildren claimed they would be **willing to have treatment** if their teeth needed to be straightened. This indicates no significant difference between gender regarding the demand for orthodontic treatment.

Opinion on Influence of Good Tooth Alignment

In the questionnaire there was a question on the influence of good alignment of the teeth.

The results were reported in **Table 1.25** (Survey 1) and Tables **2.29a/b** (Survey 2).

The results of the whole survey are as shown in **Table 26a** :

Table 26a Good tooth alignment will improve appearance and confidence, by locality (whole survey)

Good alignment improve appearance	Urban	Rural	Total
Yes	**1186 - 92%**	**1039 - 84%**	**2225 - 88%**
No	**97 - 7%**	**173 - 14%**	**270 - 11%**
Don't know	**8 - 1%**	**26 - 2%**	**34 - 1%**
Total	**1291 - 100%**	**1238 - 100%**	**2529 - 100%**

Results of the whole survey by **locality** showed that **92%** of schoolchildren in urban and **84%** in **rural** agreed that the good alignment of one's teeth will improve appearance and confidence. On the other hand, **7%** of schoolchildren in **urban** and **14%** in **rural** stated that they did not agree with it, while the rest did not offer an opinion.

The opinions from the **parents** in Survey 2 were shown in the **Table 2.29b** and **95%** of them agreed with the statement (**98%** in **urban** and **91%** in **rural**); more than the schoolchildren of Survey 2 (**95%** and **87%**).

By **ethnic** group, the distribution was as shown in **Table 26b** :

Results of the whole survey by ethnic group showed that percentage of the four ethnic groups that agreed with the statement were almost similar. The highest percentage was in the **Other-Mixed** group (**93%**) and the lowest was in the **Same-Race** group (**83%**).

Table 26b Good tooth alignment will improve appearance and confidence, by ethnic group (whole survey)

Good alignment improve appearance	Javanese-JJ	Chinese-CC	Same-Race	Others-mixed	Total
Yes	1384 - 87%	564 - 89%	38 - 83%	239 - 93%	2225 - 88%
No	184 - 12%	66 - 10%	4 - 9%	16 - 6%	270 - 11%
Don't know	25 - 1%	3 - 1%	4 - 9%	2 - 1%	34 - 1%
Total	1593 - 100%	633 - 100%	46 - 100%	257 - 100%	2529 - 100%

By **gender** analysis, the results were as in **Table 26c**:

Results for the whole survey by gender revealed that **91%** of the **female** and **85%** of the **male** schoolchildren **agreed** that the **good alignment** of one's teeth will improve their **appearance** and **confidence**. It is observed that the **percentage** of **female** schoolchildren who agreed with the statement was **higher** than the **male** schoolchildren. This indicates that **female** schoolchildren are **more aware of the appearance** of their teeth.

Table 26c Good tooth alignment will improve appearance and confidence, by gender (whole survey)

Good alignment improve appearance	Female	Male	Total
Yes	1149 - 91%	1074 - 85%	2223 - 88%
No	106 - 8%	164 - 13%	270 - 11%
Don't know	14 - 1%	20 - 2%	34 - 1%
Total	1269 - 100%	1258 - 100%	2527 - 100%

Problems that Would Appear if Orthodontic Treatment is Needed

In Survey 2, the schoolchildren and their parents were asked about the problems that could possibly appear if the child needed orthodontic treatment. The answers to this question were shown in Table **2.30a** and **Table 2.30b**. From the schoolchildren's answers, it was observed that the first problem that would appear if orthodontic treatment was needed would be the many regular visits to dentist for a long time (**60%; 64% urban** and **56% rural** schoolchildren).

The second problem is the cost of treatment which was given by **29%** of these **schoolchildren (27% urban** and **30% rural)**. It was claimed by the schoolchildren in both **urban and rural** areas that they were more worried they **could not visit the dentist regularly** than the problem of the **expensive therapy**.

When this question was asked of the **parents**, their answers were almost the same. About **41%** of the **parents** said that the **regular visits to dentist** would be the **main problem (urban 40%** and **rural 41%)**, followed by the **cost** of therapy **(urban 27%, rural 36%, both 31%).**

By the **father's occupation**, a similar image was found on the opinion of the problem that would appear if orthodontic treatment were needed. In the **low occupation** families, the first problem was also the **need for regular visit (45%)**, followed by the **cost of therapy (38%)** and **other problems (17%)**. In the **high occupation** families these figures were **57%, 26% and 17%** respectively, stressing the problem of regular visits even more than cost of therapy as a problem.

Opinion on Monthly Visits to Dentist Over Long Period if Orthodontic Treatment Needed

In the Survey 2, both schoolchildren and parents were asked their opinion on monthly visits to dentist over a long period, if orthodontic treatment were needed. The answers were shown in **Table 2.28a (schoolchildren)** and **Table 2.28b (parents).**

The schoolchildren have homogeneous answers both in urban and rural areas, and the majority (**74% urban** and **74% rural)** was **very keen** to do it, with **21% of them doubtful (20% urban** and **22% rural).**

This answer was a contradiction to the previous answer where they were worried they may not be able to make regular visits to the dentist. It seems that they would wish to have the regular visits but are worried that they can not achieve this. The same trend was seen in the answers of the parents, that they were very keen to visit the dentist regularly for their children's treatment, but they worried about the regularity required for these visits.

Summary : Section Four of the Questionnaires

- the **majority of the schoolchildren (urban and rural)** were not satisfied with the appearance of their teeth with no significant difference found between the two locality groups, but with females less satisfied than male schoolchildren;
- the teeth abnormalities which are related to orthodontic problems, i.e **stick out, crooked and gaps** between teeth, were found to be the **most disliked appearance** by the schoolchildren;
- the **lowest potential demand** for orthodontic treatment was observed in the **Javanese** ethnic group and the **highest** was in **Chinese** schoolchildren;
- the orthodontic **demand in female** schoolchildren was **higher compared with males**;
- the **parents'opinion** on their children's teeth appearance showed a **high orthodontic demand**;
- the majority of schoolchildren know how that **teeth appearance can be improved**, especially in urban areas as well as their parents. However, most of them and their parents **do not know** the **length of orthodontic treatment**;
- in **Survey 2**, the majority of **schoolchildren** in urban and rural areas **feel that their teeth need to be straightened**, but most of their **parents feel it is not necessary** although they would be willing;
- more than half of the **schoolchildren were willing to have their teeth straightened if needed**, especially in the rural areas and the Javanese ethnic group;
- the agreement to the statement that **good alignment of the teeth will improve appearance** and confidence was observed by the majority of schoolchildren and parents, **especially in female** schoolchildren;
- according to the **majority** of schoolchildren, the **regularity of visits** to the dentist would be the **main problem** if orthodontic treatment is needed, **followed by the cost of treatment.** This does not seem to be influenced by the level of occupation of father or locality.

Schoolchildren and Parent Assessment of Aesthetic Component

Q.32 Here is the scale of 10 photographs of teeth showing different levels of attractiveness. Number 1 is considered the most attractive and number 10 is the least attractive.

Where would you put your teeth on this scale ?

1 2 3 4 5 6 7 8 9 10

Table 27a Schoolchildren self-assessment of the Aesthetic Component, by locality (detailed)

AC Grade	Urban	Rural	Total	Treatment Need
1	430 - 29%	360 - 28%	790 - 29%	2550 - 93% No/Slight Need of Treatment
2	554 - 38%	425 - 34%	979 - 36%	
3	302 - 20%	249 - 20%	551 - 20%	
4	125 - 9%	105 - 8%	230 - 8%	
5	25 - 2%	26 - 2%	51 - 2%	137 - 5% Borderline Need of Treatment
6	15 - 1%	41 - 3%	56 - 2%	
7	4 - 0.3%	26 - 2%	30 - 1%	
8	14 - 1%	27 - 2%	41 - 2%	53 - 2% Definite Need of Treatment
9	2 - 0.1%	6 - 1%	8 - 0.3%	
10	1 - 0.1%	3 - 0.2%	4 - 0.1%	
Total	1472 - 100%	1268 - 100%	2740 - 100%	

In the **whole sample,** the **self-assessment** of the **Aesthetic Component (Table 27a)** showed that **almost all** of the **schoolchildren felt** that their **dental appearance** was **very good** compared to the Aesthetic Component photographs. Most **(93%)** of the schoolchildren categorised themselves as ***"no need of treatment"*** (29% in grade 1, 36% in grade 2, 20% in grade 3 and 8% in grade 4), only **5%** were in the ***"borderline need of treatment"*** (2% in both grade 5 and grade 6 and 1% in grade 7). Only **2%** classified themselves grades 8 to 10 in ***"definite need of treatment"***.

Most of the schoolchildren **assessed their own Aesthetic Component** as being **very good.** Similarly, the assessment of the **Aesthetic Component** by the **parents (Table 2.31e)** in Survey 2, showed that **95%** of the parents assessed their child's appearance as satisfactory. They assessed their child's treatment need to be lower than the assessment by the dentist.

By **locality (Table 27b),** the results revealed that most schoolchildren in **urban** and **rural** areas assessed themselves as ***"no need for treatment"*** as:

- **96% of urban** and **90% of rural** schoolchildren were **satisfied** with their appearance and categorised themselves as ***"no need for treatment"*** in **grades 1 - 4.**
- Some **3% of urban** and **7% of rural** schoolchildren categorised themselves as ***"borderline need for treatment"*** in **grades 5 - 7,**
- Only **1% of urban** and **3% of rural** schoolchildren were **not satisfied** with their appearance and categorised themselves as ***" definite need for treatment"*** in **grades 8-10**

There is a **significant difference** between **urban** and **rural** schoolchildren in **self-assessment** using the **Aesthetic Component** with the rural children indicating they were more in need of treatment ($X^2 = 38$, $p<0.05$)

Table 27b Schoolchildren self-assessment of the Aesthetic Component, by locality

AC Grade	Urban	Rural	Total	Treatment Need
1 - 4	**1411 - 96%**	**1139 - 90%**	**2550 - 93%**	**No/Slight Need Treatment**
5 - 7	**44 - 3%**	**93 - 7%**	**137 - 5%**	**Borderline Need of Treatment**
8 - 10	**17 - 1%**	**36 - 3%**	**53 - 2%**	**Definite Need of Treatment**
Total	**1472 - 100%**	**1268 - 100%**	**2740 - 100%**	

In the whole sample, the results of analysis according to **ethnic group (Table 27c)** for **self assessment** of the Aesthetic Component when the grading is split into three ethnic categories revealed that;

- **91%** of **Javanese** schoolchildren, **95%** of **Chinese, 94%** of **Same-Race ethnic group and 97%** of schoolchildren from the **Other-Mixed** ethnic group categorised themselves as ***"no need for treatment"*** in **grades 1 - 4.**
- A much smaller group, **7%** of **Javanese** schoolchildren, **4%** of **Chinese, 4%** of **Same-Race ethnic group and 2%** of schoolchildren from the **Other-Mixed** ethnic group, categorised themselves as ***"borderline need for treatment"*** in **grades 5 - 7.**
- **Only 2%** of **Javanese** schoolchildren, **1%** of **Chinese, 2%** of **Same-Race ethnic group and 1%** of schoolchildren from the **Other-Mixed** ethnic group categorised themselves as ***" definite need for treatment"*** in **grades 8 - 10.**

Table 27c Schoolchildren self-assessment of Aesthetic Component, by ethnic group

AC Grade	Javanese JJ	Chinese CC	Same-Race SR	Other-Mixed	Total
1 - 4	1503 - 91%	723 - 95%	48 - 94%	276 - 97%	2550 - 93%
5 - 7	102 - 7%	27 - 4%	2 - 4%	6 - 2%	137 - 5%
8 - 10	41 - 2%	8 - 1%	1 - 2%	3 - 1%	53 - 2%
Total	1646 - 100%	758 - 100%	51 - 100%	285 - 100%	2740 - 100%

By **gender (Table 27d)**, there was **no difference** shown for **self-assessment** using the **Aesthetic Component.** In the **whole sample**, the self assessment by the schoolchildren according to **gender** revealed that most assessed themselves as ***"no need for treatment"*** ;

- **94% of female** and **92% of male** schoolchildren were **satisfied** with their appearance and categorised themselves as ***"no need for treatment"*** in **grades 1 - 4.**
- Only **4% of female** and **6% of male** schoolchildren categorised themselves as ***"borderline need for treatment"*** in **grades 5 - 7.**
- Even fewer, **2% of female** and **2% of male** were **not satisfied** with their appearance and categorised themselves as ***"definite need for treatment"*** in **grades 8 - 10.**

Table 27d Schoolchildren self-assessment of the Aesthetic Component, by gender (detailed)

AC Grade	Female	Male	Total	Treatment Need
1	410 - 30%	380 - 28%	790 - 29%	2550 - 93% No/Slight Need of Treatment
2	499 - 36%	479 - 35%	978 - 36%	
3	283 - 21%	267 - 20%	550 - 20%	
4	101 - 7%	129 - 9%	230 - 8%	
5	20 - 2%	31 - 2%	51 - 2%	137 - 5% Borderline Need of Treatment
6	18 - 1%	38 - 3%	56 - 2%	
7	16 - 1%	14 - 1%	30 - 1%	
8	19 - 1%	22 - 2%	41 - 2%	53 - 2% Definite Need of Treatment
9	6 - 0.4%	2 - 0.1%	8 - 0.3%	
10	1 - 0.1%	3 - 0.2%	4 - 0.1%	
Total	1373 - 100%	1365 - 100%	2738 - 100%	

In **Survey 2**, the **self assessment** by the schoolchildren according to **locality (Table 2.31a)** revealed that most in urban and rural areas assessed themselves as ***"no need for treatment"***; **95% of urban** and **85% of rural** schoolchildren said they were **satisfied** with their appearance and categorised themselves as ***"no need for treatment"*** **in grades 1 - 4.** Only **3% of urban** and **10% of rural** categorised themselves as ***"borderline need for treatment"*** **in grades 5 - 7** and **2% of urban** and **5% of rural** schoolchildren said they were **not satisfied** with their appearance and categorised themselves as ***" definite need for treatment"*** **in grades 8 - 10.**

The **self assessment** by the schoolchildren according to **gender (Table 2.31b)** revealed that most in both urban and rural areas assessed themselves as ***"no need for treatment"*****; 90% of female** and **90% of male** schoolchildren said they were **satisfied** with their appearance and categorised themselves as ***"no need for treatment"*** in **grades 1 - 4.** Only **6% of female** and **7% of male** schoolchildren categorised themselves as ***"borderline need for treatment"*** in **grades 5 - 7.** **4% of female** and **3% of male** schoolchildren said they were **not satisfied** with their appearance that they categorised themselves as ***"definite need for treatment"*** in **grades 8 - 10.**

The **assessment** by the **parents** according to **locality (Tables 2.31d and 2.31e)** revealed that most of them in **urban and rural areas** assessed their child as ***"no need for treatment"*****;** **96% parents of urban** and **92% parents of rural** schoolchildren said they were **satisfied** with their child's appearance and categorised them as ***"no need for treatment"*** in **grades 1-4.** Only **3% parents of urban** and **6% parents of rural** schoolchildren categorised their child as ***"borderline need for treatment"*** in **grades 5 - 7.** Even fewer parents **1% of urban** and **2% of rural** said they were **not satisfied** with their child's appearance and categorised them as ***"definite need for treatment"*** in **grades 8 - 10.**

Comparison of Schoolchild, Parent and Dentist Assessments

The children assessed themselves with a less attractive rating than those given by their parents **(Table 28a)**, and this was consistent for rural children and for male and female schoolchildren **(Tables 28b and 28c)**. Parents in urban areas gave a similar high attractive rating to that of the self-assessment of their children **(97% : 98%)**.

The dentist assessment of **Aesthetic Component** was much lower than those of either the children and their parents. The dentist, like the children and their parents, assessed urban schoolchildren more highly than rural schoolchildren. The dentist, like the children and their parents, assessed no difference between female and male schoolchildren **(50% : 47%)**.

The IOTN assessment of dentofacial appearance by the **Aesthetic Component** showed, there were some differences between the schoolchildren and their parents by locality but not by gender. The dentist assessments were much less favourable than those of the children or their parents, and showed a difference by locality but not by gender.

Table 28a Self-assessment, dentist assessment, parent assessment of Aesthetic Component

AC Grades	Self Assessment	Dentist Assessment	Parent Assessment	Treatment Need
1 - 4	619 (80%)	333 (48%)	602 (95%)	No need / Slight Need of Treatment
5 - 7	43 (6%)	257 (38%)	28 (4%)	Borderline Need of Treatment
8 - 10	24 (4%)	97 (14%)	7 (1%)	Definite Need of Treatment
Total	686 - 100%	686 - 100%	637 - 100%	

Table 28b Self-assessment, dentist assessment, parent assessment of Aesthetic Component, by locality

AC Grades	Self-Assessment		Dentist Assessment		Parent Assessment		Treatment Need
	Urban	Rural	Urban	Rural	Urban	Rural	
1 - 4	331 (98%)	288 (85%)	193 (55%)	139 (42%)	314 (97%)	288 (92%)	No / Slight Need of Treatment
5 - 7	10 (3%)	33 (10%)	118 (34%)	139 (42%)	9 (3%)	19 (6%)	Borderline Need of Treatment
8 - 10	16 (5%)	8 (2.3%)	38 (11%)	59 (27%)	2 (1%)	5 (2%)	Definite Need of Treatment
Total	349- 100%	337 - 100%	349 - 100%	337 - 100%	325 - 100%	312- 100%	

Table 28c Self-assessment, dentist assessment, parent assessment of Aesthetic Component, by gender

AC Grades	Self-Assessment		Dentist Assessment		Parent Assessment		Treatment Need
	Female	Male	Female	Male	Female	Male	
1 - 4	312 (90%)	307 (90%)	171 (50%)	161 (47%)	302 (95%)	300 (95%)	No / Slight Need of Treatment
5 - 7	20 (6%)	23 (6%)	120 (35%)	137 (40%)	16 (4%)	12 (4%)	Borderline Need of Treatment
8 - 10	13 (4%)	11 (3%)	54 (16%)	43 (13%)	5 (1)%	2 (1%)	Definite Need of Treatment
Total	345- 100%	341 - 100%	345 - 100%	341 - 100%	323 - 100%	314- 100%	