

UTILISATION OF GOVERNMENT DENTAL SERVICES

COVERAGE: A measure of the extent to which the services rendered cover the potential need for these services in a community.

Formulae: $\frac{\text{Total New Patients}}{\text{Total Population}} \times 100$

OUTPATIENT: A patient who is a walk-in patient (not an inpatient).

APPOINTMENT: An arrangement to meet the doctor for consultation/treatment at a particular time and place.

CATCHMENT AREA: The area from which people are allocated to a particular Hospital or Health Centre.

PRODUCTIVITY: The rate at which dental services are produced especially output per year.

PATIENT COMPLETION: The degree or extent to which a patient follows or completes a prescribed diagnostic treatment of procedures.

Formulae: $\frac{\text{Total Completed Patients}}{\text{Total New Patients}} \times 100$

Table 3.1a Percentage coverage (number of new patients) by Hospitals/Health Centres/Clinics for each age group in Brunei-Muara district

Treatment Centre	Estimated Population of Catchment Area	Age group										All combined			% Coverage
		0-5		6-12		13-19		20-55		>55		DO	DN	TOTAL	
		DO	DN	DO	DN	DO	DN	DO	DN	DO	DN				
National Dental Centre	111,069	163	361	353	870	1,511	510	7,729	236	808	16	10,564	1,993	12,557	11.3
Hospital-based															
RIPAS		34	30	33	22	62	26	548	13	98	0	775	91	866	
Health Centres															
Sg Assam	20,142	40	425	34	923	392	400	2,242	0	229	0	2,937	1,748	4,685	23.3
Sg Hanching	41,324	15	830	46	1,495	399	518	3,419	35	516	2	4,395	2,880	7,275	17.6
Sengkurong	61,085	108	542	103	1,168	728	360	3,961	69	491	11	5,391	2,150	7,541	12.3
Muara	41,417	5	181	9	433	313	157	1,978	9	228	0	2,533	780	3,313	8.0
Police	(3,182)	0	195	0	324	20	78	1,257	0	0	0	1,277	597	1,874	58.9
Health Clinics															
Sg Besar ^a	(1,883)	0	200	0	76	0	14	80	0	0	0	80	290	370	19.6
Subok ^a	(2,683)	0	134	0	73	0	0	35	0	0	0	35	207	242	9.0
Mata-Mata	(7,156)	0	724	0	943	0	171	132	0	0	0	132	1,838	1,970	27.5
Bunut ^b	(4,191)	0	253	0	411	0	103	23	0	0	0	23	767	790	18.8
Prison	(240)	0	0	0	0	0	0	44	2	0	0	44	0	44	18.3
All combined	275,037	365	3,875	578	6,738	3,425	2,337	21,448	364	2,370	29	28,186	13,341	41,527	15.1

^aSg Besar & Subok for Dental Officers: Started in August.

^bBunut for Dental Officers: Started in August, November closed for renovation.

Table 3.1b Percentage coverage (number of new patients) by Hospitals/Health Centres/Clinics for each age group in Belait district

Treatment Centre	Estimated Population of Catchment Area	Age group										All combined			% Coverage
		0-5		6-12		13-19		20-55		>55		DO	DN	TOTAL	
		DO	DN	DO	DN	DO	DN	DO	DN	DO	DN				
Hospital-based															
SSB Hospital	33,540	50	289	78	553	490	167	3,754	19	595	0	4,967	1,028	5,995	17.9
Health Centres															
Seria	19,611	22	82	90	182	477	120	1,520	0	276	0	2,385	384	2,769	14.1
Sg Liang	11,931	32	86	34	146	158	55	912	0	217	0	1,353	287	1,640	13.7
Health Clinics															
Labi	1,400	4	0	1	0	5	0	31	0	18	0	59	0	59	4.2
Flying Services															
Sukang	(262)	0	0	4	0	0	0	0	0	1	0	5	0	5	1.9
Melilas	(44)	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
All combined	66,482	108	457	207	881	1,130	342	6,217	19	1,107	0	8,769	1,699	10,468	15.7

Table 3.1c Percentage coverage (number of new patients) by Hospitals/Health Centres/Clinics for each age group in Tutong district

Treatment Centre	Estimated Population of Catchment Area	Age group										All combined			% Coverage
		0-5		6-12		13-19		20-55		>55		DO	DN	TOTAL	
		DO	DN	DO	DN	DO	DN	DO	DN	DO	DN				
Hospital-based															
PMMPHAMB Hospital	28,049	13	431	44	929	444	229	3,070	29	492	0	4,063	1,618	5,681	20.3
Health Centres															
Telisai	6,942	0	103	1	74	10	11	101	0	18	0	130	188	318	4.6
Lamunin	11,220	0	58	0	80	8	3	74	0	16	0	98	141	239	2.1
Flying Services															
Mapol	(15)	0	0	0	0	0	0	0	0	2	0	2	0	2	13.3
Supon Besar	(27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
All combined	46,211	13	592	45	1,083	462	243	3,245	29	528	0	4,293	1,947	6,240	13.5

Table 3.1d Percentage coverage (number of new patients) by Hospitals/Health Centres/Clinics for each age group in Temburong district

Treatment Centre	Estimated Population of Catchment Area	Age group										All combined			% Coverage
		0-5		6-12		13-19		20-55		>55		DO	DN	TOTAL	
		DO	DN	DO	DN	DO	DN	DO	DN	DO	DN				
Hospital-based															
PIHM Hospital	10,238	3	155	4	153	105	129	882	5	132	0	1,126	442	1,568	15.3
All combined	10,238	3	155	4	153	105	129	882	5	132	0	1,126	442	1,568	15.3

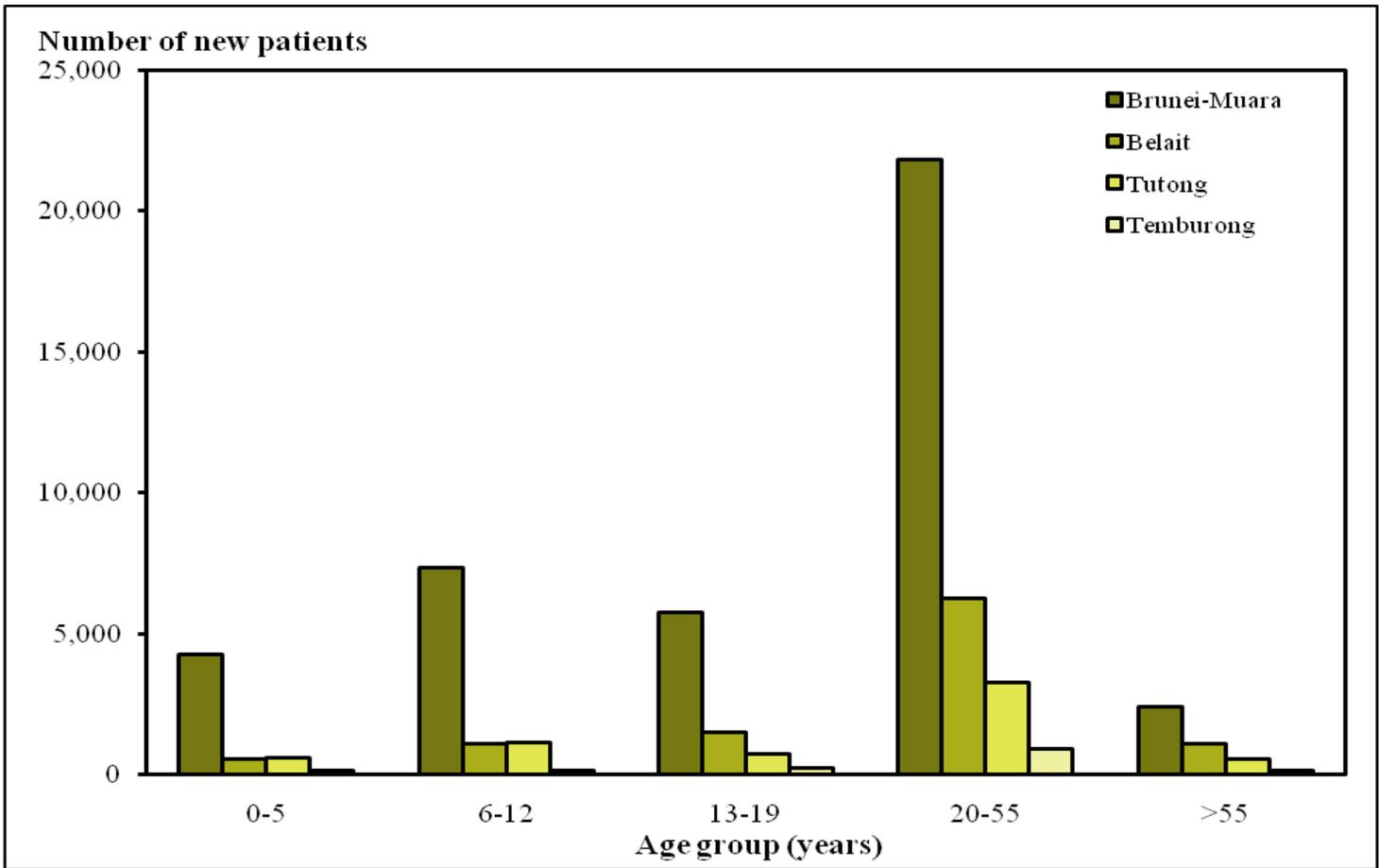


Figure 3.1a Number of new patients by age group for each district

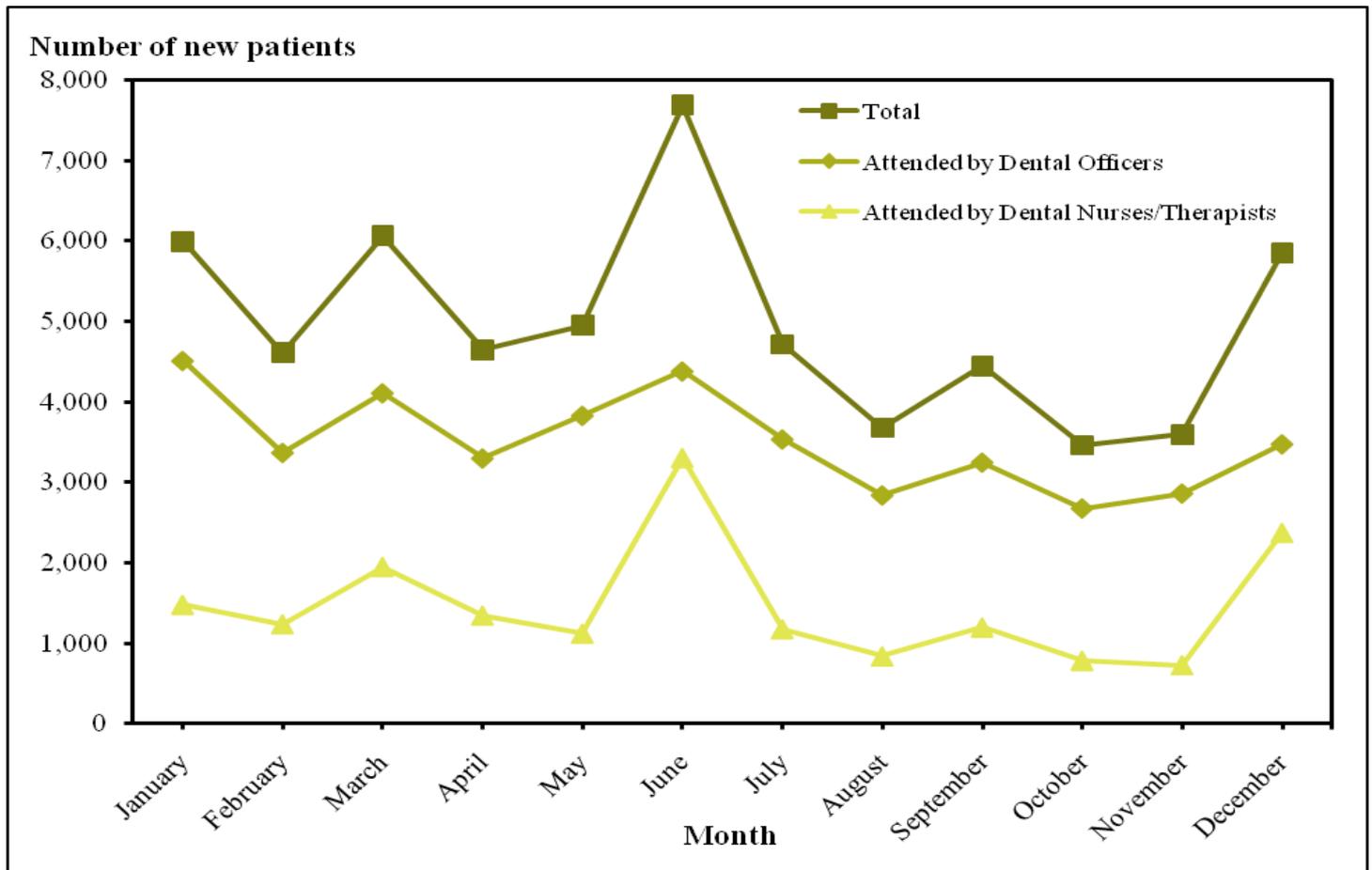


Figure 3.1b Number of new patients by month for the whole state

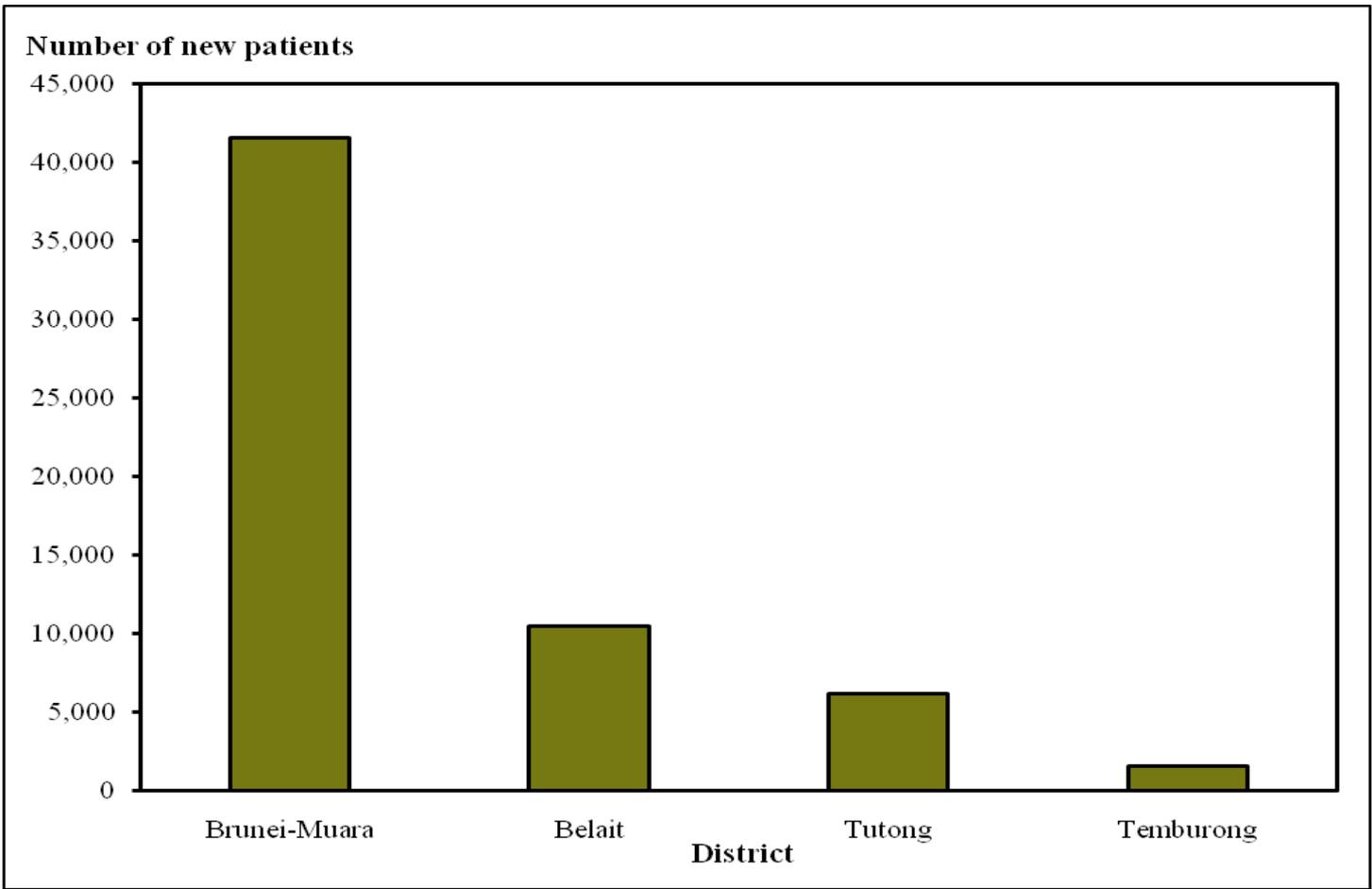


Figure 3.1c Number of new patients by district

Table 3.2a Total attendances (outpatients and appointments) by Hospitals/Health Centres/Clinics for each age group in Brunei-Muara district

Treatment Centre	Age group																		All combined					
	0-5				6-12				13-19				20-55				>55							
	OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT	
	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN
National Dental Centre	167	487	176	437	286	1,333	941	595	1,672	602	3,903	518	11,090	48	9,376	1,743	1,421	1	1,675	161	14,636	2,471	16,071	3,454
Hospital-based																								
RIPAS	37	13	143	118	41	11	137	115	60	29	349	39	644	21	3,090	0	80	0	348	0	862	74	4,067	272
Health Centres																								
Sg Assam	44	538	0	46	42	1,150	4	55	520	458	68	35	3,181	0	576	27	372	0	158	0	4,159	2,146	806	163
Sg Hanching	62	1,149	0	30	115	2,043	0	101	581	535	21	197	4,891	15	249	109	895	0	147	5	6,544	3,742	417	442
Sengkurong	125	716	13	97	92	1,591	54	117	1,026	453	156	90	5,965	1	873	174	733	0	250	14	7,941	2,761	1,346	492
Muara	30	342	4	9	35	832	8	46	484	262	36	85	3,221	11	411	2	440	0	138	0	4,210	1,447	597	142
Police	0	403	0	7	0	714	0	29	26	118	1	22	1,574	0	286	0	7	0	12	0	1,607	1,235	299	58
Health Clinics																								
Sg Besar	0	297	0	10	0	136	0	0	0	26	0	0	80	0	24	8	0	0	0	0	80	459	24	18
Subok	0	234	0	13	0	144	0	2	0	3	0	0	35	0	24	14	0	0	0	0	35	381	24	29
Mata-Mata	0	963	0	21	0	1,334	0	68	0	249	0	86	196	0	14	3	2	0	0	0	196	2,546	14	178
Bunut	0	330	0	34	0	496	0	24	0	113	0	33	0	0	0	14	0	0	0	0	23	939	0	105
Prison	0	0	0	0	0	0	0	0	0	0	0	0	65	0	17	0	2	0	0	0	67	0	17	0
All combined	465	5,472	336	822	611	9,784	1,144	1,152	4,369	2,848	4,534	1,105	30,942	96	14,940	2,094	3,952	1	2,728	180	40,360	18,201	23,682	5,353

Table 3.2b Total attendances (outpatients and appointments) by Hospitals/Health Centres/Clinics for each age group in Belait district

Treatment Centre	Age group																		All combined					
	0-5				6-12				13-19				20-55				>55							
	OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT	
	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN
Hospital-based																								
SSB Hospital	113	566	136	208	173	1,195	139	400	708	295	352	166	5,216	26	1,583	21	915	0	203	0	7,125	2,082	2,413	795
Health Centres																								
Seria	35	152	12	93	58	380	227	183	409	144	1,254	155	2,184	0	1,075	0	558	0	189	0	3,244	676	2,757	431
Sg Liang	33	171	0	95	32	348	3	140	226	98	69	95	1,412	0	443	0	392	0	170	0	2,095	617	685	330
Health Clinics																								
Labi ^a	5	0	0	0	2	0	0	0	8	0	0	0	40	0	0	0	25	0	0	0	80	0	0	0
Flying Services																								
Sukang	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0
Melilas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All combined	186	889	148	396	269	1,923	369	723	1,351	537	1,675	416	8,852	26	3,101	21	1,891	0	562	0	12,549	3,375	5,855	1,556

^aLabi – Thursday morning only

Table 3.2c Total attendances (outpatients and appointments) by Hospitals/Health Centres/Clinics for each age group in Tutong district

Treatment Centre	Age group														All combined									
	0-5		6-12		13-19		20-55		>55															
	OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT					
	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN				
Hospital-based																								
PMMPMHAMB Hospital	17	598	4	6	61	1,500	61	24	631	350	215	11	4,341	50	927	17	940	2	324	1	5,990	2,500	1,531	59
Health Centres																								
Telisai	0	117	0	4	1	117	0	4	12	13	0	0	104	0	2	4	20	0	0	0	137	247	2	12
Lamunin	0	91	0	0	0	123	0	0	8	5	0	31	70	0	0	0	18	0	0	0	96	219	0	31
Flying Services																								
Mapol	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0
Supon Besar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All combined	17	806	4	10	62	1,740	61	28	651	368	215	42	4,515	50	929	21	980	2	324	1	6,225	2,966	1,533	102

Table 3.2d Total attendances (outpatients and appointments) by Hospitals/Health Centres/Clinics for each age group in Temburong district

Treatment Centre	Age group														All combined									
	0-5		6-12		13-19		20-55		>55															
	OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT					
	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN				
Hospital-based																								
PIHM Hospital	3	195	2	111	8	383	1	153	156	573	70	182	1,327	22	450	49	245	0	34	0	1,739	1,173	557	495
All combined	3	195	2	111	8	383	1	153	156	573	70	182	1,327	22	450	49	245	0	34	0	1,739	1,173	557	495

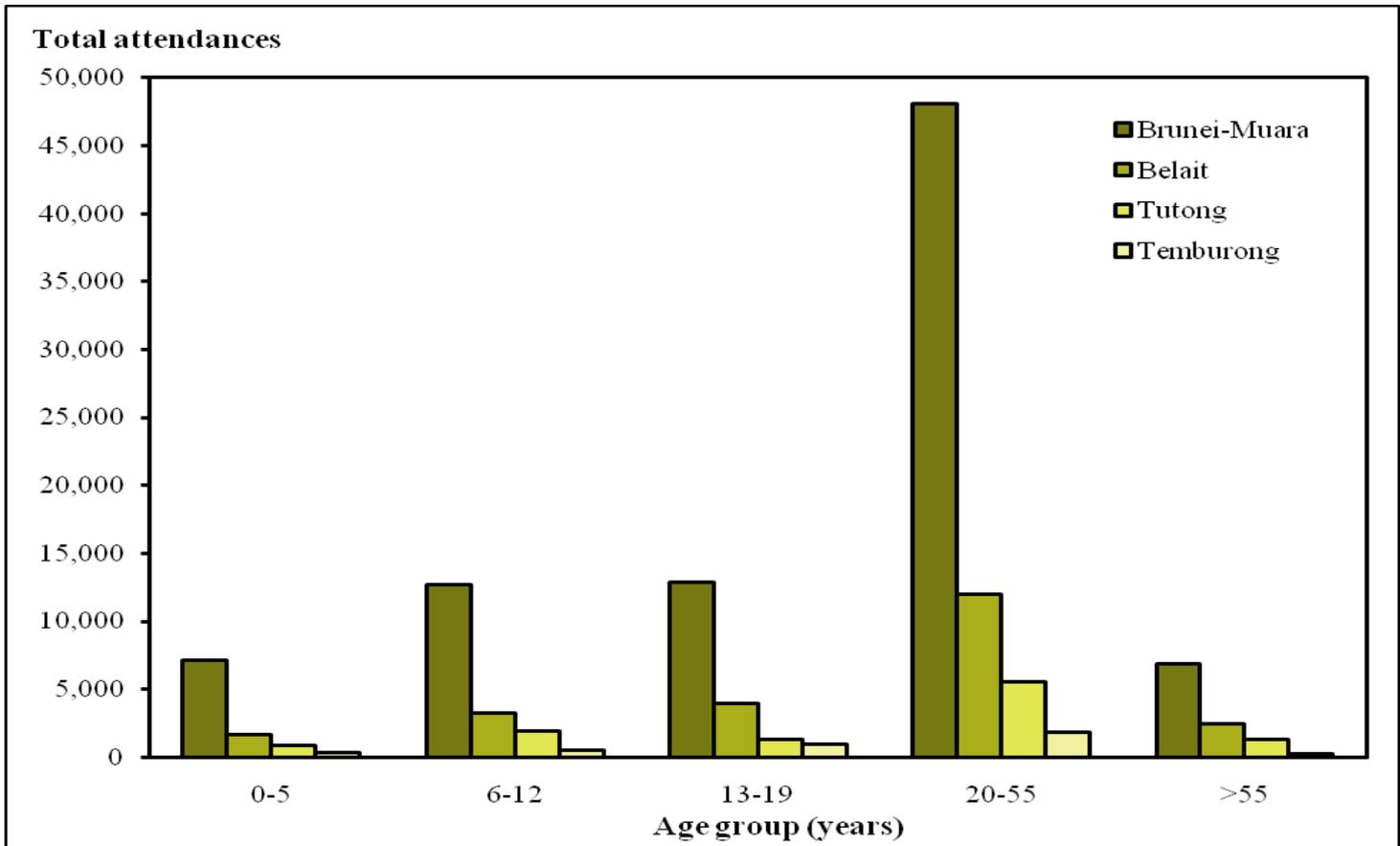


Figure 3.2a Total attendances by age group for each district

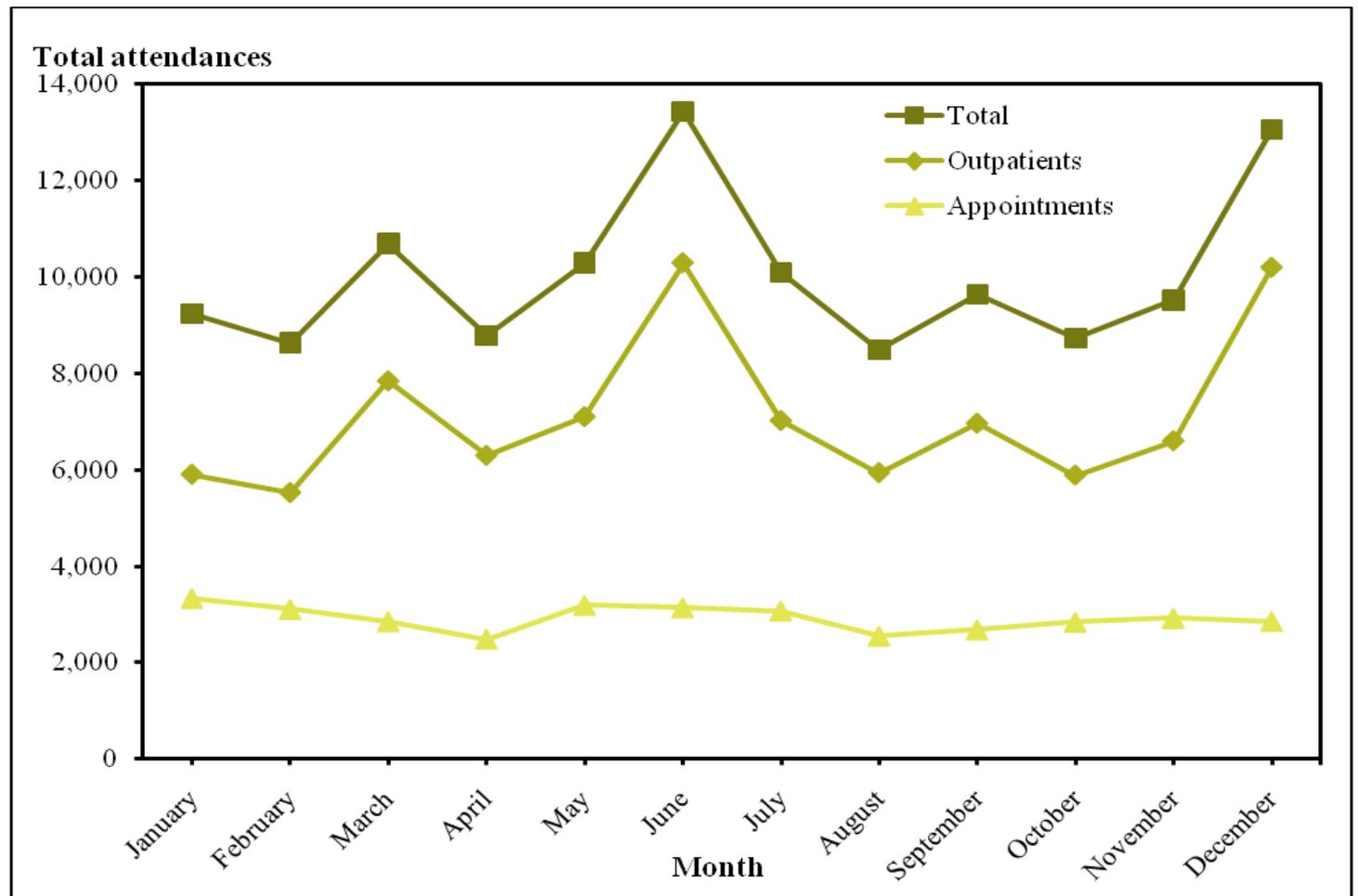


Figure 3.2b Total attendances by month for the whole state

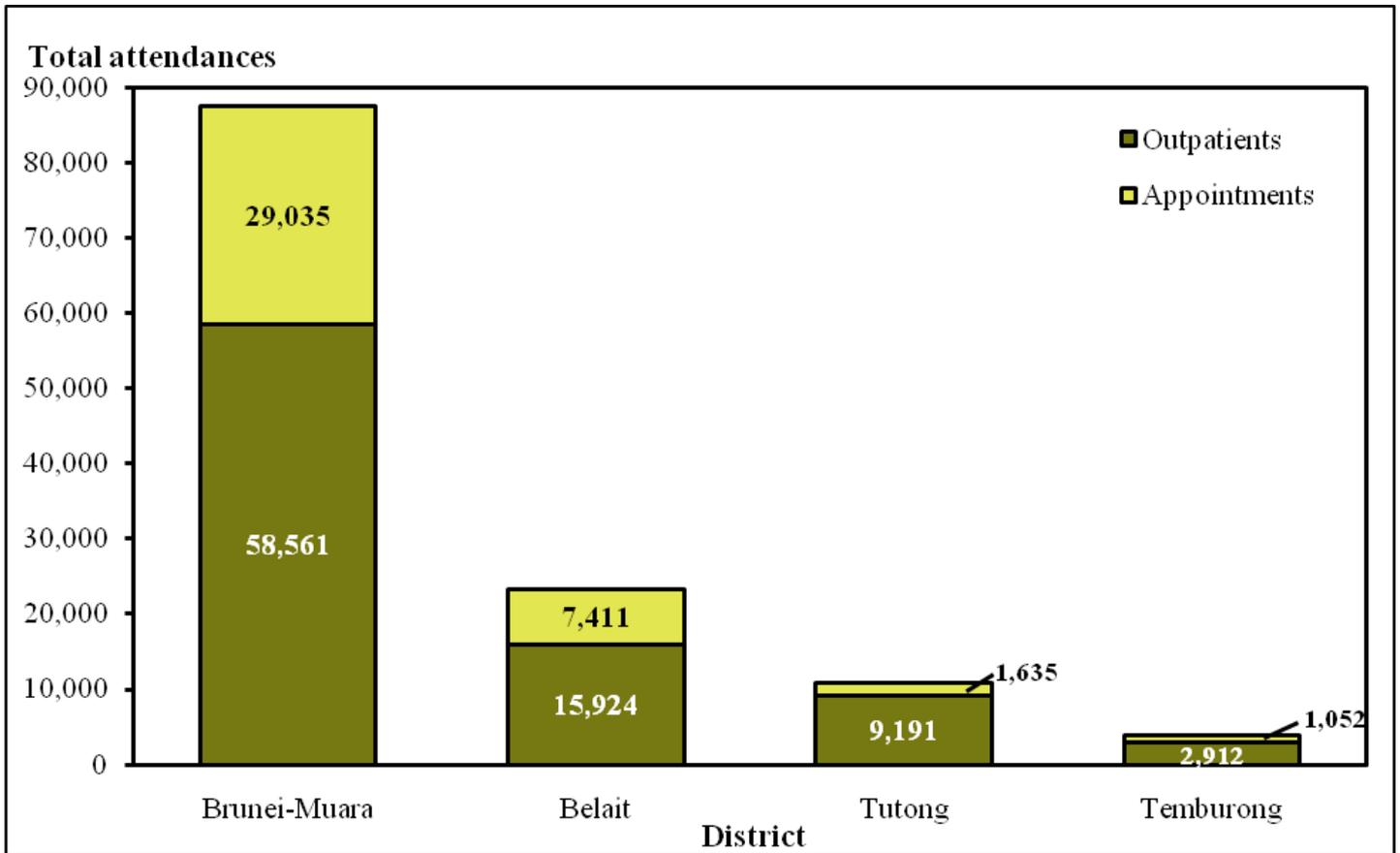


Figure 3.2c Total attendances by district

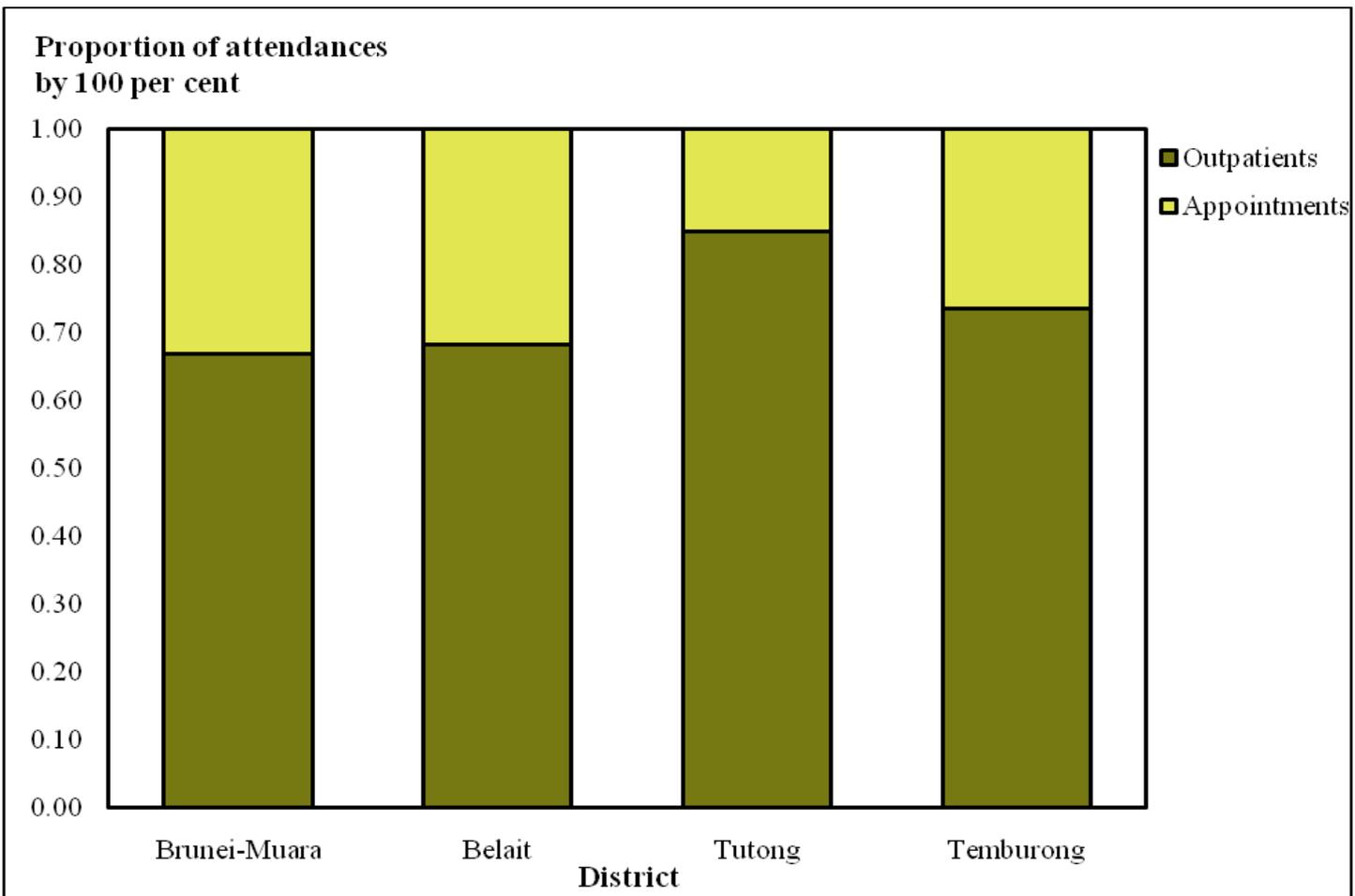


Figure 3.2d Proportion of outpatient and appointment by district

SCHOOL DENTAL SERVICES

School Dental Services provide oral health services to children of Brunei Darussalam, in such a way as to improve and maintain their oral health at an optimal level, through various preventive and promotive means, and by ensuring that the oral health care delivered is appropriate and of the highest quality possible.

This includes:

1. Providing appropriate preventive, curative, restorative and rehabilitative oral health care to these children
2. Referral of those children who require oral health care that is beyond the competency of the dental nurses, to dental officers and specialists.
3. Promoting the children's oral health through various oral health promotion programmes and activities to these children and in collaboration with the School Authorities, communities and parents / guardians.
4. Collaborating with the Ministry of Education in the Health-Promoting School Programme to promote oral health in schools.

In 2007, the incremental mobile dental squads approach was introduced such that 2 to 6 nurses work in a school, speeding up the work in each school as it involves teamwork. Then, this group of nurses will move to other clinics under their care till all their schools are completed, then to other static clinics and eventually to schools without clinics.

The target group is the whole school and to approach the Primary 1 and Primary 2 then Primary 6, 5, 4, and 3 for dental treatment. The tooth brushing drills will be directed to the Primary 1, and Pre-schoolers.

Table 4.1a Mobile squad teams in Brunei-Muara district (2010)

XCAV8'S (4 Nurses)	K 9 (4 Nurses)	PEARL (5 Nurses)	NASA (4 Nurses)	OMEGA (5 Nurses)
1. SR PPSDSB Mata-Mata	1. SR Bendahara Lama	1. SR Amar Pahlawan	1. SR Pular Ulak	1. SR Delima Satu
2. SR SUAS Muara	2. SR PAPB Peramu	2. SR PDJ Kg Setia	2. SR Jerudong	2. SR Serasa
3. SR Dato Marsal	3. SR Sg Kebun	3. SR Anggerek Desa	3. SR BS Bunut	3. SM Chung Hwa
4. SR Kiarong	4. SR Lumapas	4. SR Pulaie	4. SR Sengkurong	4. Sekolah St Andrew's
5. SR DMW Lambak	5. SR Pengkalan Batu	5. SR Yayasan SHHB	5. SR Mabohai	5. SR RI Fatimah
6. SR Masin *	6. SR PB Limau Manis	6. SR Sg Siamas	6. SR Beribi Telanai *	6. SR MentIri
7. SR Batu Marang *	7. SR Saba Darat	7. SR Dato Othman *	7. SR Rimba Satu *	7. SR HMS Sg Hanching *
8. SR Tanah Jambu *	8. SR Pintu Malim	8. SR SAB Sg Besar *	8. SR AHMY Katimahar *	8. SR OKBI Subok *
9. SR NAR Menunggul *	9. SR Junjungan *	9. SR HMJM Kiulap *	9. SR Bebuluh *	9. SR Kg Mata-Mata *
10. SR Kapok *	10. SR Kasat *			10. SR Dato Godam *
11. SR Dato Basir *	11. SR Dato Ahmad *			11. SR TK Sg Bunga *
	12. SR Katok *			12. SR Jln 49 Lambak Kanan *

*Non-Static School Dental Clinics (Schools without a dental surgery)

Table 4.1b Mobile squad teams in other districts (2010)

TUTONG		BELAIT		TEMBURONG	
TOPAZ (3 Nurses)	PRIMAROSA (3 Nurses)	ESMERALDE (2 Nurses)	HEBAT (4 Nurses)	TLC (3 Nurses)	DENTEM (4 Nurses)
1. SR Telisai	1. SR Kiudang	1. SR Muda Hashim	1. SR Muhd Alam	1. SR Kuala Belait	1. SR SH Bangar
2. SR OKAWSD Kupang	2. SR Keriam	2. SR Penanjong	2. SRPSNPMY Lorong 3	2. SR Ahmad Tajudin	2. SR Selangan *
3. SR Bukit Beruang	3. SR Birau *	3. SR Bukit Udal *	3. SR Panaga	3. SR PSJPAM Pandan	3. SR Kenua *
4. SR Bakiau *	4. SR AR Tg Maya *	4. SR Lamunin *	4. SR Sg Liang	4. SR Sg Teraban	4. SR Semabat *
5. SR Sinaut *	5. SR Sengkarai *		5. SR Lumut	5. Sekolah Chung Hwa	5. SR Selapon *
	6. SR Ukong *		6. Sekolah Chung Ching	6. SR PSB SOAS *	6. SR Batu Apoi *
	7. SR Bt Penggal *		7. SR Sg Tali II *		7. SR Negalang *
					8. SR Piasau-piasau *
					9. SR Labu Estate *
					10. SR Senukoh *

*Non-Static School Dental Clinics (Schools without a dental surgery)

Table 4.2 Percentage coverage (number of new patients) by districts for each age group

District	School population	Consented	Age group			All combined	% Coverage (Actual)	% Coverage (Potential)
			0-5	6-12	13-19			
Brunei-Muara	39,196	18,804	1,758	16,422	61	18,241	97.0	46.5
Belait	9,780	4,070	305	3,397	0	3,702	91.0	37.9
Tutong	7,766	2,795	265	2,496	0	2,761	98.8	40.0
Temburong	1,563	1,295	78	578	10	666	51.4	42.6
All combined	58,305	26,964	2,406	22,893	71	25,370	94.1	44.1

Note: All treatments in Schools are done by Dental Nurses/Therapists

Table 4.3 Total attendances (outpatients and appointments) by districts for each age group

District	School population	Consented	Age group						All combined		
			0-5		6-12		13-19		OP	APPT	TOTAL
			OP	APPT	OP	APPT	OP	APPT			
Brunei-Muara	39,196	18,804	432	1,881	4,673	15,419	57	48	5,162	17,348	22,510
Belait	9,780	4,070	121	359	2,200	4,590	0	0	2,321	4,949	7,270
Tutong	7,766	2,442	126	403	925	3,431	0	0	1,051	3,834	4,885
Temburong	1,563	1,295	257	56	1,113	867	4	58	1,374	981	2,355
All combined	58,305	26,611	935	2,699	8,911	24,307	754	96	9,908	27,112	37,020

Note: All treatments in Schools are done by Dental Nurses/Therapists

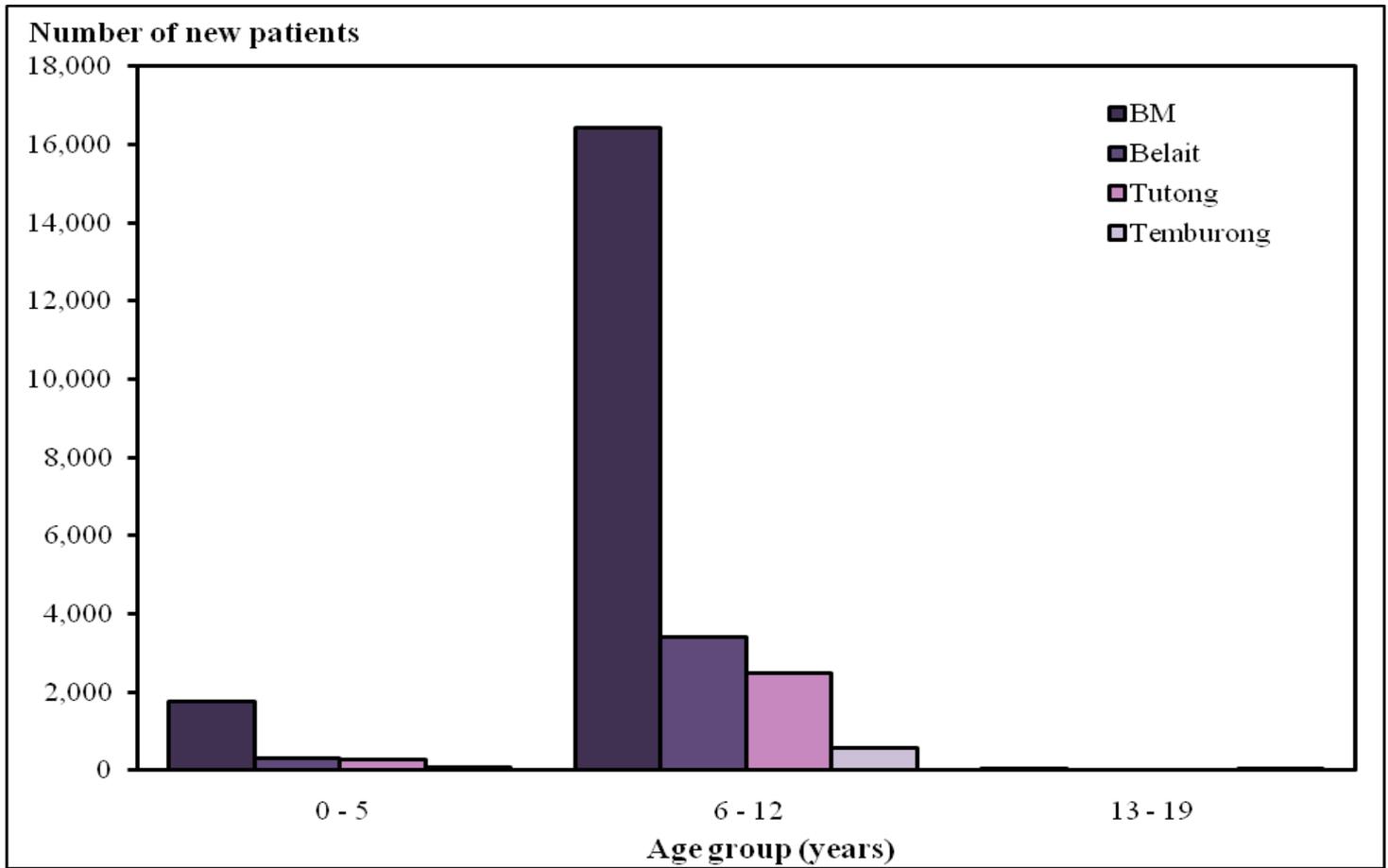


Figure 4.2a Number of new patients by age group for each district

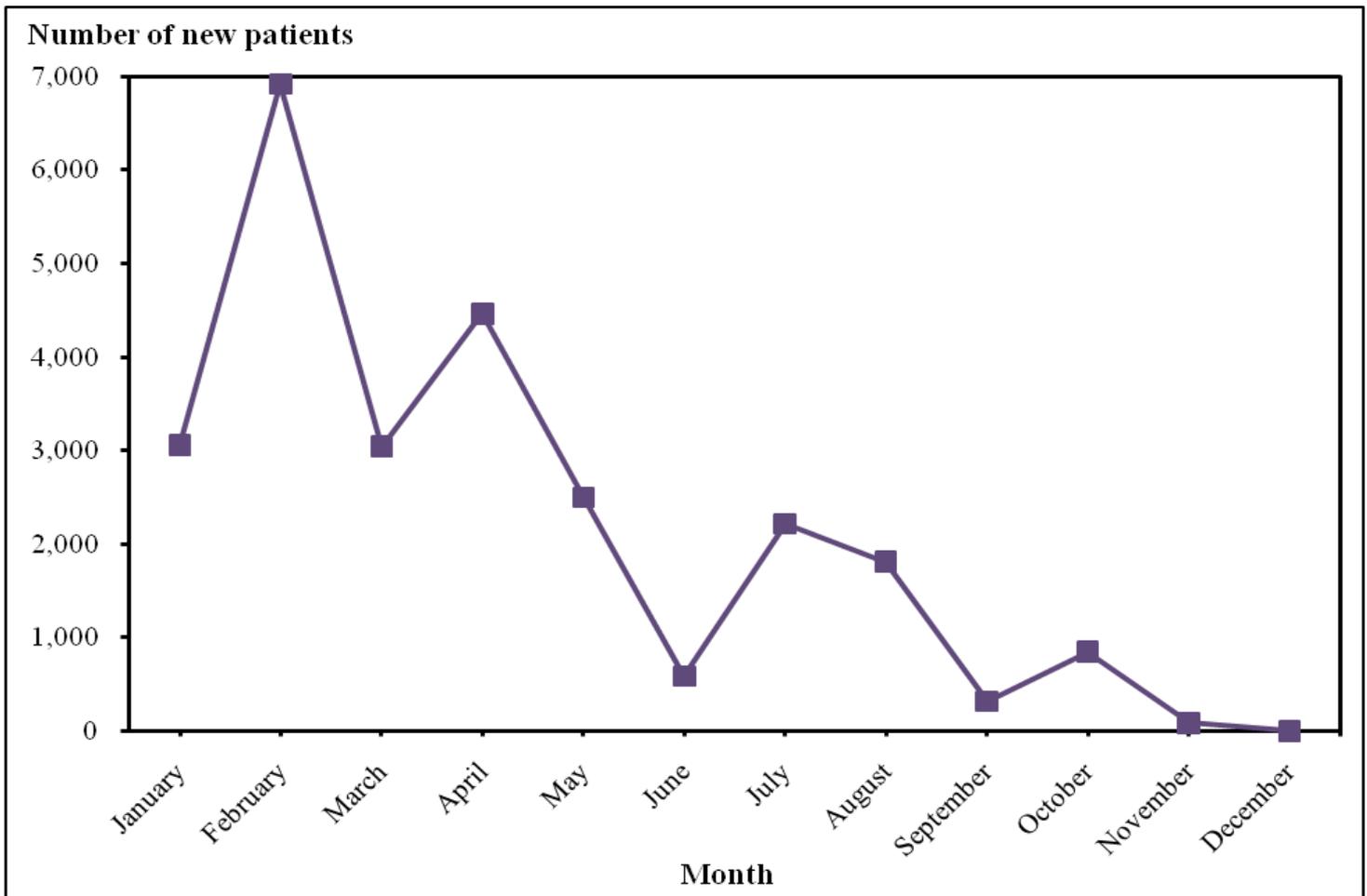


Figure 4.2b Number of new patients by month for the whole state

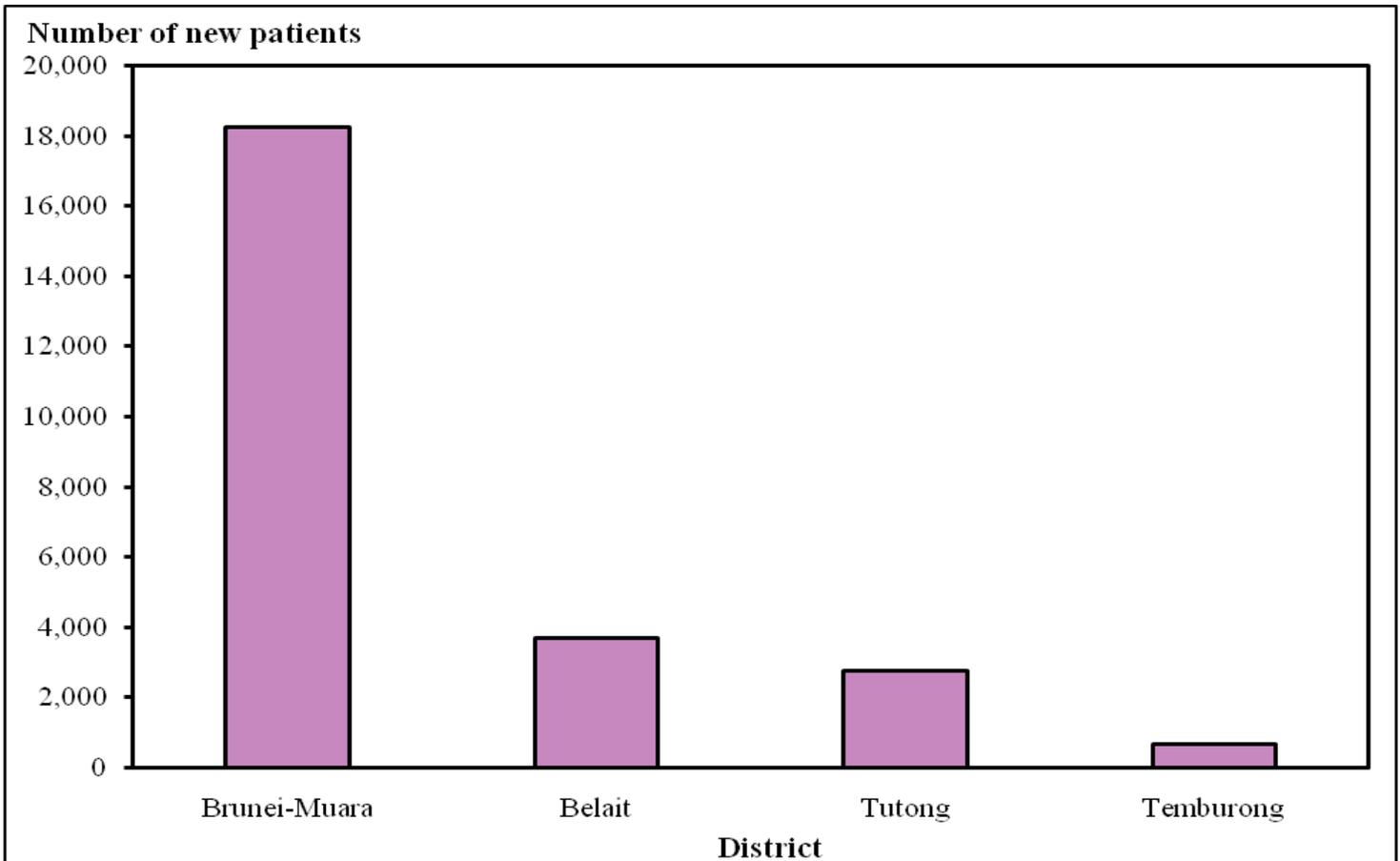


Figure 4.2c Number of new patients by district

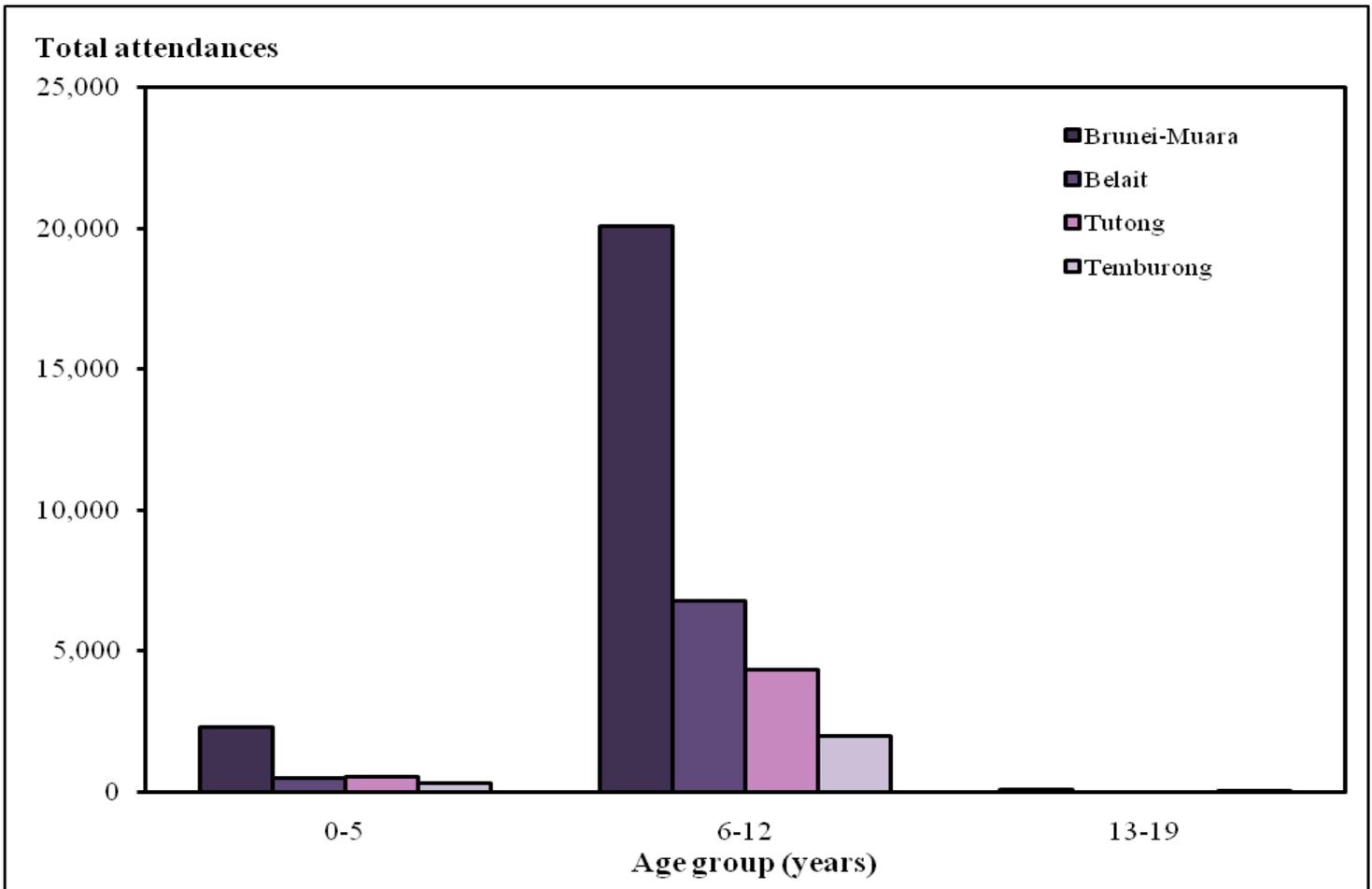


Figure 4.3a Total attendances by age group for each district

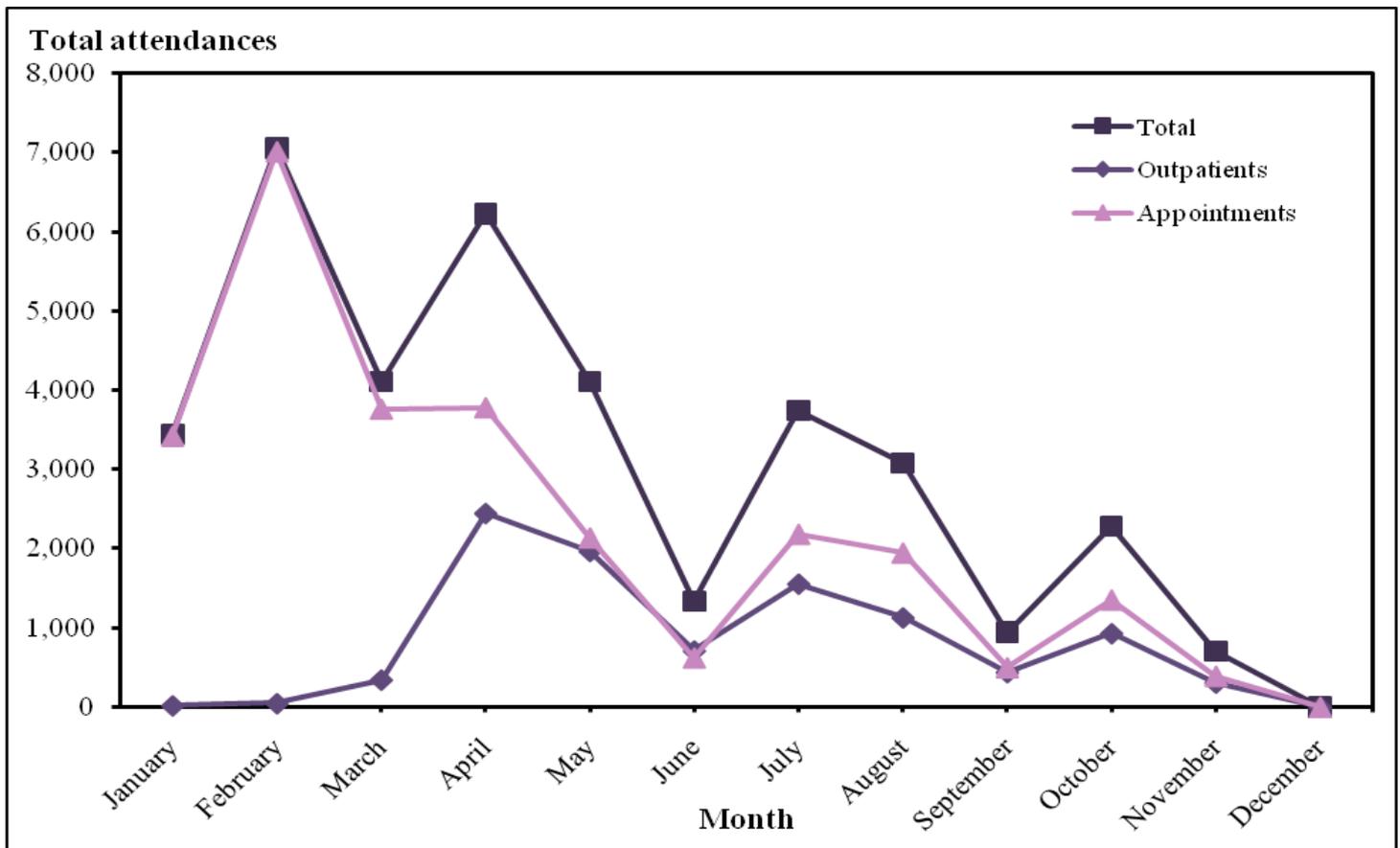


Figure 4.3b Total attendances by month for the whole state

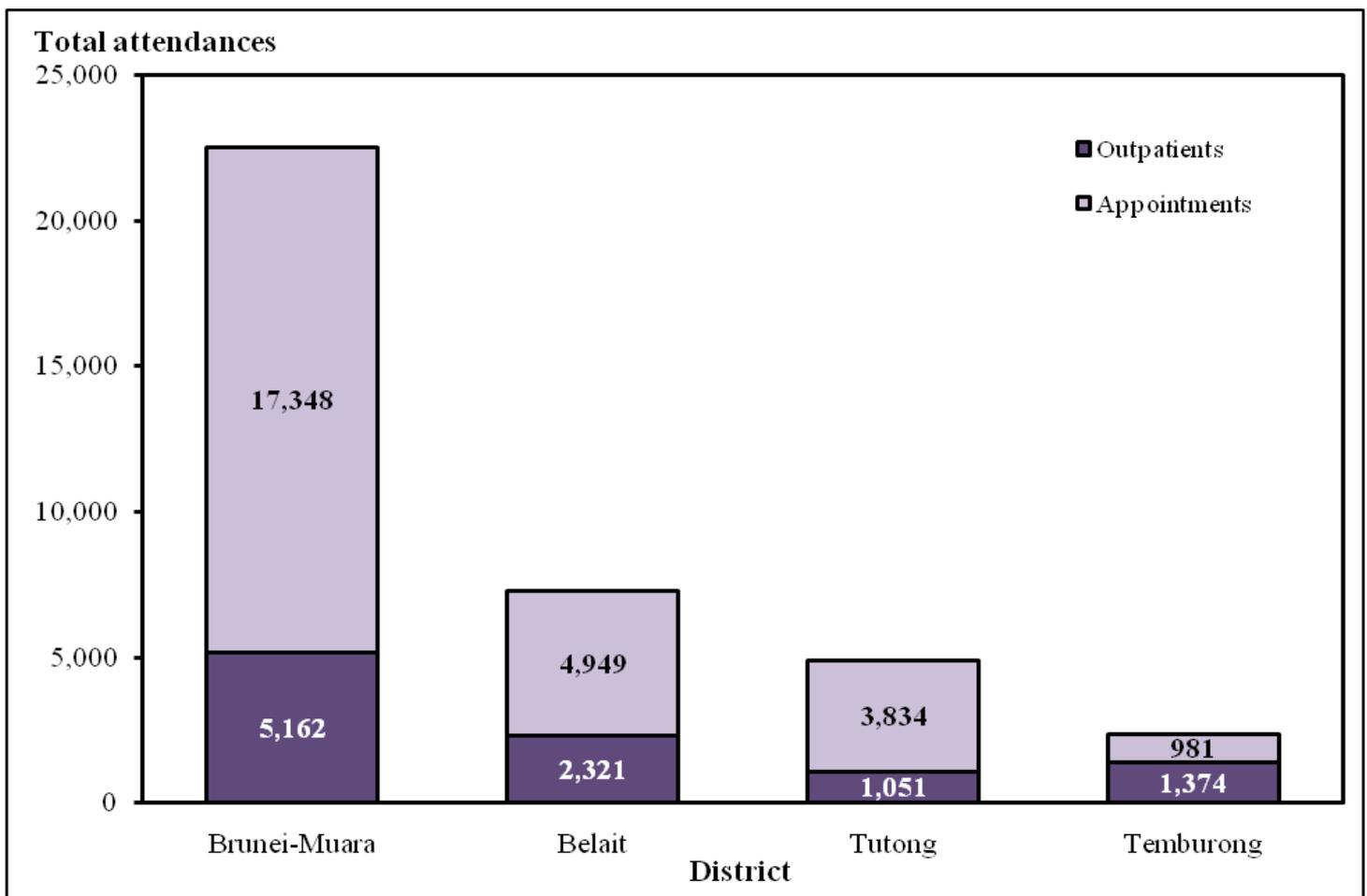


Figure 4.3c Total attendances by district

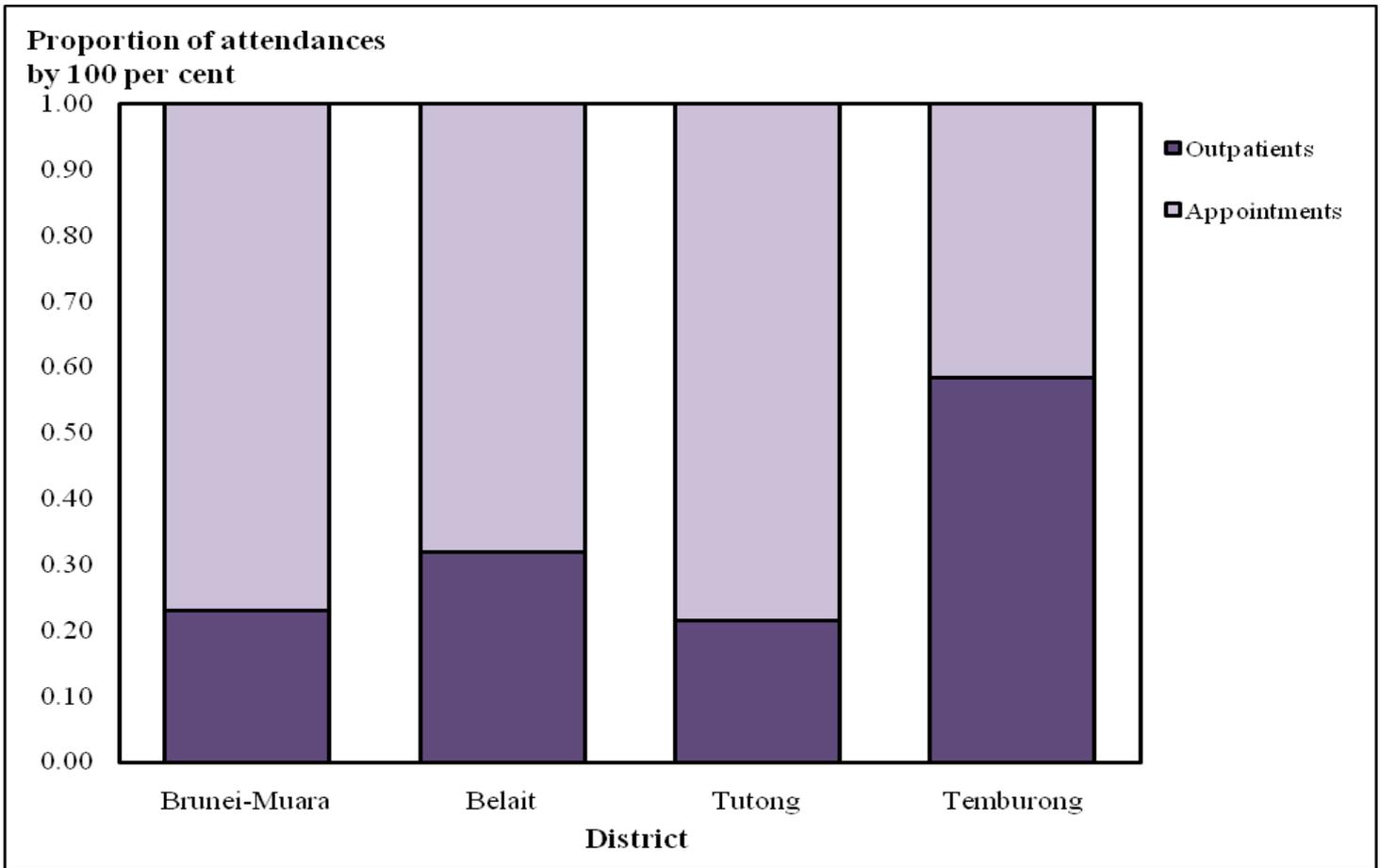


Figure 4.3d Proportion of outpatients and appointments by district

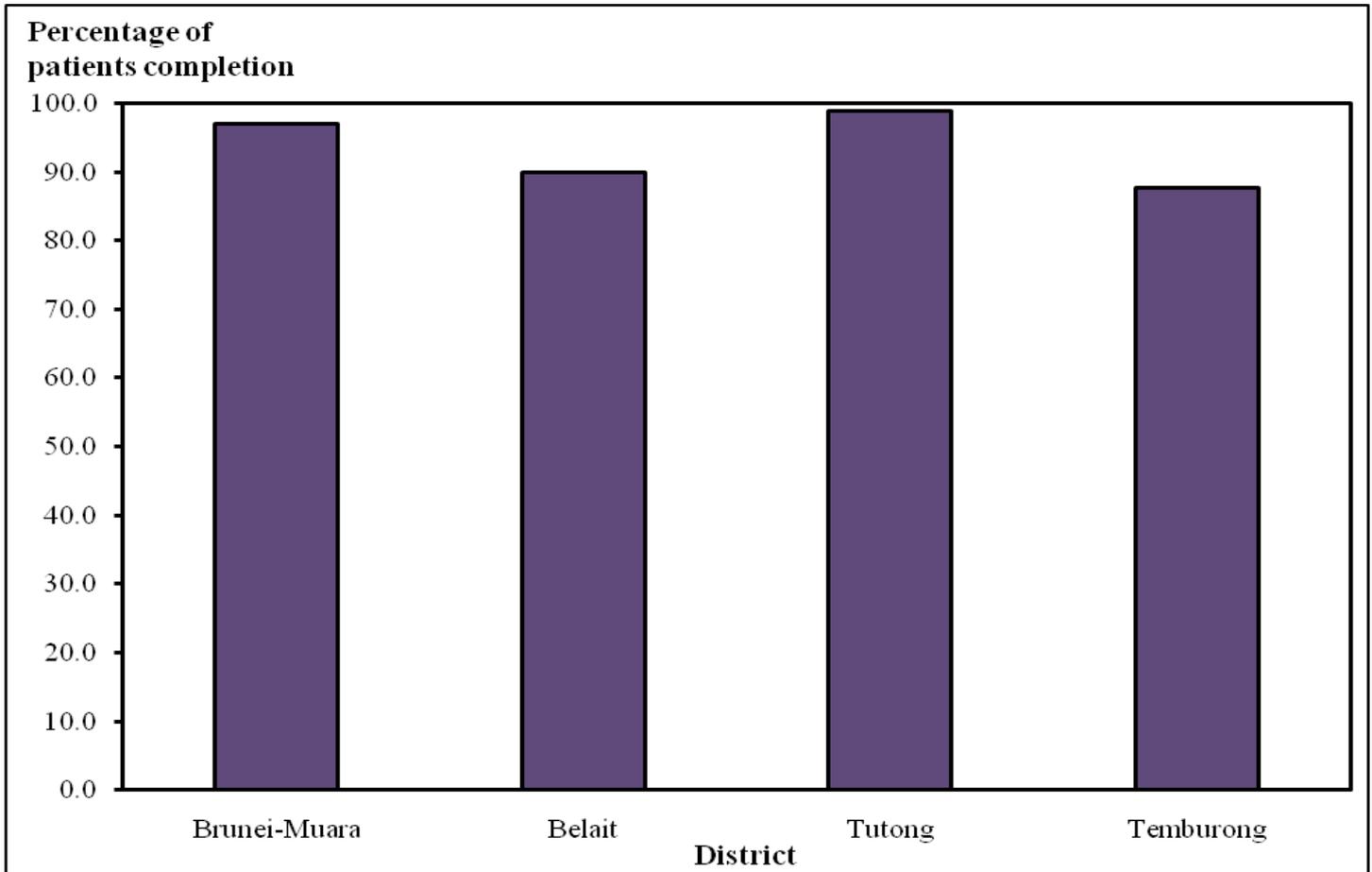


Figure 4.4 Percentage of patients completion by district

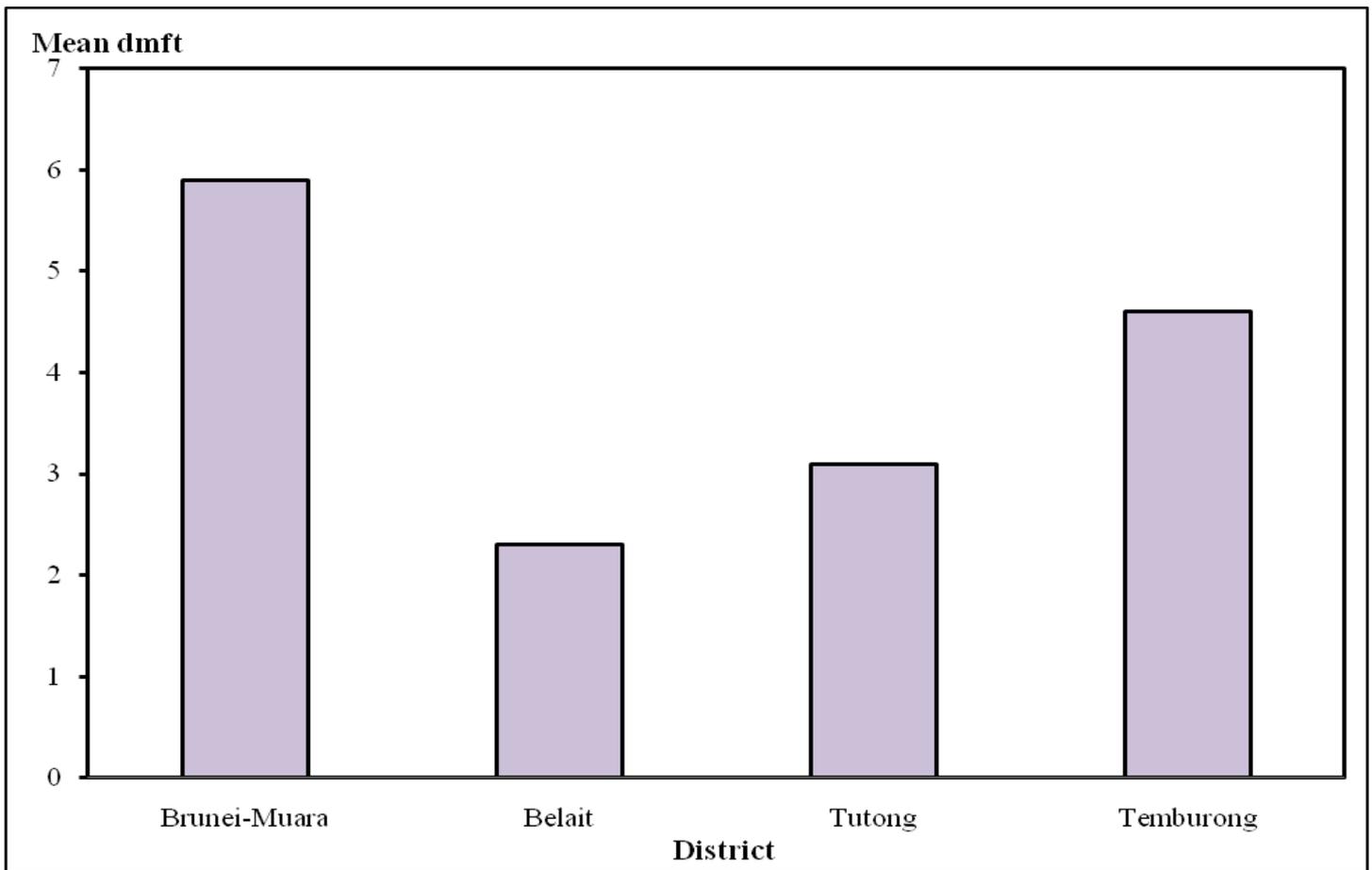


Figure 4.5a Deciduous dentition dental caries experience for 5-year-old schoolchildren

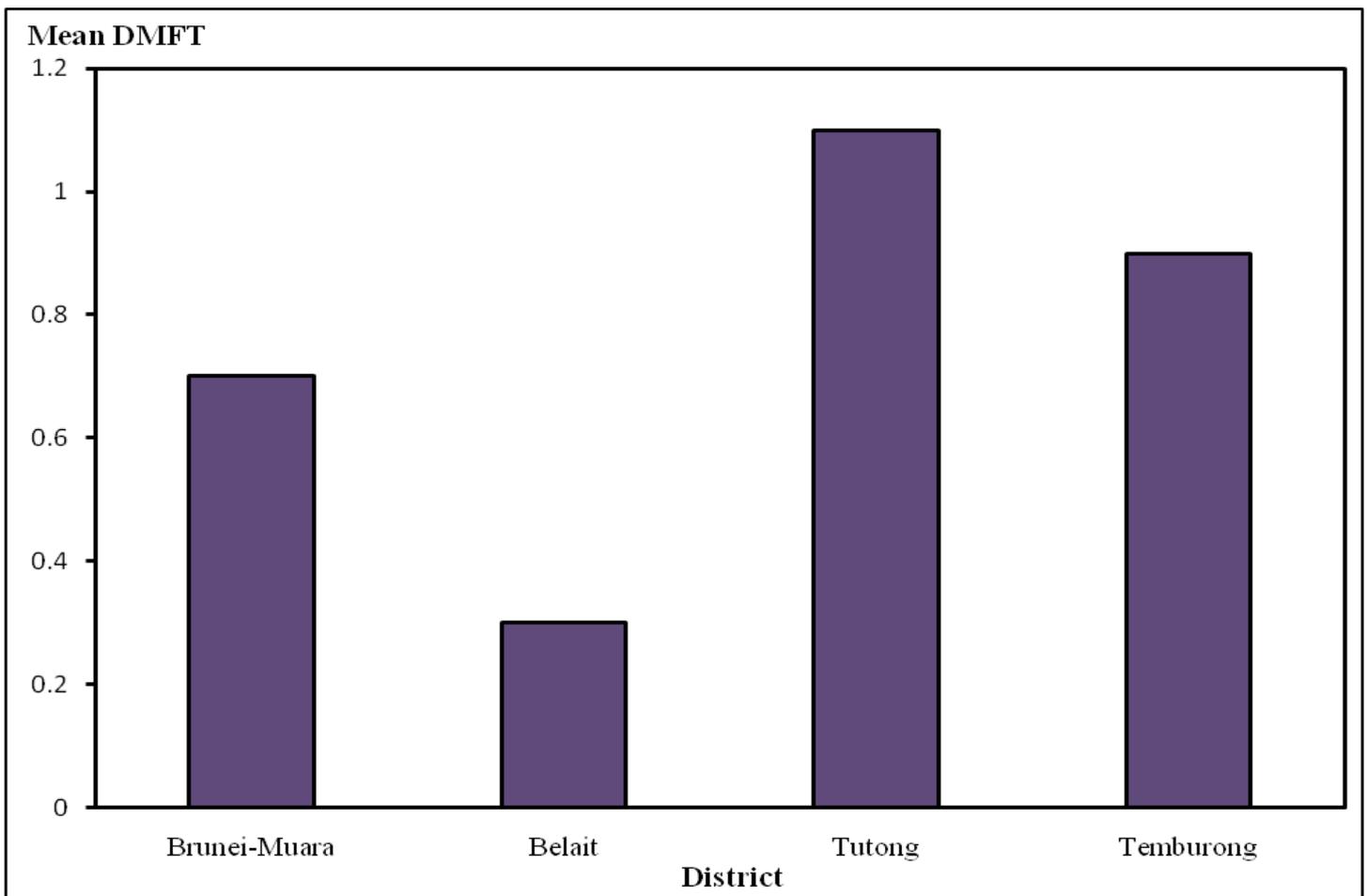


Figure 4.5b Permanent dentition dental caries experience for 12-year-old schoolchildren

PRODUCTIVITY – PRIMARY ORAL CARE

Primary Oral Care services provide basic curative, corrective and rehabilitative services to render the patient orally fit, control all active diseases and restore acceptable oral function. It is the first line of oral health care, delivering dental education and basic treatment to achieve better oral health.

Services provided include:

- The emergency relief of pain and discomfort and the control of infection of oro-facial origin
- Routine dental check-up
- Dental extractions under local anaesthetic
- Dental scaling and prophylaxis
- Dental fillings
- Simple root canal treatment
- Plastic dentures (Full and partial dentures)
- Chairside Oral Health Education
- Assess complex cases for specialist referrals

Overview of Primary Oral Care Services

Manpower

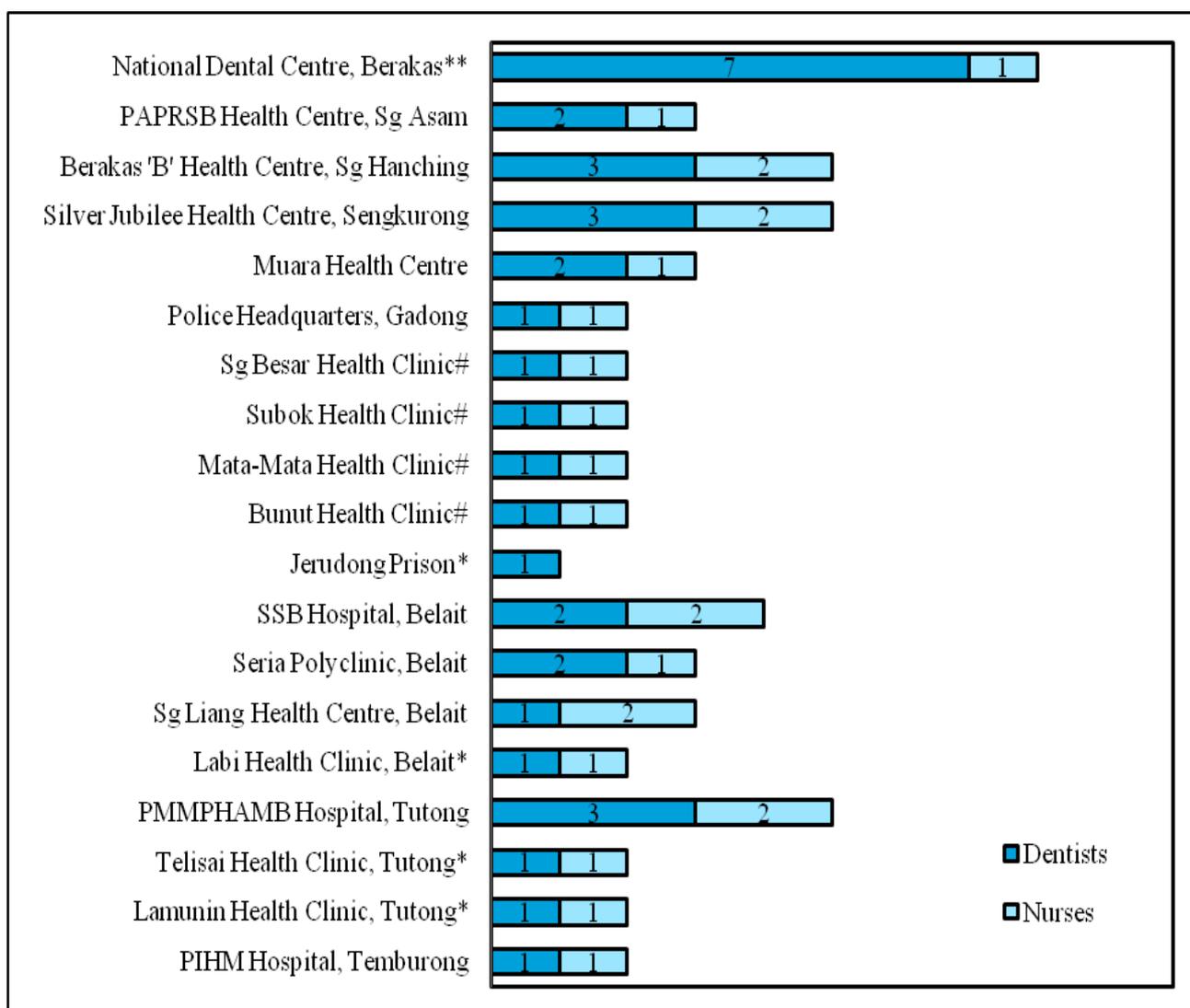
2 (expatriate) Senior Dental Officers

1 (local) Acting Senior Dental Officer

30 (13 local and 17 expatriate) Dental Officers

Primary Oral Care Services are delivered to the public throughout the country according to their nearest dental clinics, as presented in Figure 5.1a.

Primary Oral Care Services are also delivered to the population through the Flying Doctor Service to rural areas in Tutong and Belait districts (Kampong Sukang, Kampong Belabau, Kampong Mapol, Kampong Melilas and Kampong Supon Besar).



Key:

*Part-time services provided by Dentist & Nurse

#Antenatal service provided by Dentist at least once a month & full time Children Outpatients on other days

** Children Outpatients during School holidays provided by 10 Nurses

Figure 5.1a Distribution of Primary Oral Care Services provided by dentists (for adults) and nurses (for children)

Table 5.1a Number of conservative and prosthetic procedures done in the Primary Oral Care Division (March-December 2010)

Age group	Primary care attendance	CONSERVATIVE						PROSTHETIC										
		Amalgam		Tooth-coloured		Dressing		Recontour-ing of restoration (patient)	Procedure (patient)	Full Denture	Partial Denture	Immediate	Interim	Metal-based partial denture (no of units)	Repairs	Relines	Rebase	Addition
		No. of teeth	surfaces	No. of teeth	surfaces	No. of teeth	surfaces											
Brunei-Muara																		
0-5	84	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	126	4	8	27	44	9	9	0	0	0	0	0	0	0	0	0	0	0
13-19	3,047	518	730	1,084	1,555	320	409	9	19	3	5	1	0	0	2	0	0	0
20-55	23,002	2,840	4,590	6,907	9,875	2,112	2,648	68	695	101	333	15	15	6	143	8	16	19
>55	2,921	137	270	970	1,353	173	230	26	499	197	167	6	16	4	138	19	2	15
Belait																		
0-5	72	0	0	3	5	0	0	3	0	0	0	0	0	0	0	0	0	0
6-12	108	0	0	0	0	1	1	2	1	0	2	0	0	0	0	0	0	0
13-19	883	104	143	352	547	154	182	58	10	0	4	0	1	0	0	0	0	0
20-55	6,236	477	720	2,123	3,215	1,008	1,282	326	342	33	103	3	1	0	129	24	0	13
>55	1,388	31	52	303	481	85	105	51	417	68	115	1	3	1	159	40	3	17
Tutong																		
0-5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	29	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
13-19	524	124	160	110	139	33	33	4	0	0	1	0	0	0	0	0	0	0
20-55	4,020	635	947	671	841	236	248	16	165	21	49	0	6	0	11	2	0	3
>55	882	45	62	97	124	9	9	3	146	55	21	0	8	0	12	5	0	2
Temburong																		
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	5	0	0	3	10	0	0	0	0	0	0	0	0	0	0	0	0	0
13-19	118	32	49	52	103	8	11	0	0	0	0	0	0	0	0	0	0	0
20-55	874	151	239	383	663	111	133	2	36	2	16	1	0	0	2	0	0	0
>55	89	7	11	21	28	1	3	1	15	3	1	0	0	0	0	0	0	0
All combined	44,410	5,105	7,981	13,109	18,987	4,260	5,303	569	2,345	483	817	27	50	11	596	98	21	69

Table 5.1b Number of oral surgical procedures done in the Primary Oral Care Division (March-December 2010)

Age group	ORAL SURGERY														ORAL MEDICINE (PT)		
	Infection/ Abscess (Pt)	Others (Pt)	Trauma				LA/TA/SEDATION										
			No of Teeth	Hard Tissue (Pt)	Soft Tissue (Pt)	Splinting	Patients	Minor Oral Surgery						Soft Tissue Lesion (Pt)	Hard Tissue Lesion (Pt)		
								No of teeth extracted				3 rd Molar	Other Teeth				
								Non-surgical		Surgical (permanent)							
p	n	p	n	Other Oral Lesion	Medical Condition												
Brunei-Muara																	
0-5	142	0	0	0	0	0	8	2	0	6	0	0	0	0	0	1	0
6-12	90	0	5	0	0	1	25	11	4	12	0	0	0	0	0	3	0
13-19	149	33	27	3	2	1	534	16	15	536	46	0	2	3	0	15	37
20-55	1,148	361	272	8	4	2	6,634	85	7	7,481	94	15	30	10	2	101	94
>55	92	29	9	1	2	0	1,224	0	0	1,561	11	0	14	1	4	11	46
Belait																	
0-5	33	7	2	0	0	0	2	2	0	0	0	0	0	0	0	0	7
6-12	38	5	0	0	0	0	8	0	0	7	0	0	0	0	0	0	21
13-19	58	11	2	0	1	1	164	1	0	216	0	0	0	0	0	0	19
20-55	404	31	1	0	0	0	1,078	35	0	1,428	0	2	7	1	22	7	208
>55	53	18	0	0	0	0	409	0	0	528	5	0	5	0	0	2	28
Tutong																	
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	1	6	0	0	0	0	3	1	0	4	0	0	0	0	0	1	0
13-19	1	1	0	0	0	0	82	0	3	71	0	3	0	0	0	0	1
20-55	2	3	0	0	0	0	967	1	30	1,031	0	5	3	0	0	3	1
>55	0	5	0	0	0	0	263	0	4	385	0	3	1	1	1	0	0
Temburong																	
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	0	0	0	0	0	0	2	2	0	1	0	0	0	0	0	0	0
13-19	0	0	0	0	0	0	24	0	0	15	1	1	1	0	0	0	0
20-55	0	0	0	0	0	0	364	2	0	335	0	3	16	0	0	0	0
>55	0	0	0	0	0	0	105	0	0	119	2	0	0	0	0	0	0
All combined	2,211	510	318	12	9	5	11,896	158	63	13,736	159	32	79	16	29	144	462

D - Deciduous teeth, P - Permanent teeth, p - pathological, n - non-pathological

Table 5.1c Number of Periodontics and Preventive procedures done in the Primary Oral Care Division (March-December 2010)

Age group	PERIODONTICS (NON-SURGICAL)												PREVENTIVE			REFERRAL OF PATIENTS TO:		RADIOGRAPHS		PATIENT COMPLETION
	OHI/ demonstration	Diet analysis	Review	Scaling & prophylaxis	Root planning (quadrant)	Post RP charting	Removal sutures	Fluoride desensitization	SPT/M		Infection/ Abscess	Others/Misc.	individual			Dental	Medical	Intra-oral	Extra-oral	
									Maintenance	Pocket charting			Fluoride sealant		Fluoride (prevention) Patient					
													Patient	Surfaces						
Brunei-Muara																				
0-5	7	0	0	2	0	0	0	0	0	0	3	0	0	0	0	28	1	4	1	6
6-12	9	0	0	9	0	0	0	0	0	0	0	1	0	0	0	20	2	28	11	7
13-19	941	52	39	1,010	0	0	1	7	0	7	17	52	9	16	6	156	5	326	109	567
20-55	5,389	241	285	6,122	7	1	19	94	5	186	186	154	38	43	90	734	81	2,539	631	2,401
>55	357	25	36	472	2	0	9	8	1	3	12	40	5	3	17	91	30	154	28	232
Belait																				
0-5	34	0	0	0	0	0	0	0	0	0	4	6	1	1	0	12	6	2	1	0
6-12	31	0	1	3	0	0	0	1	0	0	1	13	0	0	0	30	7	31	22	1
13-19	293	0	41	307	0	2	1	6	0	0	6	13	3	3	1	63	11	186	58	209
20-55	1,466	0	198	1,930	54	111	16	50	0	2	46	46	3	8	4	279	81	640	185	1,260
>55	182	1	23	150	0	5	5	2	0	0	4	7	0	0	3	22	18	68	16	128
Tutong																				
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	17	6	0
13-19	85	0	0	160	0	0	0	0	0	0	1	0	0	0	0	3	0	44	27	30
20-55	505	0	3	939	0	0	4	21	0	0	0	0	1	2	0	4	0	184	51	248
>55	35	0	2	66	0	0	0	1	0	0	1	0	0	0	0	1	7	23	9	11
Temburong																				
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-19	23	0	0	23	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	9
20-55	160	0	0	160	0	0	0	0	0	0	0	0	0	0	0	1	0	22	6	73
>55	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2
All combined	9,524	319	628	11,360	63	119	55	190	6	198	281	332	60	76	121	1,447	249	4,273	1,162	5,184

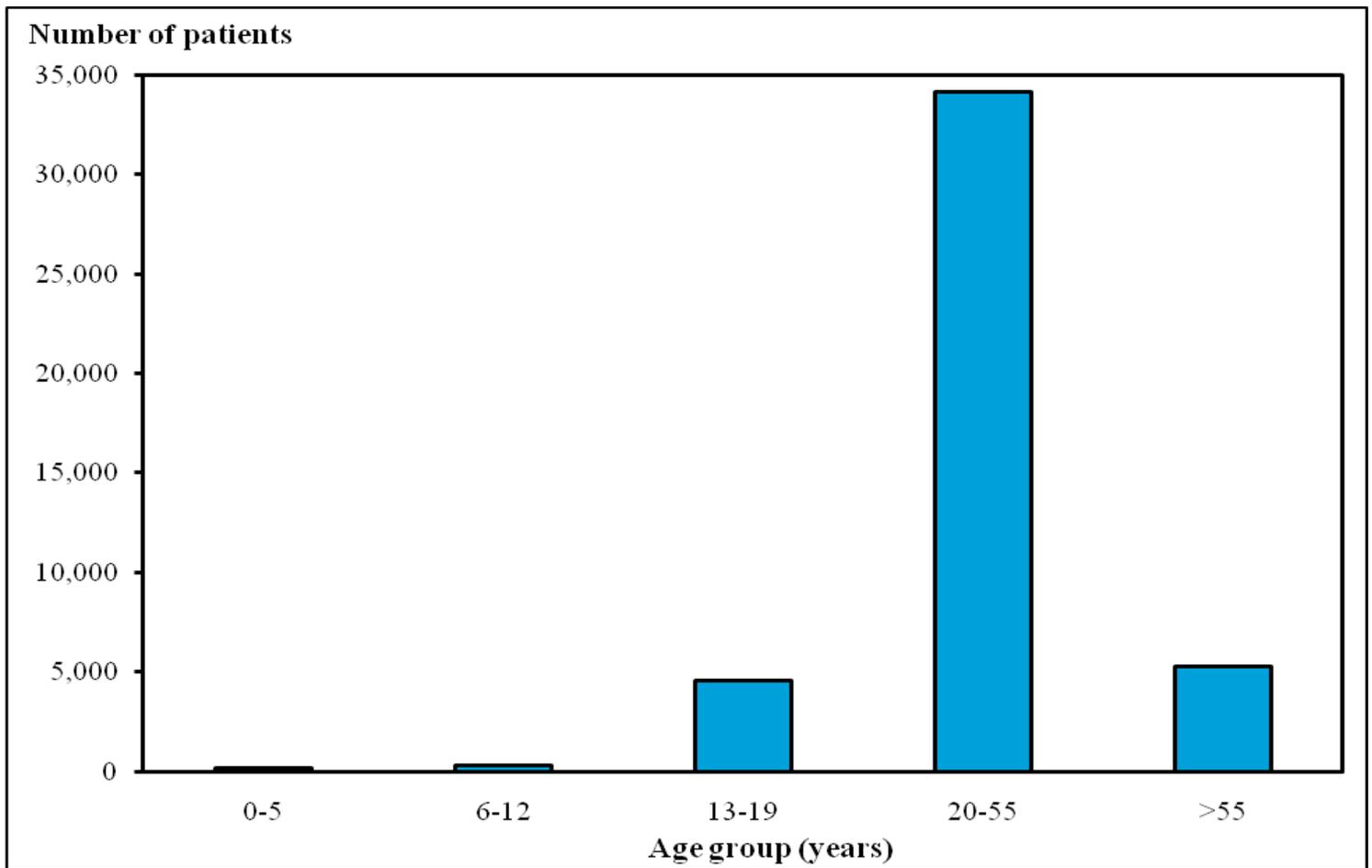


Figure 5.1b Number of patients treated by age group

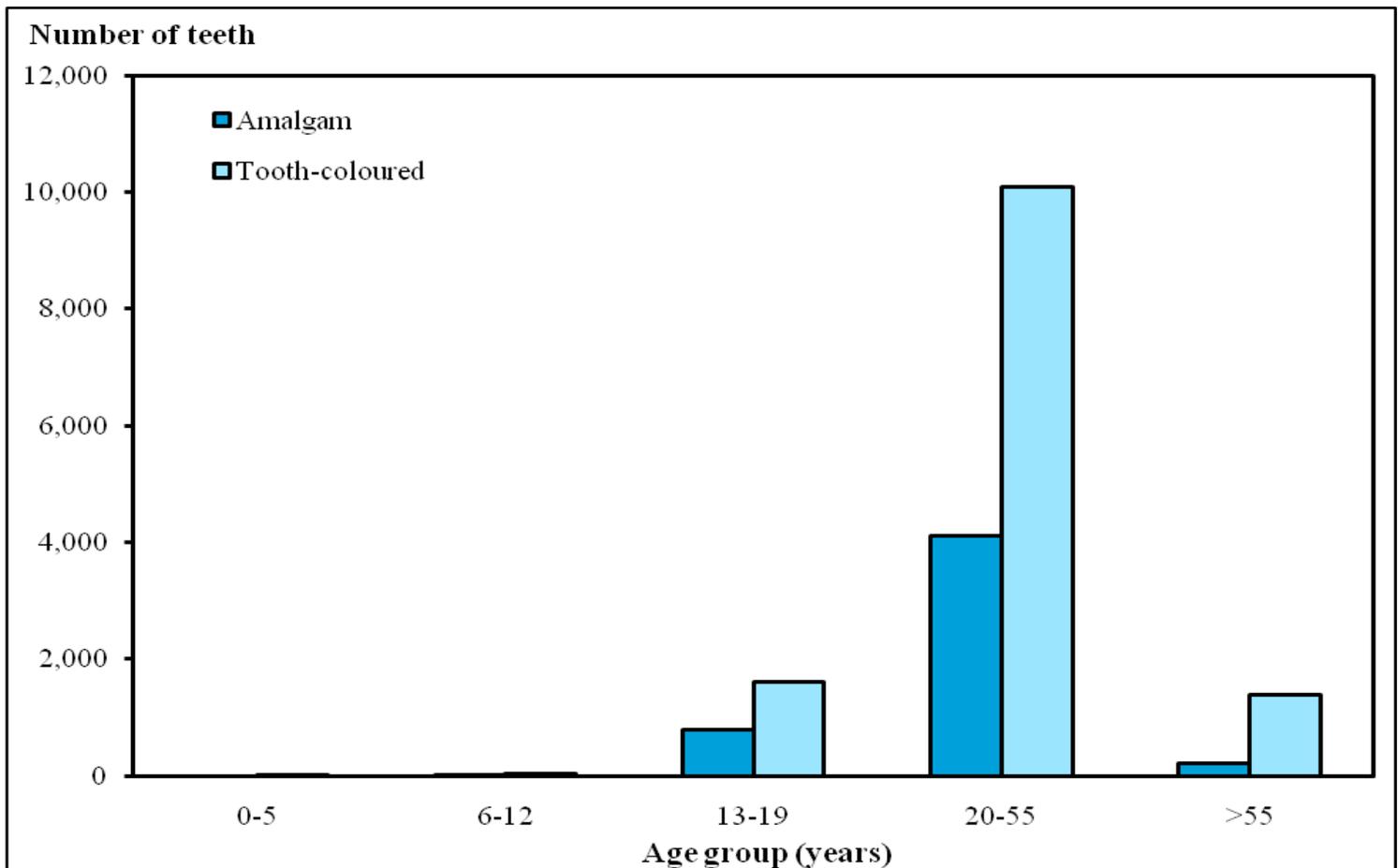


Figure 5.1c Number of teeth restored with Amalgam and Tooth-coloured restorations by age group

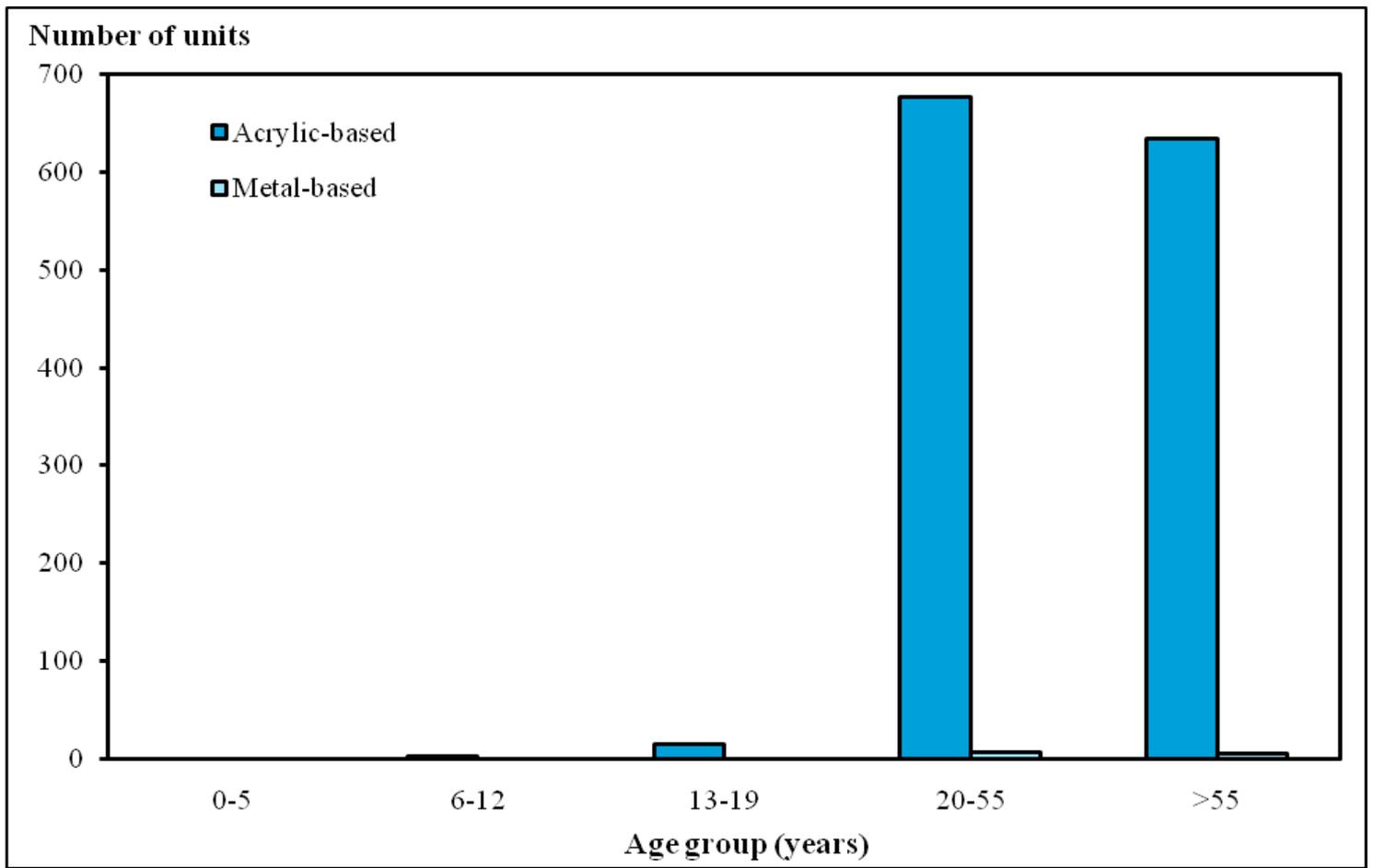


Figure 5.1d Number of acrylic- and metal-based dentures issued by age group

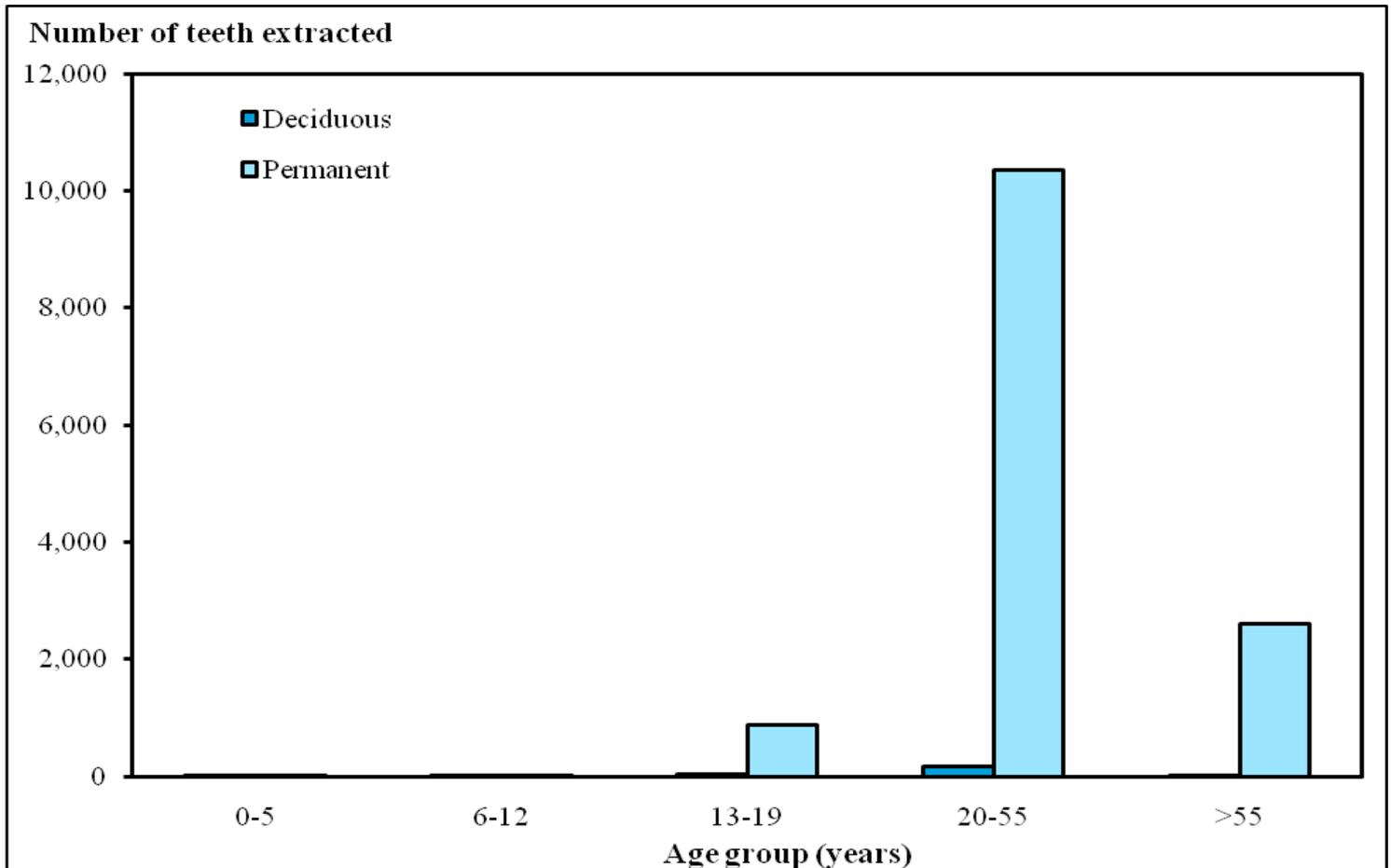


Figure 5.1e Number of non-surgical teeth extraction by age group

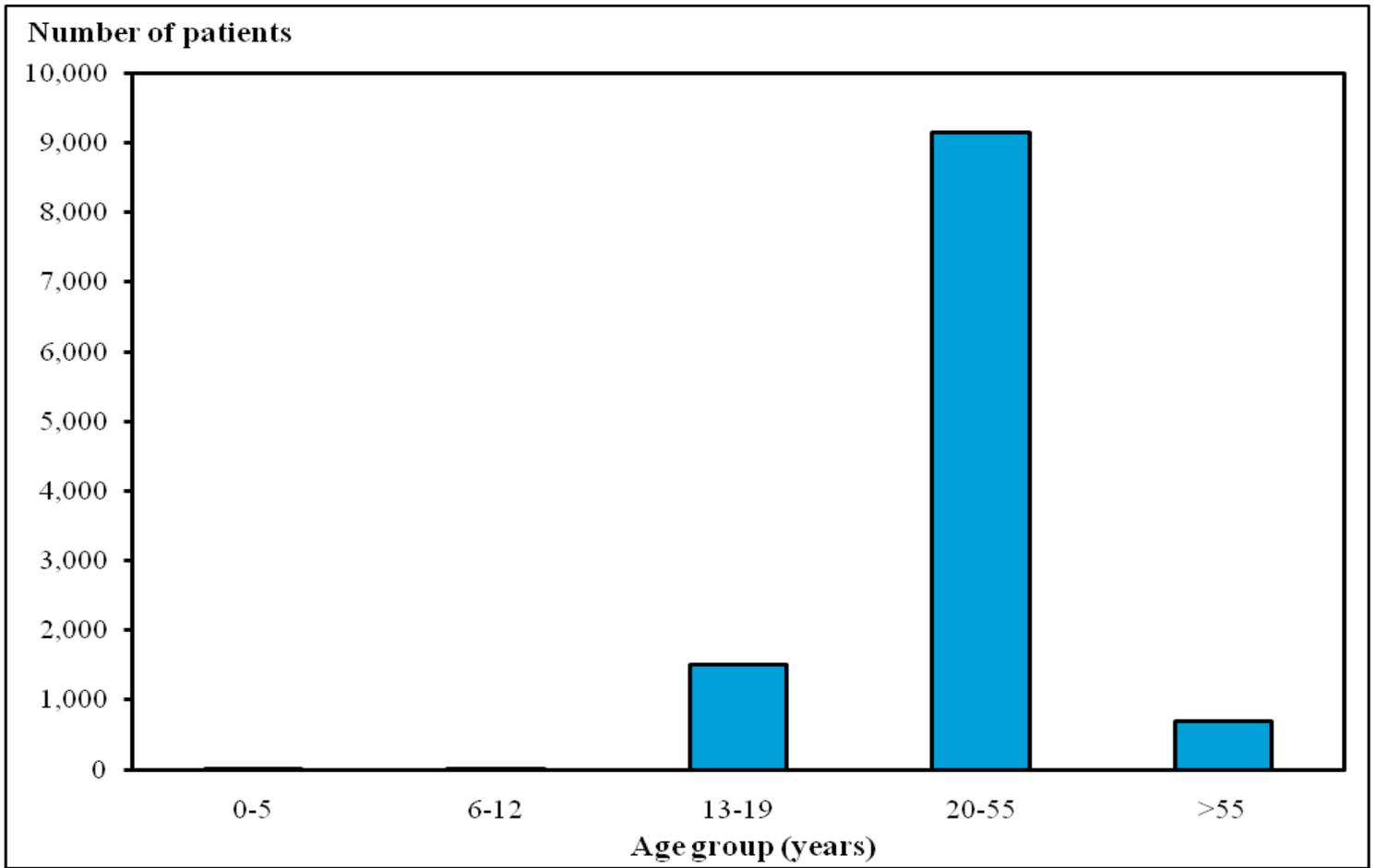


Figure 5.1f Number of scaling by age group

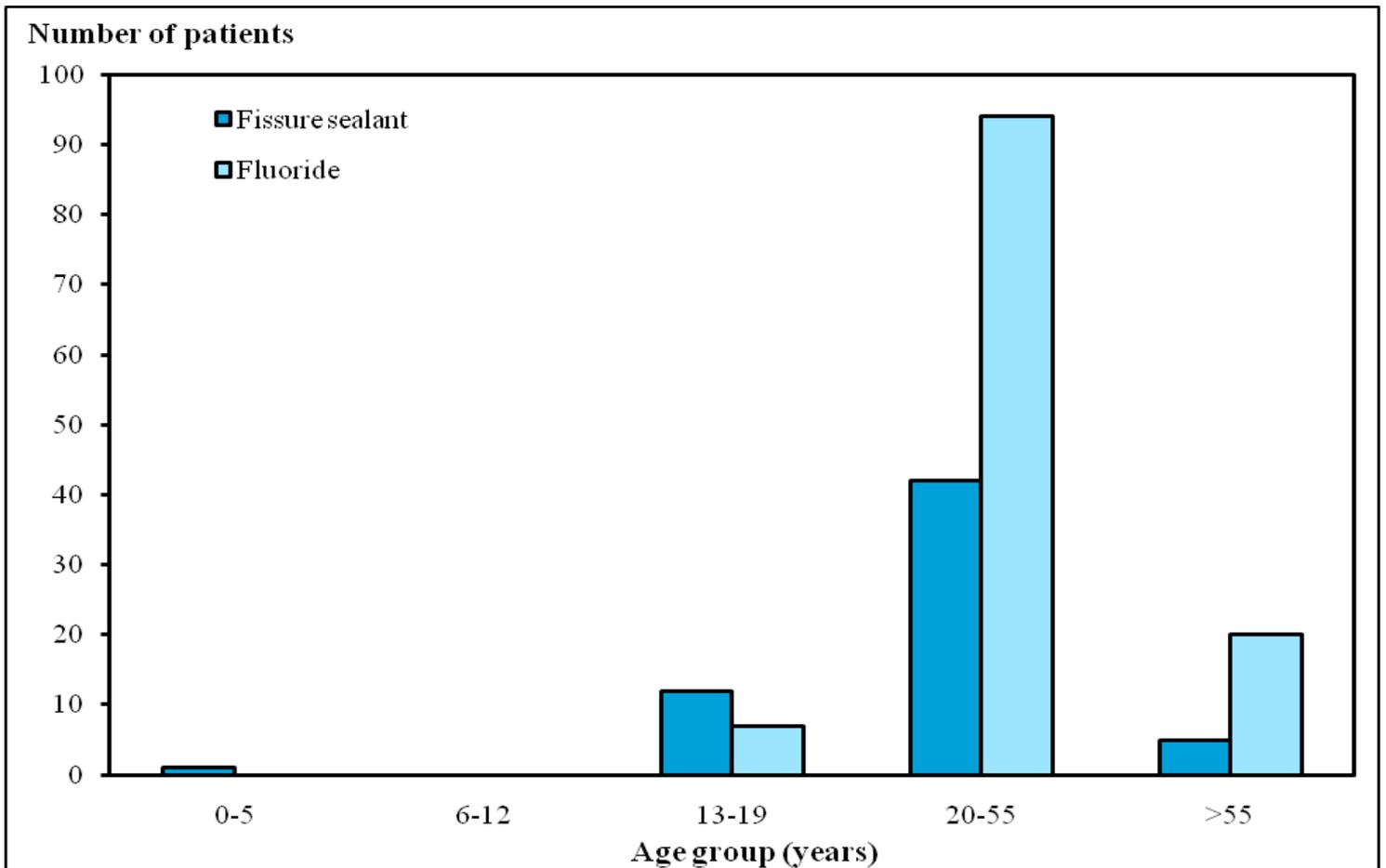


Figure 5.1g Number of preventive fissure sealant and fluoride varnish by age group

PRODUCTIVITY – ENDODONTICS

The aim of endodontic treatment is to preserve functional teeth without prejudice to the patient's health. The Endodontic Unit deals with treatment involving the roots of teeth.

Services provided include, but is not limited to:

- The differential diagnosis and treatment of oro-facial pain of pulpal and periradicular origin
- Prevention of pulp disease and vital pulp therapy
- Pulp extirpation and root canal treatment
- Root canal treatment in cases of apical periodontitis
- Root canal retreatment in case of post-treatment apical periodontitis
- Surgical endodontics
- Bleaching of endodontically treated teeth
- Treatment procedures related to coronal restoration by means of a core and/or post involving the root canal space

Overview of Endodontic Specialty Services

Manpower

1 (expatriate) Specialist

1 (local) Acting Specialist

1 (expatriate) Senior Dental Officer

The Endodontic Unit is based at the National Dental Centre, Brunei-Muara and accepts referrals from government and private dental clinics throughout Brunei Darussalam.

Table 5.2.1a Number of patients and treatment done in the Endodontics Unit (March-December 2010)

Age group	ENDODONTICS (includes pulpotomy)			FIXED PROSTHODONTICS											
	Procedures (Patient)	Teeth		Procedures (Patient)	Recementation of crowns/bridge (units)	Temporary crowns/ Bridge (units)	Posts (units)	Crown						Bridge	
		New	Repeat					Anterior		Posterior		Total Units Issued		Bridge	Units
								FPC	PBC	PBC	FPC	New	Repeat		
13-19	63	34	34	5	0	2	1	0	0	4	0	3	1	0	0
20-55	393	170	225	178	17	129	44	12	11	56	12	78	13	13	32
>55	38	22	17	33	4	21	6	0	2	18	5	22	3	0	0
All combined	494	226	276	216	21	152	51	12	13	78	17	103	17	13	32

FPC – Full Porcelain Crown, PBC – Porcelain Bonded Crown

Table 5.2.1b Number of patients and treatment done in the Endodontics Unit (March-December 2010)

Age group	PROSTHETIC						CONSERVATIVE				ORAL SURGERY	PERIODONTICS	RADIOGRAPHS	
	Acrylic-based (number of units issued)			Metal-based	Repairs	Relines		Total number of Teeth & Surfaces Permanently Filled			No. of Teeth Extracted (Surgical)	No. of Scaling & Prophylaxis (Non-Surgical)	Intraoral	Extraoral
	Full denture	Partial denture	Immediate			1 st treatment	Retreatment	Teeth	Surfaces					
									New	Repeat				
6-12	0	0	0	0	0	0	0	3	2	1				
13-19	0	1	0	0	0	0	0	63	39	65	5	15	24	5
20-55	14	39	14	5	7	10	2	635	454	509	19	159	270	35
>55	26	21	7	7	7	2	3	81	36	89	0	33	38	6
All combined	40	61	21	12	14	12	5	782	531	664	25	208	332	46

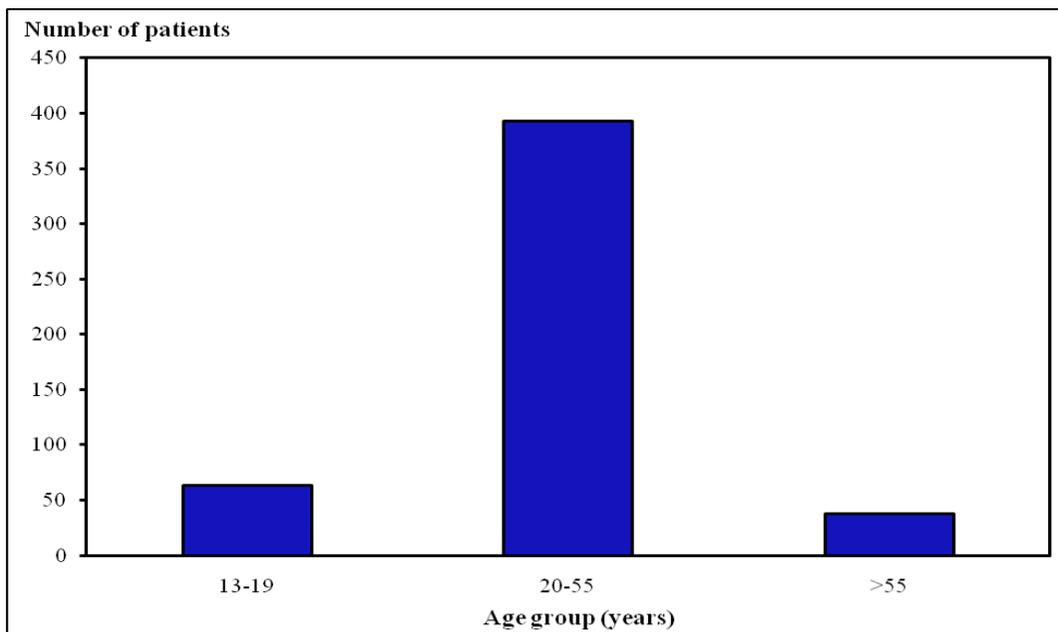


Figure 5.2.1a Number of attendances for endodontic treatment by age group

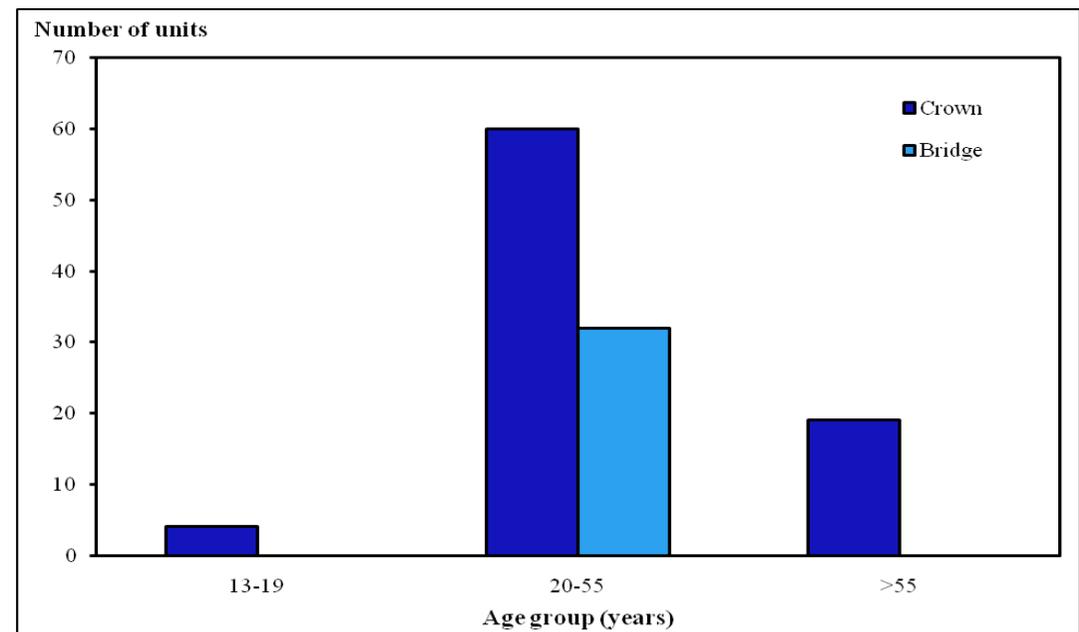


Figure 5.2.1b Number of crowns and bridges issued by age group

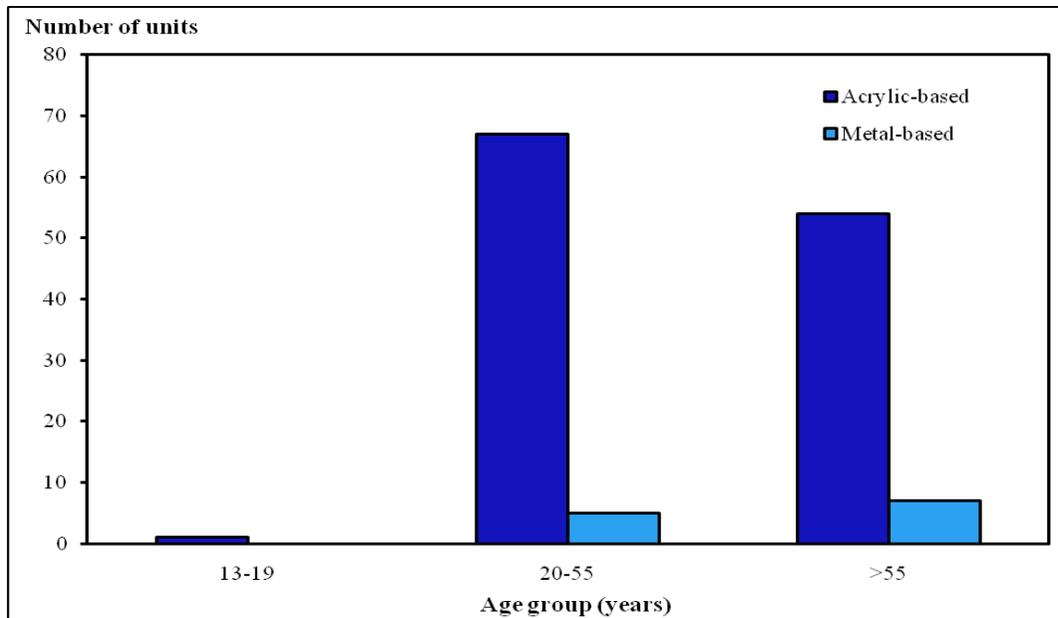


Figure 5.2.1c Number of acrylic- and metal-based dentures issued by age group

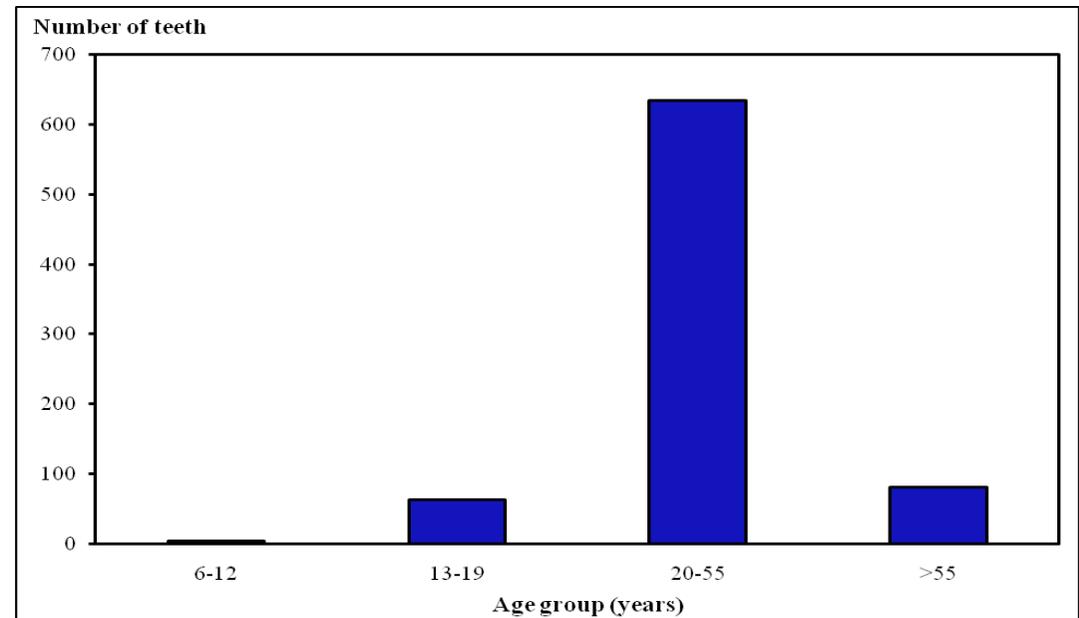


Figure 5.2.1d Number of teeth permanently filled by age group

PRODUCTIVITY – IMPLANTOLOGY

The Implantology Unit involves both surgical and restorative aspects of implant dentistry, with special attention to patient care under comprehensive treatment planning.

Services provided include:

- Consultation
- Investigations
- Diagnosis
- Treatment planning and referrals
- Surgery - Routine clinical procedures
- Replacement of missing teeth:
 - Single tooth gap
 - Multiple missing teeth
- Surgery - Advance clinical procedures
- Full mouth rehabilitation
- Ridge augmentation
- Sinus floor elevation

Overview of Implantology Specialty Services

Manpower

1 (local) Specialist

The Implantology Unit is based at the National Dental Centre, Brunei-Muara and accepts referrals from government and private dental clinics throughout Brunei Darussalam.

Table 5.2.2 Number of patients and treatment done in the Implantology Unit (March-December 2010)

Age group	Consultations		Implant Surgery		Total number of Implants, Crowns, Bridges and Dentures						Radiographs		
	Self	Referred	Procedure (Patients)	Units of Implant placed	Procedure (Patients)	Fixed (Units)			Removable (Units)			I/O	E/O
						Implant	Abutment	Pontic	Implant	Upper Full Denture	Lower Full Denture		
20-55	6	46	20	36	215	64	45	0	0	0	0	50	24
>55	9	27	23	61	205	47	46	13	4	0	1	60	15
All combined	15	73	43	97	420	111	91	13	4	0	1	110	39

I/O – Intraoral, E/O - Extraoral

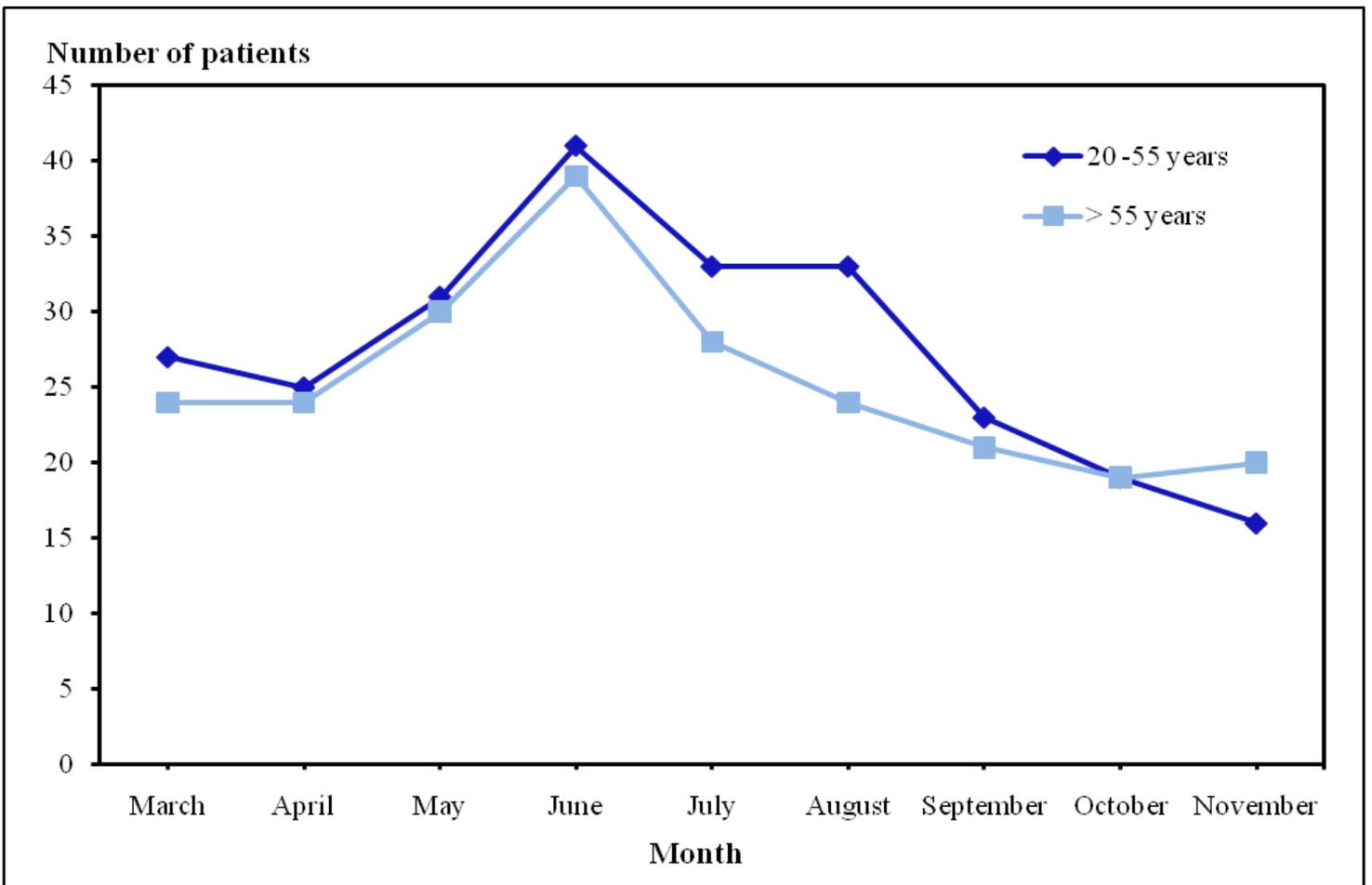


Figure 5.2.2a Number of patients treated by month

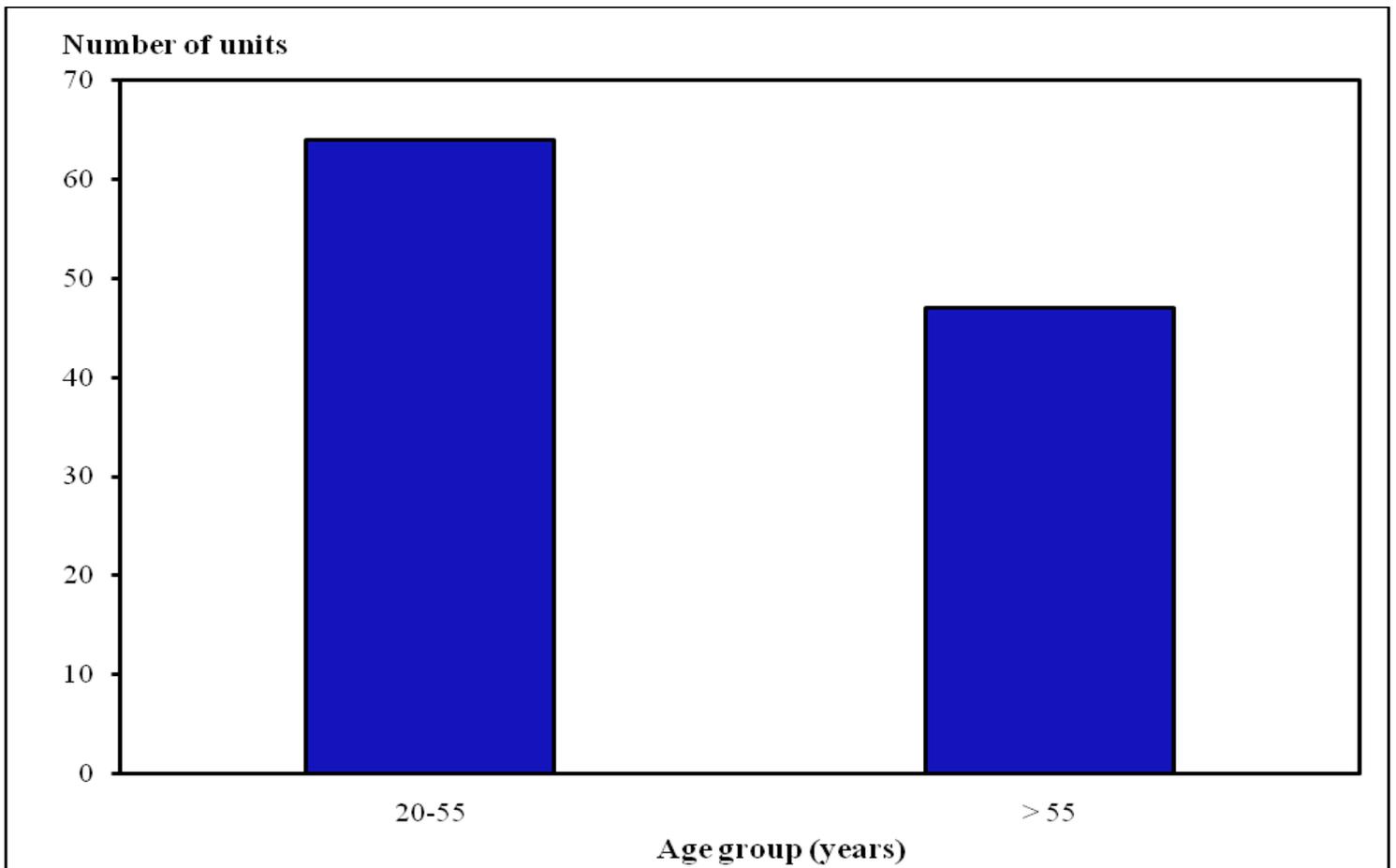


Figure 5.2.2b Number of implants by age group

PRODUCTIVITY – ORAL SURGERY

Oral surgery is a branch of medicine, dealing with diagnostics and the surgical treatment of oral diseases.

ORGANISATION

The Specialist Dental Clinic (SDC) was established on 1st December 2000. It is housed on the 3rd floor of the Specialist Block at RIPAS Hospital. It is equipped with 6 dental chairs and operates as a specialist referral clinic. It accepts referrals from dental and medical practitioners from the public sector, private sector and armed services from throughout Brunei Darussalam and in-patients from within the hospital.

Since its inception, the department has attained a reputation as the leading tertiary referral center for hospital dentistry in Brunei. This has been further reinforced by the recognition accorded to it by the Royal College of Surgeons of England as a recognized center for Membership of the Faculty of Dental Surgery (MFDS) training in May 2004. This has been made possible through the efforts and commitment of the pioneer staff towards providing a quality service and a high standard of hospital dentistry.

SERVICES

Services provided include:

- Specialist services in the disciplines of oral surgery, periodontology, oral medicine, and implantology
- Dental management of the medically compromised including children
- Dental management of in-patients
- Hospital Dentistry requiring general anaesthetic and sedation facilities
- Support services for the Oral & Maxillo-facial and Plastic Surgical Unit in the areas of maxillo-facial trauma, cleft lip and palate management and orthognathic surgery
- Support services for the National Cancer Centre for patients undergoing radiotherapy and chemotherapy
- Support services for patients undergoing open heart surgery
- Emergency dental services for hospital personnel

Oral Surgery Procedures performed include:

- Surgical extractions
- Wisdom teeth removal
- Management of complications due to tooth extractions including OAF closure
- Management of dento-alveolar trauma injuries
- Surgical exposure of un-erupted teeth
- Removal of retained roots
- Bone grafting implant sites
- Management of cystic lesions
- Management of acute facial infections
- Biopsy of soft tissue lesions
- Surgery before fitting dentures e.g. frenectomy, alveolectomy & alveoplasty

Achievements

Since 2001, Day Care Surgery has been introduced for all minor oral surgical procedures. This has made it more convenient for patients, lowered inpatient hospital costs and also freed hospital beds.

MANPOWER

Staffing:	2000	2010
Specialist	1	1
Senior Dental Officer	1	3
Dental Officer	0	1
Hygienist	1	0
Senior Dental Assistant	1	3
Dental Assistant	3	4
Amah	1	2
Attendant	0	1
Clerical Assistant	0	1
Receptionist	0	1
Total	8	17

Table 5.2.3a Number of patients and types of treatment in the Oral Surgery Unit for the whole state (2010)

Month	Patient Attendance			ORAL SURGERY PROCEDURES															
				Soft Tissue						Hard Tissue									
	New Patients (1st Visit)	Review (Repeat Visit)	Total Attendances	Incision + Drainage	Excision Biopsy	Incision Biopsy	Soft tissue excision	Frenectomy	Gingivectomy	Enucleation + Apicectomy	Apicectomy	Alveolectomy	Alveoplasty	Exploration + Curettage	Bone excision	Enucleation	Marsupialisation	Surgical Exposure	Coronectomy
January	355	119	474	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
February	235	173	408	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
March	242	275	517	2	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0
April	247	359	606	0	0	0	4	0	0	0	1	0	0	0	0	1	0	0	0
May	294	535	829	0	0	1	2	1	0	0	2	1	0	4	0	1	0	1	0
June	316	598	914	4	2	0	1	0	1	0	0	0	2	0	0	0	0	3	1
July	219	442	661	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	0
August	168	436	604	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
September	212	359	571	1	1	0	1	0	1	0	0	0	0	1	1	0	0	0	0
October	269	396	665	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
November	188	393	581	1	2	0	1	0	0	0	1	0	1	0	0	0	0	0	0
December	143	396	539	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0
All combined	2,888	4,481	7,369	10	12	1	11	2	3	0	7	2	5	6	2	2	0	4	2

Table 5.2.3b Number of patients and types of treatment in the Oral Surgery Unit for the whole state (2010)

Month	ORAL SURGERY PROCEDURES																				
	Surgical Removal					Extraction		Dento-alveolar Trauma					Bleeding		Miscellaneous				GA cases	I/V sedation	Case Completion (Discharge)
	S/R retained roots	S/R Supernumerary	S/R Odontome	S/R Impacted tooth	S/R 3rd molar	Deciduous	Permanent	Composite splint	Arch Bar Splint	Eyelet splint	Pulpectomy	L / W closure	Bleeding socket arrest	Gingival bleed arrest	Scaling	Subgingival scaling	TMJ dislocation reduction	SM Impression			
January	0	0	0	0	82	74	262	1	0	0	3	0	0	0	28	0	0	0	35	0	71
February	0	0	0	1	62	30	257	0	0	0	9	0	0	0	68	0	0	3	31	0	70
March	2	0	1	14	79	3	230	0	0	0	3	0	0	0	42	9	0	0	23	0	80
April	6	1	0	42	50	50	258	0	0	0	2	0	2	2	48	8	0	0	35	0	99
May	10	6	0	25	107	33	332	0	0	0	4	0	1	0	40	22	0	0	41	0	116
June	12	2	1	21	113	82	303	0	0	0	0	0	1	0	52	14	0	0	48	1	119
July	5	0	0	16	101	40	264	0	0	0	0	0	0	0	37	28	0	0	30	1	104
August	12	1	0	3	88	1	191	0	0	0	4	0	2	0	25	16	0	0	11	0	106
September	16	2	0	7	70	87	199	0	0	0	5	0	0	0	28	30	0	1	31	0	83
October	11	2	0	3	74	22	225	3	1	0	3	0	0	0	27	8	0	3	19	0	60
November	3	2	0	12	75	23	203	5	0	0	4	1	0	0	36	40	1	0	18	0	72
December	5	1	1	3	76	80	212	1	0	1	11	0	0	0	58	2	0	1	26	0	69
All combined	82	17	3	147	977	525	2,936	10	1	1	48	1	6	2	489	177	1	8	348	2	1,049

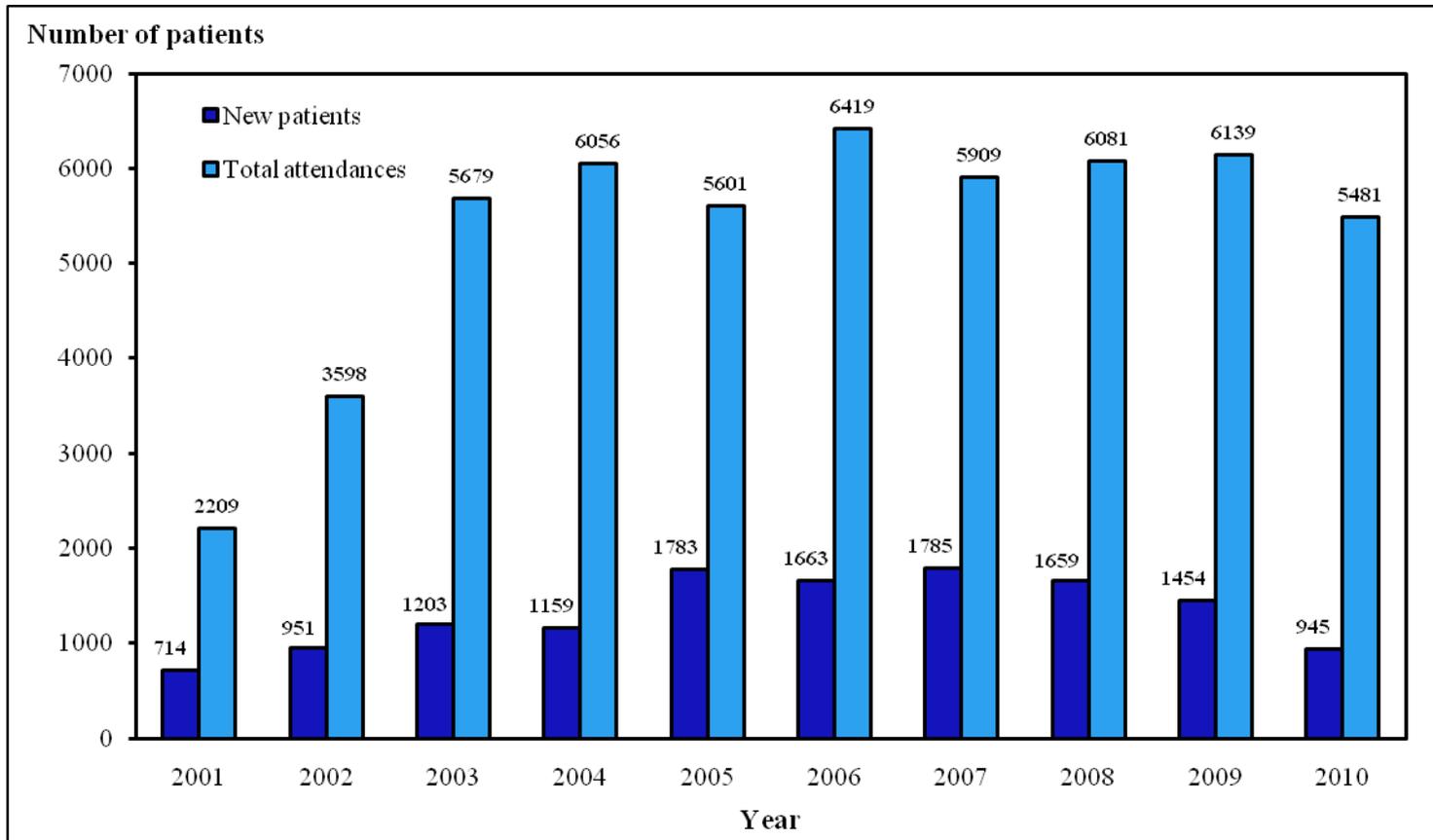


Figure 5.2.3a Annual attendances of Oral Surgery Unit at RIPAS Hospital (2001 – 2010)

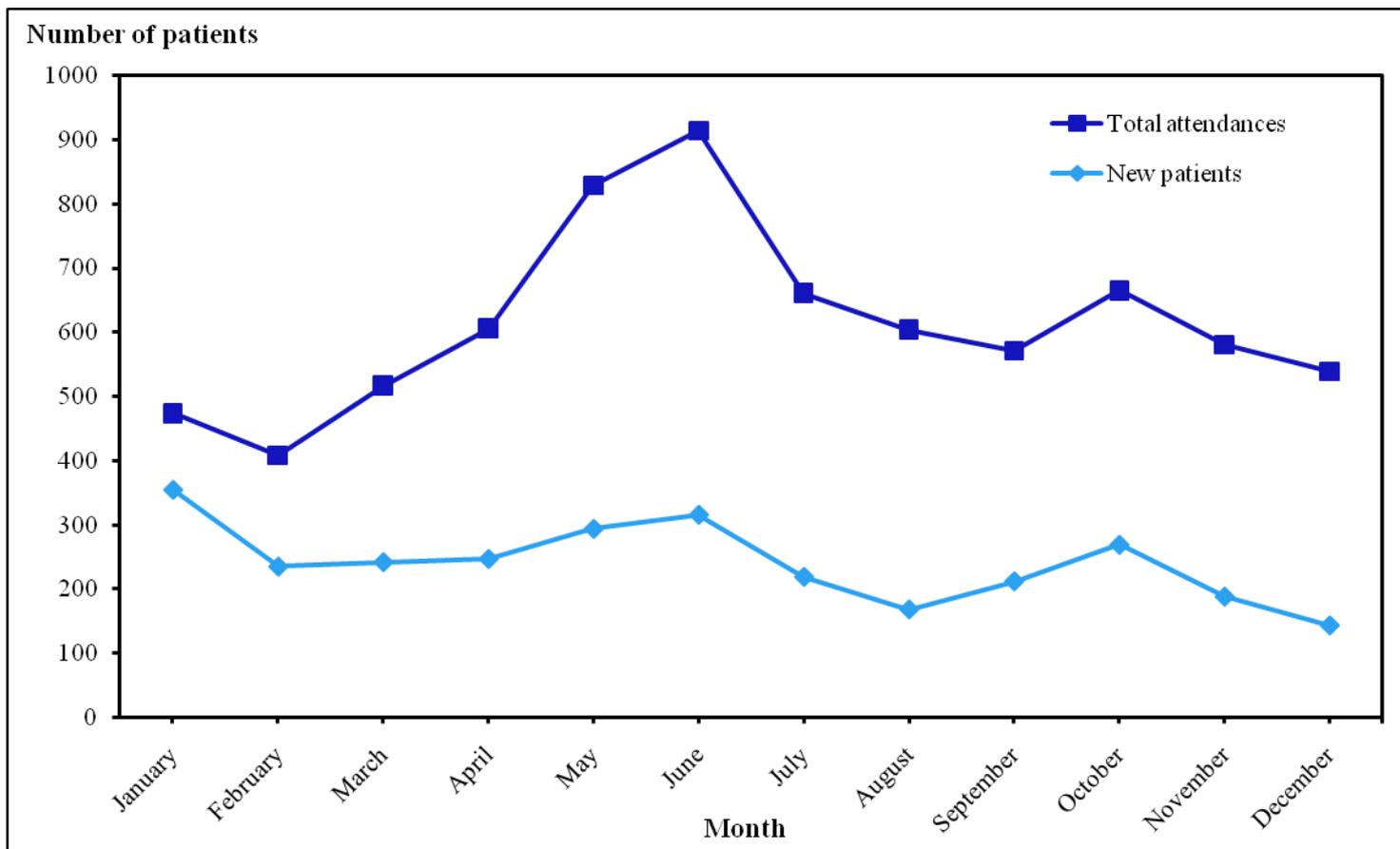


Figure 5.2.3b Number of patients attending Oral Surgery Unit for the whole state by month

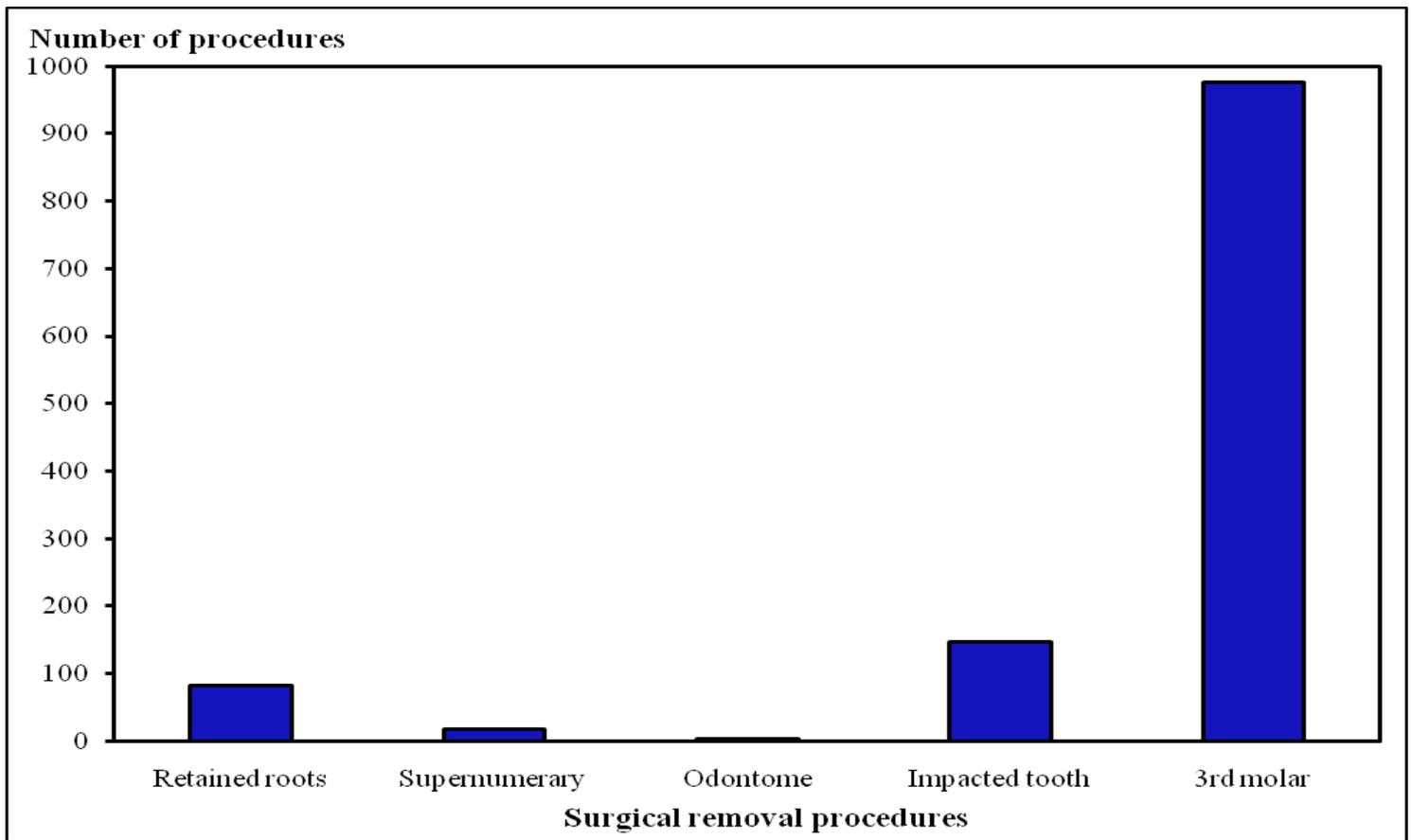


Figure 5.2.3c Number of different surgical removal procedures done for the whole state

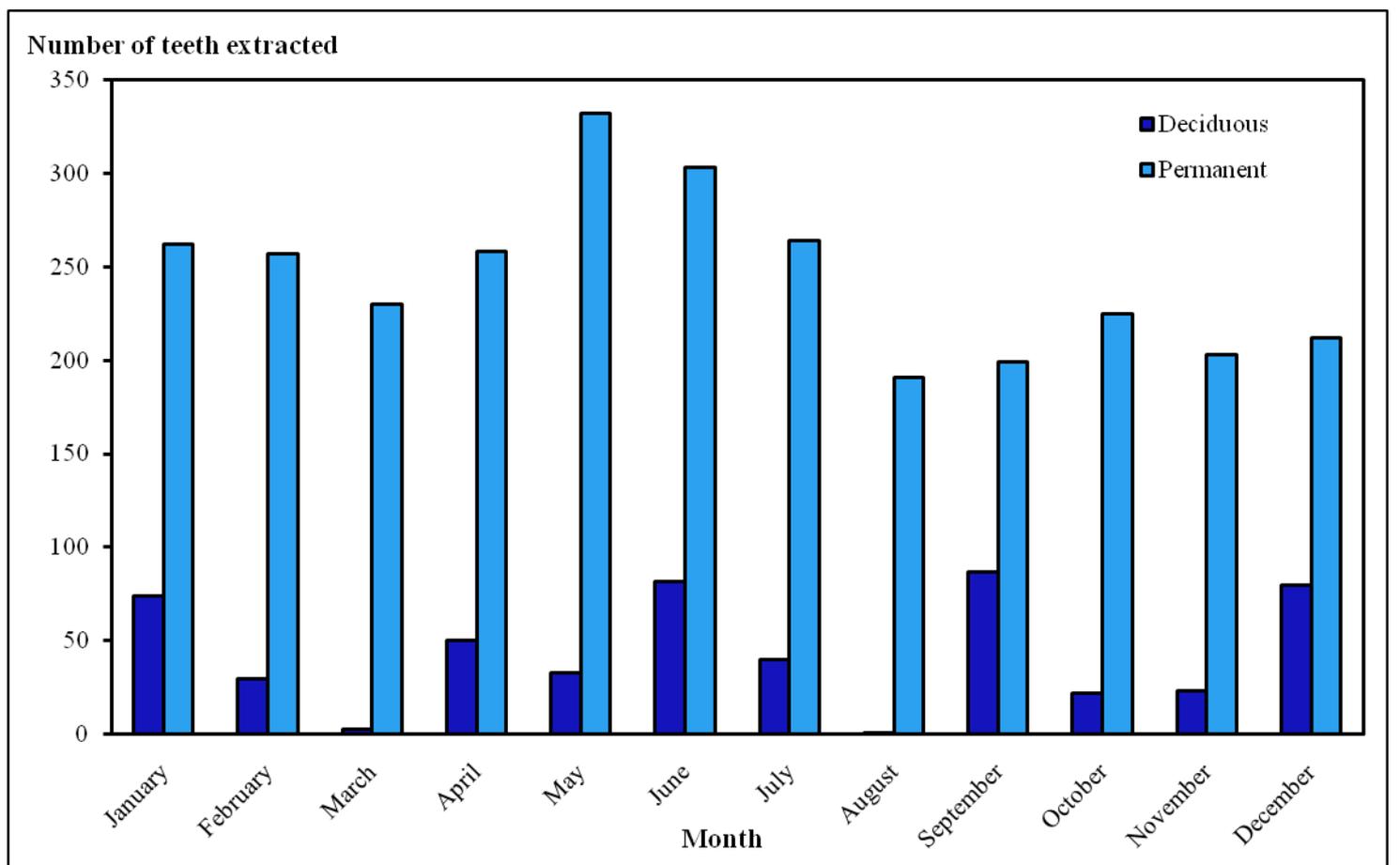


Figure 5.2.3d Number of teeth extraction done by month

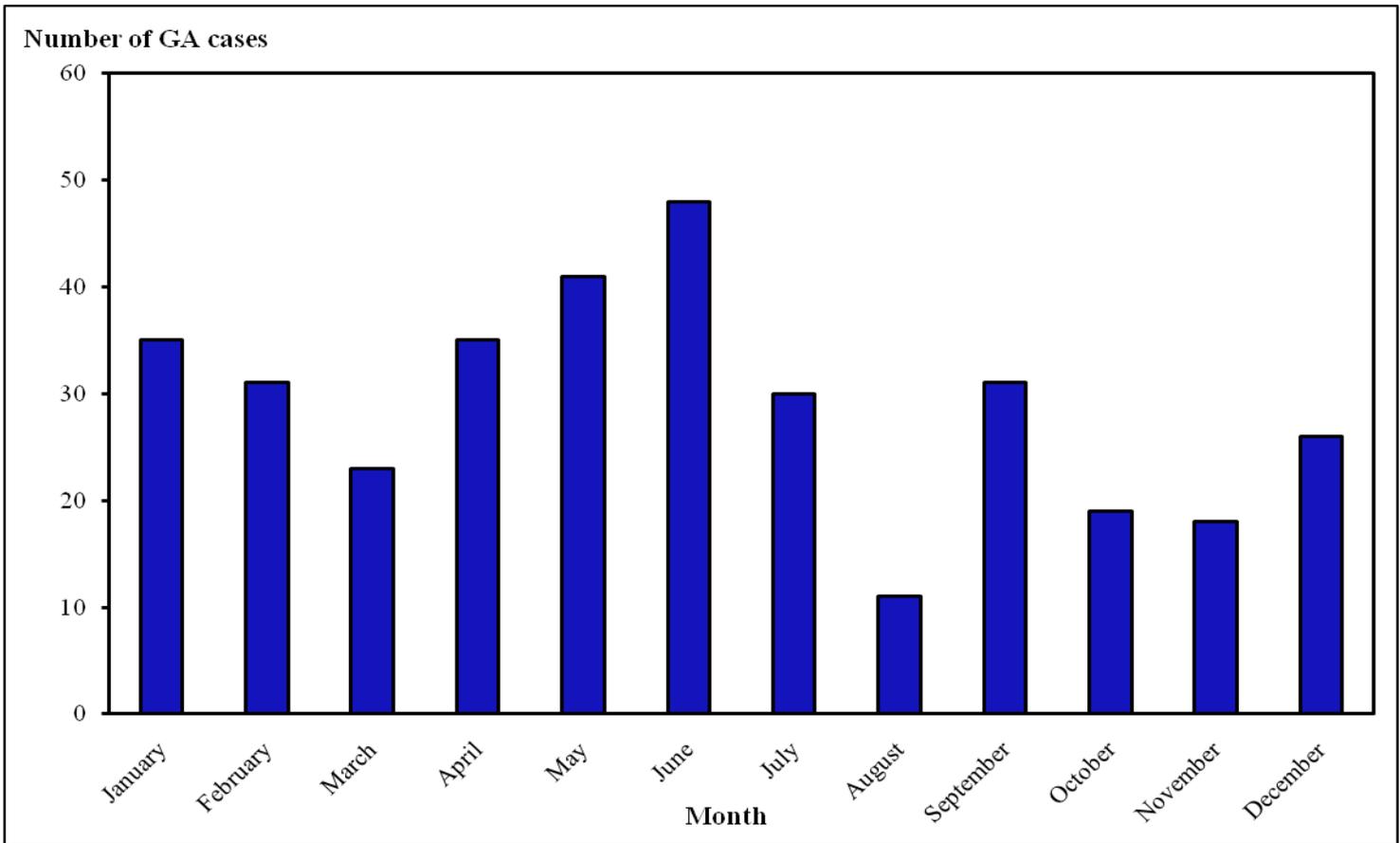


Figure 5.2.3e Number of GA cases done by month

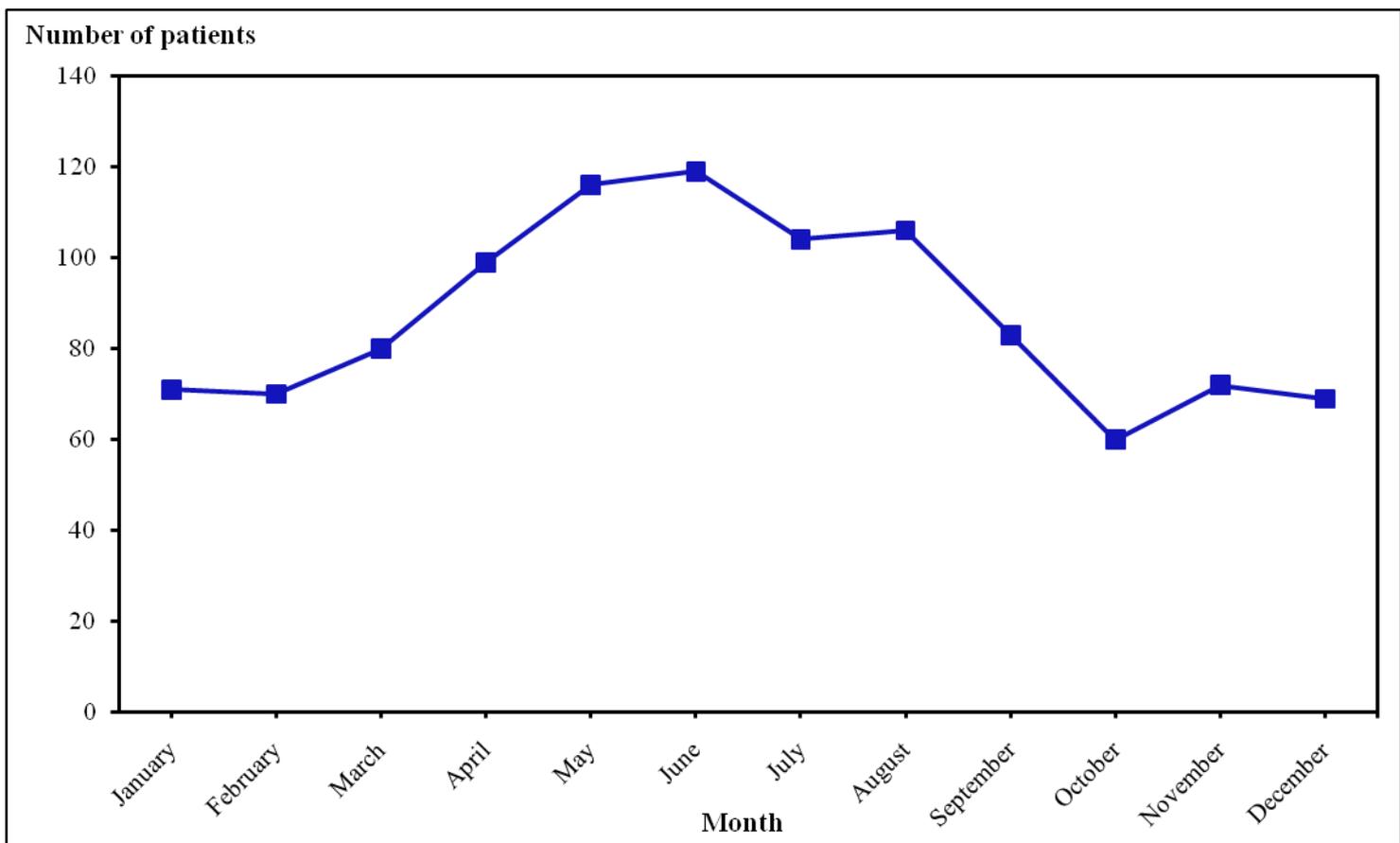


Figure 5.2.3f Number of case completion by month

PRODUCTIVITY – ORTHODONTICS

Orthodontics is the branch of dentistry that corrects teeth and jaws that are positioned improperly. The benefits of orthodontic treatment include a healthier mouth, a more pleasing appearance, and teeth that are more likely to last a lifetime.

Overview of Orthodontic Specialty Services

Manpower

3 (2 local and 1 expatriate) Specialists

3 (local) Acting Specialists

Distribution of 'Specialist Orthodontist' in the districts

Brunei-Muara

5 full-time orthodontists (latest orthodontist reported in October 2010).

Belait

1 full-time orthodontist & travelling services by a second orthodontist covering 2-4 days a month.

Tutong

Travelling services provided by 2 orthodontists - 4 days a month (once a week).

Temburong

Travelling services to *Temburong* not undertaken at present due to the fact that there are not many 'orthodontic referrals' from the district.

Table 5.2.4a Orthodontic patients ‘Attendance statistics’ for 3 districts for the year 2010

Districts	Patient attendance ^a	Percentage distribution of patient attendance
Brunei-Muara	7,194	72.4
Belait	2,429	24.4
Tutong	320	3.2
All combined	9,943	100.0

^aPatient attendance includes patient seen for any orthodontic procedure or review

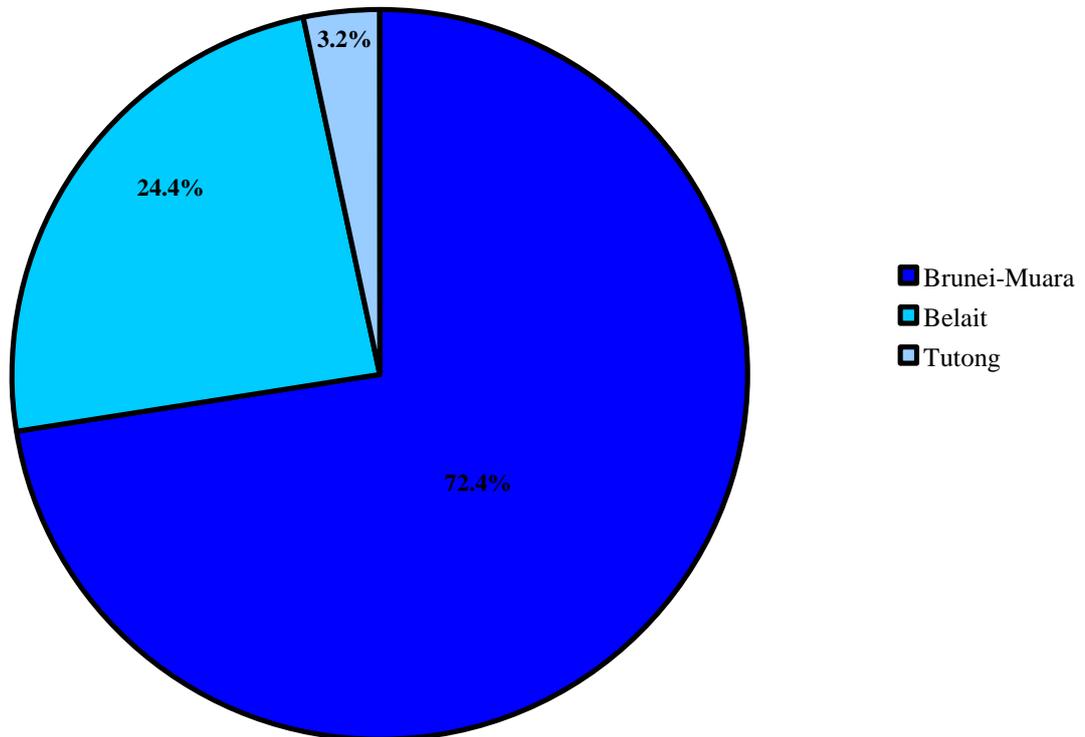


Figure 5.2.4a Percentage distribution of patient attendance for 3 districts for the year 2010

Table 5.2.4b Patients ‘Failed To Attend’ (FTA) Orthodontic appointment for 3 districts for the year 2010

Districts	Total number of appointments given	Patient attendance	Total number of ‘Failed To Attend’ (FTA) ^a	% of FTAs to number of appointments given ^b
Brunei-Muara	7,931	7,194	737	9.3
Belait	2,615	2,429	186	7.1
Tutong	341	320	21	6.2
All combined	10,887	9,943	944	8.7

^aThe value of FTA was calculated by the total number of appointments given *minus* the patient attendance

^bThis value was calculated to give us base line data to allow for future comparisons. This will help the Unit to assess ways of keeping the number of FTAs to a minimum

Table 5.2.4c ‘Orthodontic Consultations’ for 3 districts for the year 2010

Districts	ORTHODONTIC REFERRALS				TREATMENT PLANNING	
	No orthodontic treatment indicated ^a	Too early for definitive orthodontic treatment	Enter waiting list for fixed appliances treatment	Interceptive treatment ^b	Fixed appliance treatment for cleft patients	Patients taken off waiting list for fixed appliances treatment ^c
Brunei-Muara	74	35	350	91	8	318
Belait	15	11	121	18	0	120
Tutong	6	6	44	4	0	24
All combined	95	52	515	113	8	462

^aNo orthodontic treatment is indicated if referred patient is found to have (i) very mild irregularity of teeth and is aesthetically pleasing (ii) the risks outweigh the benefit of orthodontic treatment in cases of patients having poor oral hygiene and/or mutilated dentition (multiple missing teeth, teeth with poor prognosis, heavily- filled teeth etc.)

^brefers to treatment provided to young patients having problems with the development of teeth and position of jaws

^cfrom the number of patients taken off from the Waiting list for fixed appliance treatment, some opt for delaying treatment till after exams/ opt to start treatment after returning to Brunei for good (if studying abroad) or decide not to have treatment as they are not keen to have orthognathic surgery etc.

Orthodontic consultations – provide consultations for all *orthodontic referrals* from various clinics. Also includes *treatment planning* for cleft patients ready for fixed appliances and those taken off the waiting list for commencing fixed appliance treatment. After consultation, referred patients are categorised into the above sub-groups (*see break-up above*).

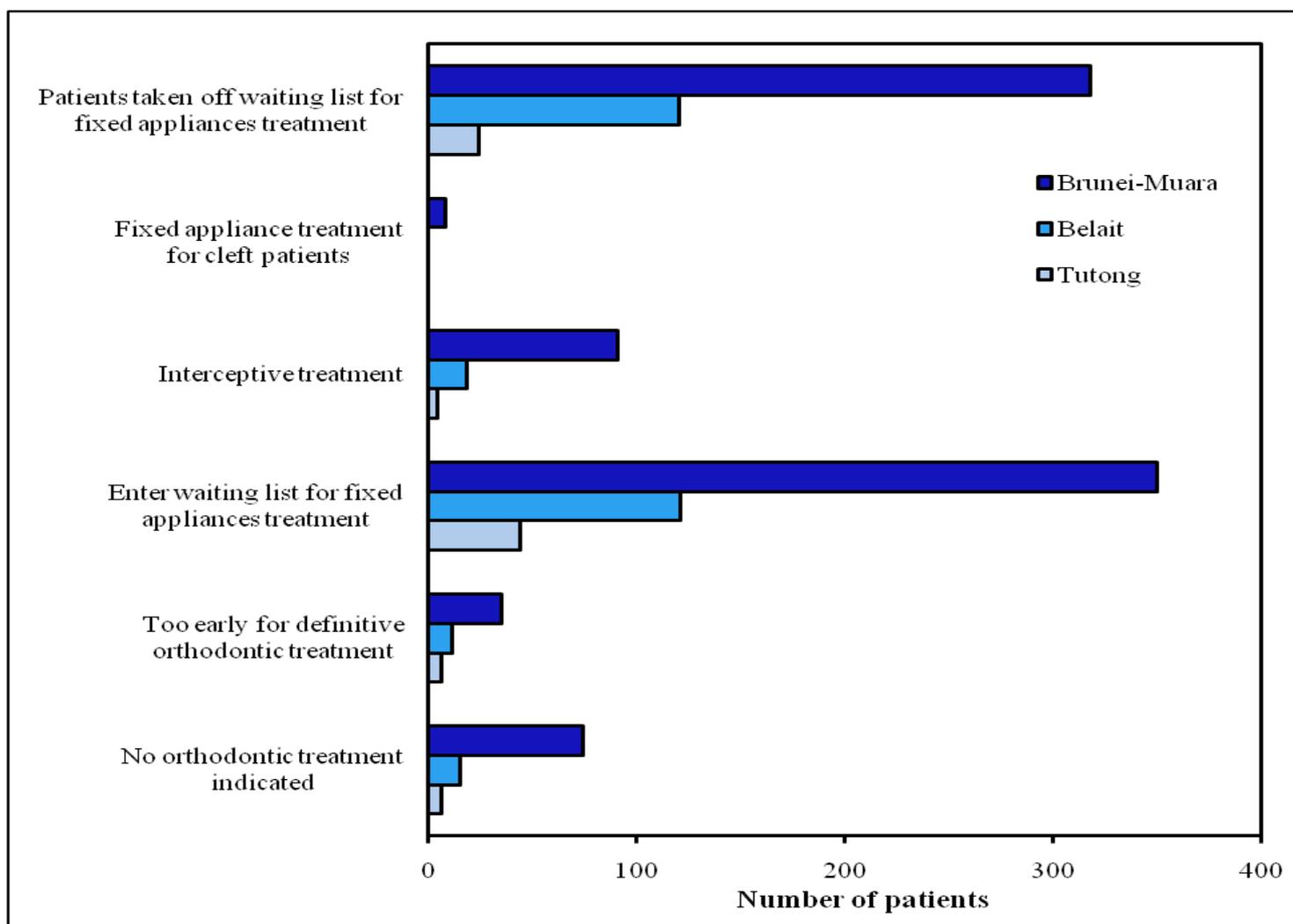


Figure 5.2.4b 'Orthodontic Consultations' for 3 districts for the year 2010

Table 5.2.4d Summary of various orthodontic procedures for 3 districts for the year 2010

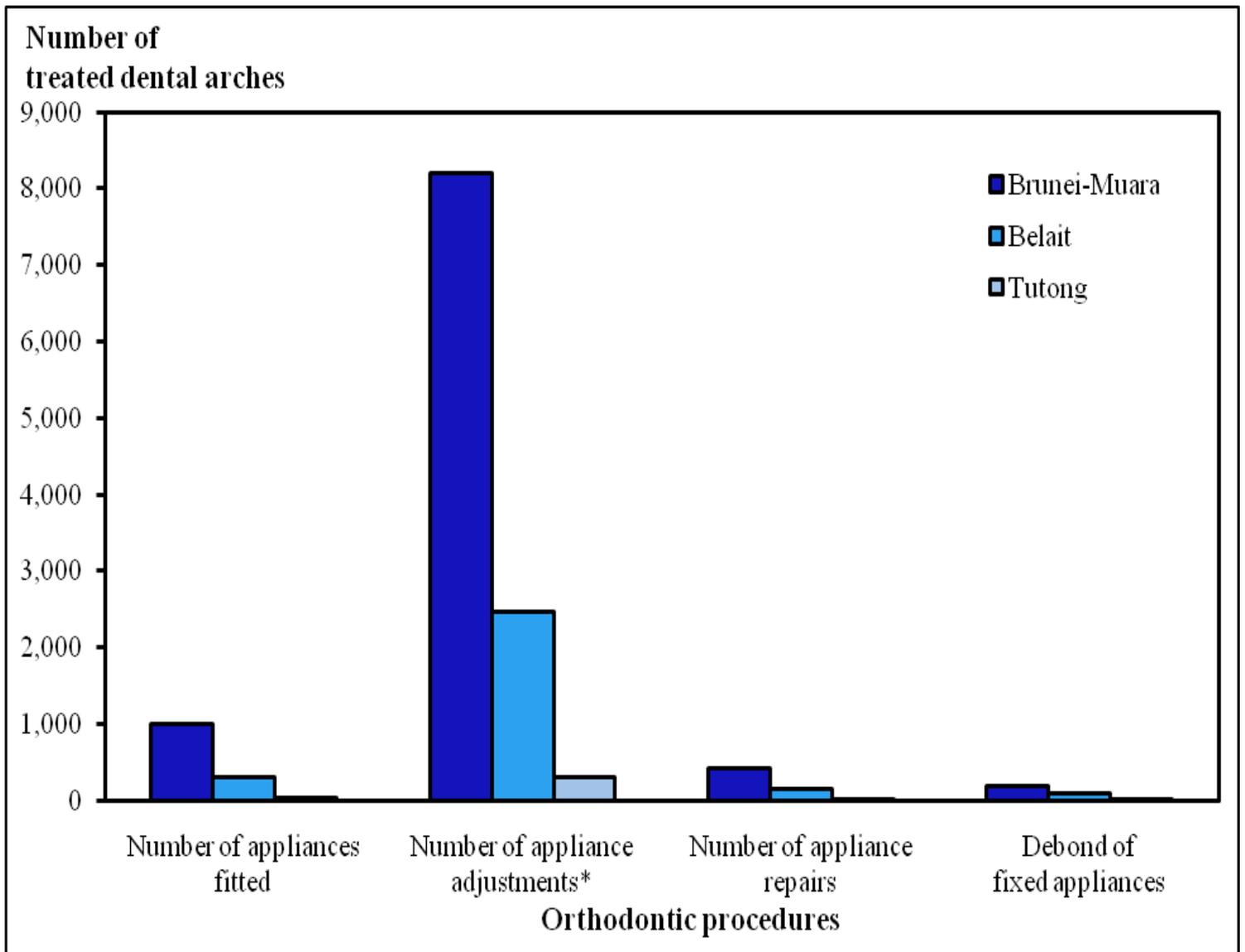
Districts	Number of appliances fitted ^a @per arch/per unit	Number of appliance adjustments ^b @per arch/ per unit	Number of appliance Repairs ^c @per arch/per unit	Debond of fixed appliances ^d @per arch/per unit
Brunei-Muara	992	8,193	410	179
Belait	300	2,470	143	83
Tutong	24	309	17	6
All combined	1,316	10,972	570	268

^afitting of orthodontic appliances such as fixed, removable, functional appliances and others

^bincludes adjustments of fixed, removable, functional appliances and others

^cincludes repairs of broken orthodontic appliances such as fixed, removable, functional appliances and others

^dDebond of fixed appliances by arch – removal of fixed appliances from upper/ lower/both arches where each arch is recorded as 'a unit'



*The total number of appliance adjustments is for both appliances fitted in the year 2009 and 2010

Figure 5.2.4c Summary of various orthodontic procedures for 3 districts for the year 2010

Orthodontic treatment involves moving ‘irregular’ teeth to its desired positions within the mouth using appliances. In order to facilitate tooth movement, multiple ‘**appliance adjustments**’ are required. The interval between each visit is best kept between 4-6 weeks. Estimated orthodontic treatment duration may vary with complexity of malocclusion (which is usually a few years). A retention period with removable retainer(s) is usually required when appliances are removed and at times adjustment of the retainer(s) may be necessary.

The graph above shows the number of ‘**appliance adjustments**’ far exceeding the number of appliances ‘fitted’ and ‘removed’ (debonded). This clearly indicates the lengthy course of treatment required for individual patients. The total number of ‘**appliance adjustments**’ recorded here were for both active (tooth movement) and passive (retention) phases.

Table 5.2.4e Miscellaneous treatment procedures for 3 districts for the year 2010

Districts	Debond of fixed appliance (@per patient) ^a	Number of orthodontic reviews ^b	Patients discharged from orthodontic unit ^c
Brunei-Muara	134	526	60
Belait	40	136	18
Tutong	4	41	0
All combined	178	703	78

^aremoval of appliances from a patient undergoing full fixed (upper and lower arch) treatment is recorded as 'per patient'. This also applies to removal of appliances in those patients undergoing only single arch treatment. After the removal of fixed appliances, patients will still have to undergo a period of orthodontic review for retainer wear

^bincludes retainer reviews, reviews for assessment and reviews for other reasons

^care those patients who have completed orthodontic treatment and do not require further orthodontic review but are advised to have an annual dental check-up

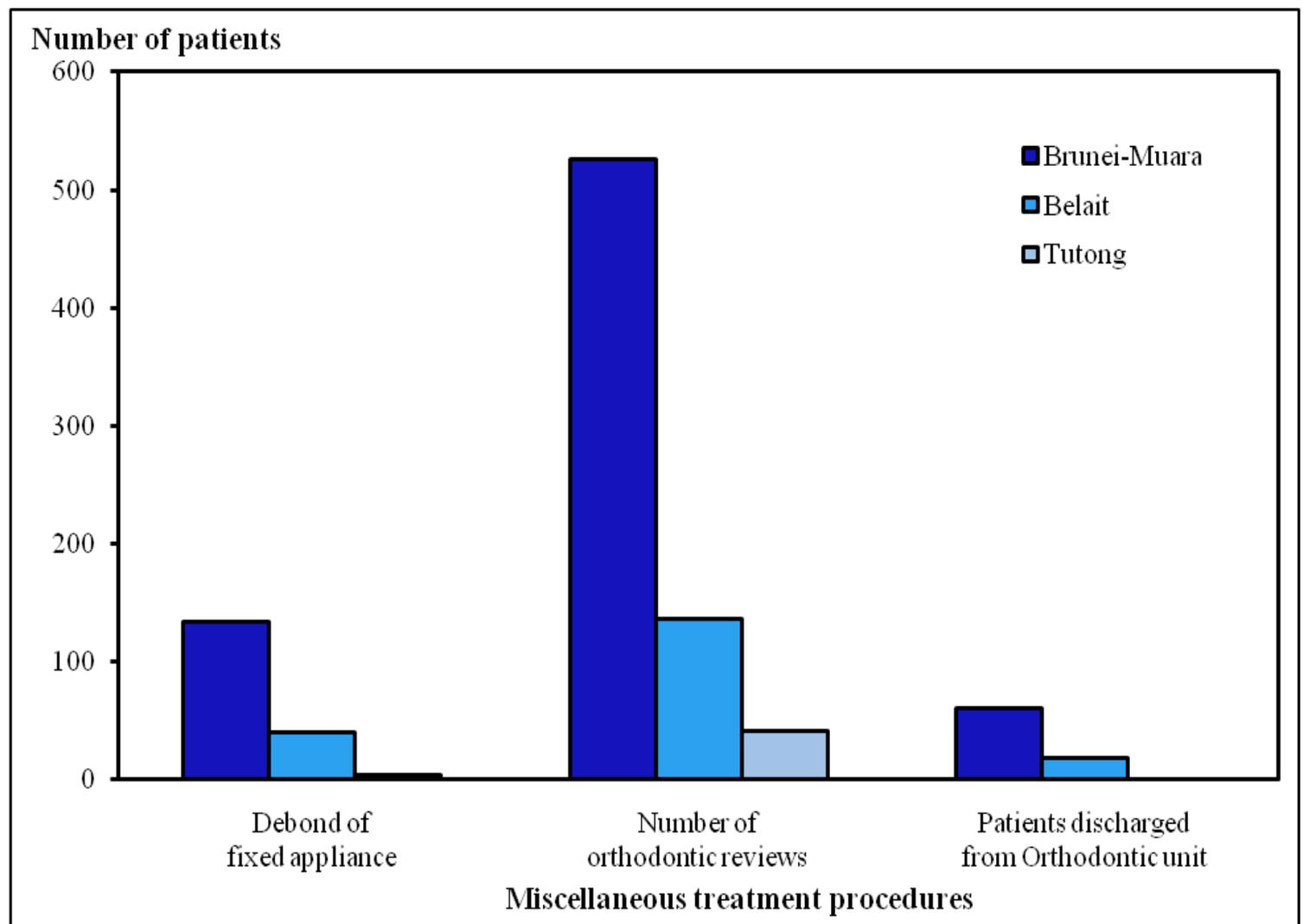


Figure 5.2.4d Miscellaneous treatment procedures for 3 districts for the year 2010

PRODUCTIVITY – PAEDODONTICS

Paediatric Dentistry specialises in provision of oral health care (preventive- and treatment-oriented) to children that are referred to the unit and the management of children with special needs. This includes providing dental care for children with medical, physical and intellectual challenges.

Overview of Paediatric Dental Specialty Services

Manpower

2 (1 local and 1 expatriate) Specialists

2 (local) Acting Specialists

1 (expatriate) Senior Dental Officer

Distribution of ‘Paediatric Dental Specialist’ in the districts

Brunei-Muara

- 3 Paediatric Dental Specialists (latest specialist reported in October 2010) and 1 Paediatric Senior Dental Officer at National Dental Centre.
- 1 Paediatric Specialist at Hospital RIPAS.

Belait

Travelling services provided by Paediatric Dental Specialist - 4 days a month (once a week).

Tutong

Travelling services provided by Paediatric Senior Dental Officer - 3 days a month.

Temburong

Services provided by Paediatric Dental Nurse - 2 days a month. Cases are referred to Paediatric Dental Specialist in Hospital RIPAS when needed.

Table 5.2.5a Number of patients and preventive procedures done in the Paedodontics Unit (March-December 2010)

Age group	Attendances		Patient Consultation		PREVENTIVE						
	1st	Repeat	Self	Referred	PV Attendances	OHI	Scaling & Prophylaxis	Diet Counseling	Fluoride Varnish	Fissure Sealant	
										Patient	Teeth
Brunei-Muara											
0-5	481	315	98	303	111	61	73	37	73	35	72
6-12	531	426	239	209	109	52	204	15	64	124	462
13-19	266	218	151	100	33	18	120	3	40	88	392
Belait											
0-5	13	22	0	19	16	12	16	14	6	0	0
6-12	15	19	0	13	11	6	8	5	3	0	0
13-19	3	4	0	0	1	0	1	0	0	0	0
Tutong											
0-5	12	4	1	2	3	0	1	0	0	1	8
6-12	44	27	4	2	2	1	7	0	7	31	84
13-19	8	0	0	0	0	0	0	0	2	5	17
All combined	1,373	1,035	493	648	286	150	430	74	195	284	1,035

Table 5.2.5b Number of restorative procedures done in the Paedodontics Unit (March-December 2010)

Age group	CONSERVATIVE										ENDODONTICS				PROS- THETIC	
	Amalgam		Tooth-coloured				Teeth Permanently Filled		Dressing		Procedure (Patient)	Anterior Completion (Teeth)		Posterior Completion (Teeth)		Completion (Units)
			GIC		Composite							D	P	D	P	
	Teeth	Surfaces	Teeth	Surfaces	Teeth	Surfaces	Teeth	Surfaces	Teeth	Surfaces		D	P	D	P	
Brunei-Muara																
0-5	11	19	490	601	58	82	559	702	69	79	28	4	0	13	0	0
6-12	5	7	508	728	159	264	672	999	187	106	54	2	10	10	7	9
13-19	5	8	187	240	163	226	355	474	55	59	54	0	14	2	5	13
Belait																
0-5	0	0	3	5	0	0	3	5	0	0	0	0	0	0	0	0
6-12	0	0	9	12	5	5	14	17	5	11	0	0	0	0	0	1
13-19	0	0	3	7	2	2	5	9	0	0	0	0	0	0	0	0
Tutong																
0-5	0	0	11	14	0	0	11	14	1	1	1	0	0	0	0	0
6-12	1	1	50	75	12	18	63	94	2	2	18	2	1	6	0	0
13-19	0	0	5	6	8	15	13	21	0	0	0	0	0	0	0	0
All combined	22	35	1,266	1,688	407	612	1,695	2,335	319	258	155	8	25	31	12	23

D - Deciduous teeth, P - Permanent teeth

Table 5.2.5c Number of oral surgical procedures done in the Paedodontics Unit (March-December 2010)

Age group	ORAL SURGERY															REFERRAL PATIENTS TO:		CASE COMPLETION	RADIO-GRAPHS		
	Infection/Abscess (Pt)	TRAUMA				LA/TA/SEDATION				Patients	GA				Oral Mucosal Lesions	Other Dental Specialty	Medical		Intraoral	Extraoral	
		No. of Teeth	Hard Tissue (Pt)	Soft Tissue (Pt)	Splinting	No. of Teeth Extracted					No. of Teeth Extracted										
						D		P			D		P								
pathological	non-pathological	pathological	non-pathological	pathological	non-pathological	pathological	non-pathological	pathological	non-pathological	pathological	non-pathological	pathological	non-pathological								
Brunei-Muara																					
0-5	76	7	1	2	0	43	50	4	2	0	107	1,451	0	10	0	10	34	3	40	13	2
6-12	36	20	0	3	2	159	127	12	59	10	40	359	0	81	0	12	120	3	107	75	30
13-19	9	1	0	0	1	77	17	2	63	7	12	11	0	66	0	5	57	0	94	53	18
Belait																					
0-5	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6-12	0	0	0	0	0	3	2	0	1	0	0	0	0	0	0	0	2	0	3	1	0
13-19	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Tutong																					
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0
6-12	2	2	0	0	0	14	19	2	2	0	0	0	0	0	0	8	2	0	8	2	1
13-19	0	0	0	0	0	3	3	1	1	0	0	0	0	0	0	0	0	0	2	0	0
All combined	123	32	2	5	3	300	218	21	129	17	159	1,821	0	157	0	36	215	6	259	144	52

D - Deciduous teeth, P - Permanent teeth

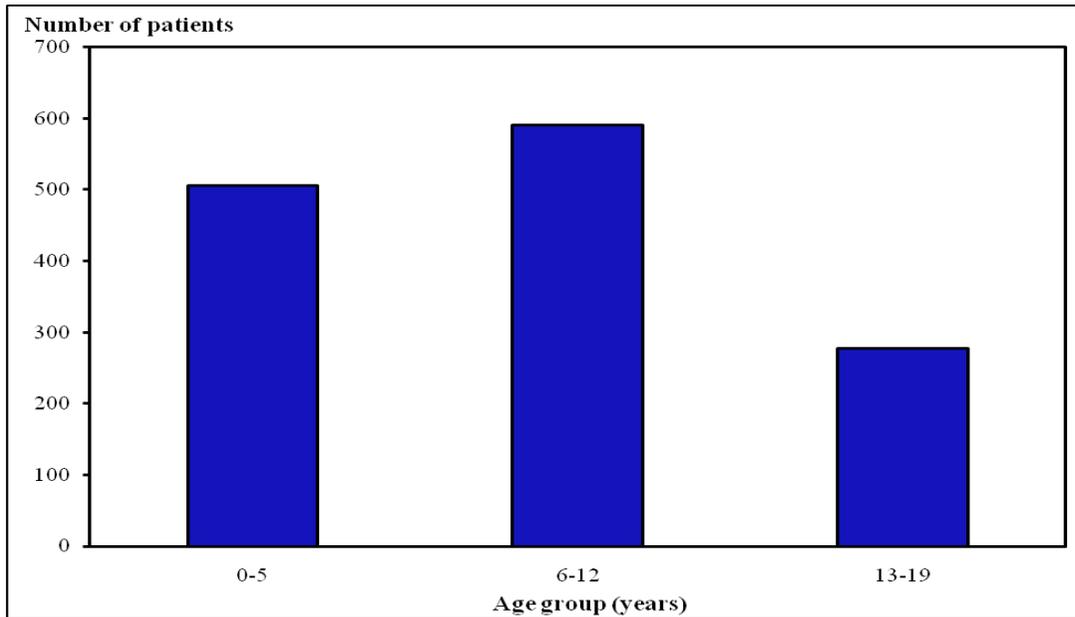


Figure 5.2.5a Number of patients treated by age group

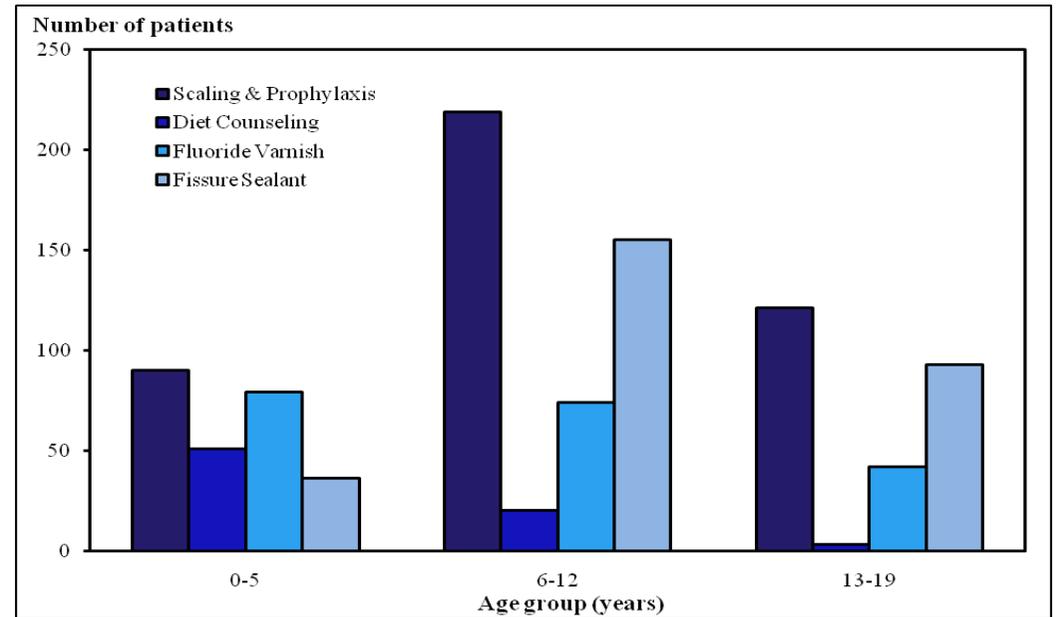


Figure 5.2.5b Number of patients given preventive treatment by age group

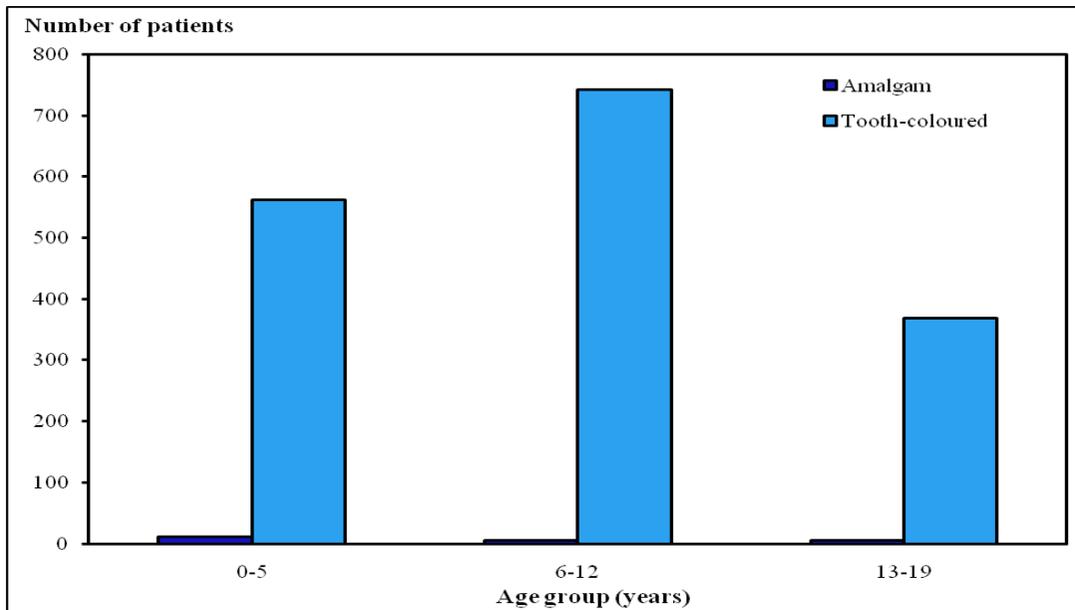


Figure 5.2.5c Number of patients given conservative treatment by age group

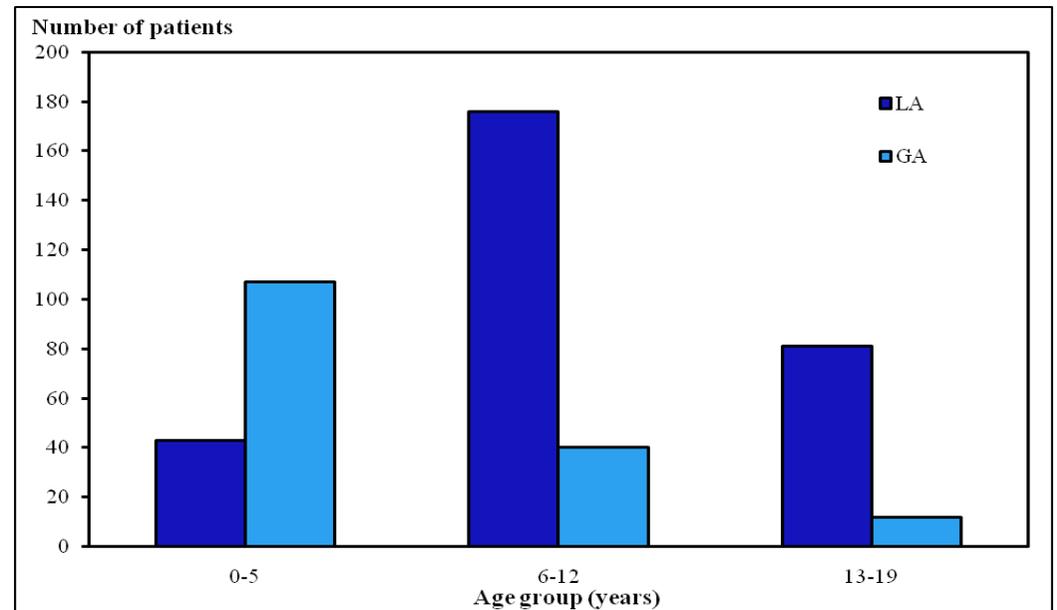


Figure 5.2.5d Number of patients given oral surgical treatment by age group

PRODUCTIVITY – PERIODONTICS

Periodontics is the branch of dentistry that is concerned with the management and care of the supporting structures of teeth and its substitutes (including implants).

Services provided include:

- Oral hygiene instructions
- Comprehensive periodontal management and care (which may include ‘non-surgical’ and ‘surgical’ treatment)
- Periodontal management care of patients with dental implants (if required)

Overview of Periodontic Specialty Services

Manpower

1 (local) Specialist

1 (local) Acting Specialist

3 (local) Dental Hygienists

Distribution of ‘Specialist Periodontist’ in the districts

Brunei-Muara

2 full-time Periodontists (based in the National Dental Centre, Berakas).

Belait

Travelling services provided by the 2 Periodontists; once a week (4 days a month with the exception of the fasting month).

Tutong & Temburong

Referred cases are seen in the National Dental Centre, Berakas, as the number of referral cases are not sufficient in numbers to justify travelling Periodontic services to the 2 districts (very few referred cases especially from Temburong).

Table 5.2.6 Number of patients and treatment done in Periodontics Unit (March-December 2010)

Age group	Attendances			Patient Consultation (Exam & Charting)	Oral Hygiene & Demo	Non-surgical			Surgical	Extraction		Radiographs		Head & Neck Cancer Patients
	Newly Referred Specialist/DO/DN/DH/DT	No. of Patients with Appointments	Failed/Cancelled Appointment			Scaling	Root Planning (Quadrant)	Maintenance		Pathological	Non-pathological	Extraoral	Intraoral	Post Radiotherapy Maintenance
Brunei-Muara														
6-12	0	13	2	1	8	3	0	9	0	0	0	0	0	0
13-19	12	99	69	11	90	85	0	6	1	0	0	0	0	0
20-55	164	1,610	670	200	728	1,055	249	173	11	16	5	24	81	25
>55	40	320	93	35	133	121	54	52	0	0	0	1	2	9
Belait														
6-12	0	0	0	0	0	1	0	0	0	0	0	0	0	0
13-19	0	7	1	0	0	0	0	0	0	0	0	0	0	0
20-55	14	55	16	18	11	29	21	14	0	3	0	2	8	2
>55	0	6	2	0	3	3	1	7	0	0	0	0	0	0
All combined	230	2,110	853	265	973	1,297	325	261	12	19	5	27	91	36

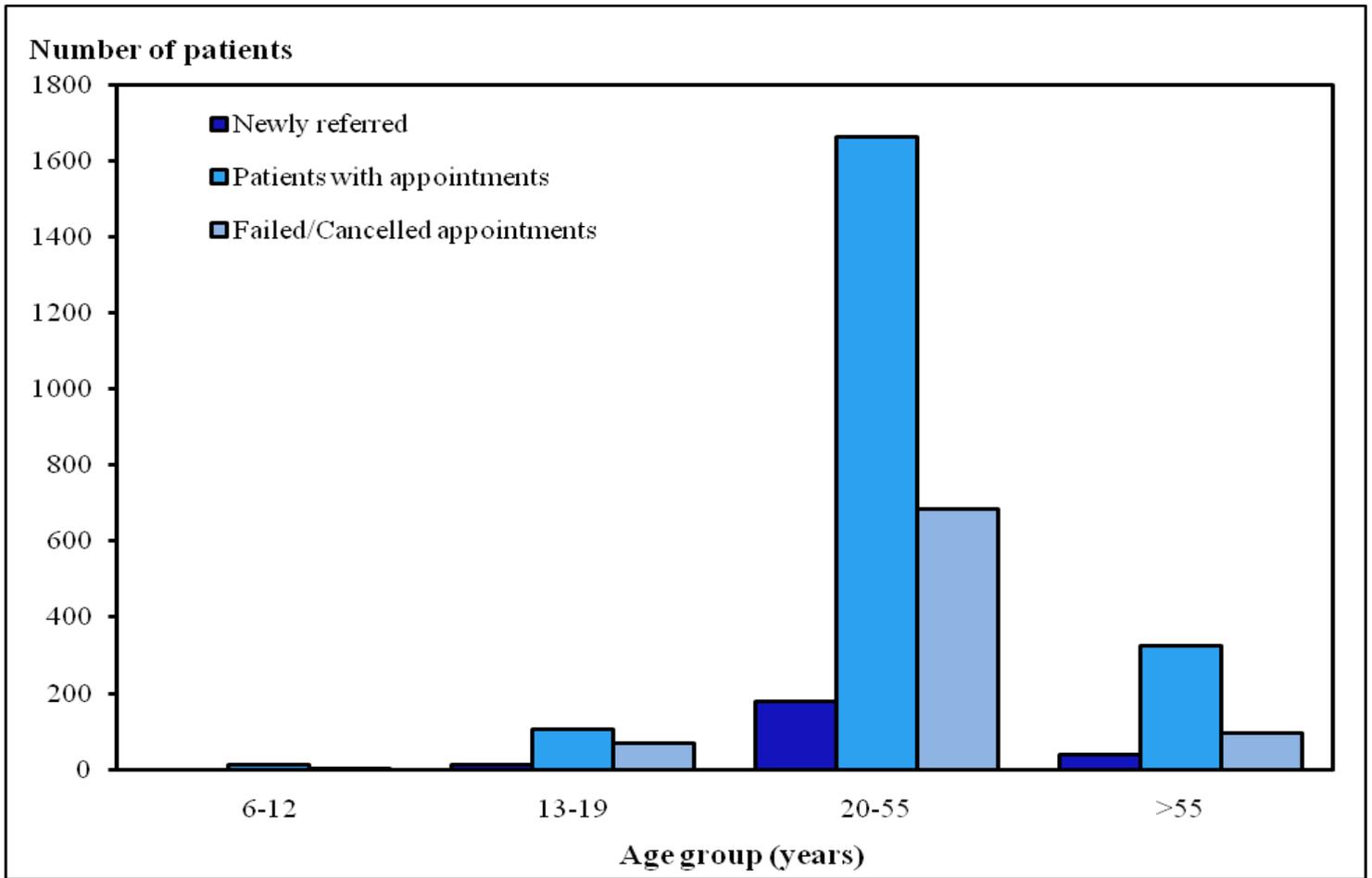


Figure 5.2.6a Number of patients for different categories of attendances by age group

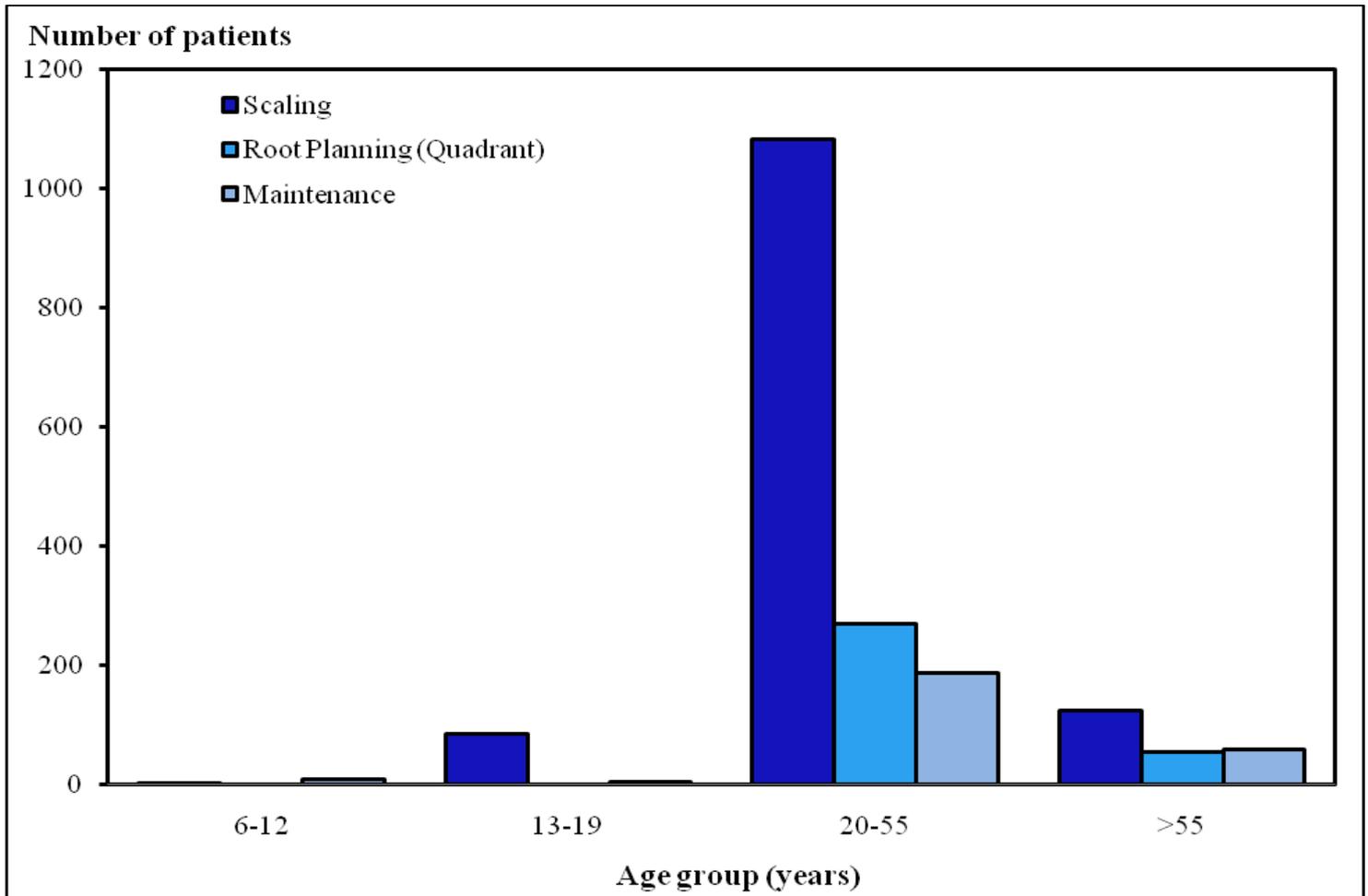


Figure 5.2.6b Number of non-surgical treatments by age group

PRODUCTIVITY – PROSTHODONTICS

Prosthodontics is the branch of dentistry that specialises in the replacement of missing teeth or other structures of the oral cavity with prostheses in order to restore the patient's appearance, comfort, function and/or health.

Services provided include:

- Consultation and giving second opinions
- Providing comprehensive dental care
- Referral for stabilising treatment such as dental surgery, endodontics, periodontics and orthodontic treatment according to patients' treatment needs
- Complex direct restorative treatments such as amalgam onlays and composite restorations to improve tooth morphology
- Indirect restorative treatment such as inlays, onlays, veneers or crowns
- Replacement of missing teeth with removable prostheses
- Replacement of missing teeth with fixed prostheses such as bridges
- Replacement of missing teeth with fixed or removable prostheses supported by dental implants
- Complex multidisciplinary restorative treatment
- Surgical crown-lengthening prior to provision of dental crowns or bridges
- Providing occlusal bite raising appliances to patients suffering from temporo-mandibular joint dysfunctions (TMJDs) or bruxism, for the relief of associated muscles and joint pain

Overview of Prosthodontics Specialty Services

Manpower

2 (local) Acting Specialists

1 (expatriate) Senior Dental Officer

The Prosthodontic Unit is based at the National Dental Centre, Brunei-Muara. Travelling services to Belait are provided by 2 prosthodontists once a week; while patients from Tutong and Temburong are referred to the National Dental Centre.

Table 5.2.7a Number of patients and treatment done in the Prosthodontics Unit (March-December 2010)

Age group	FIXED PROSTHODONTICS												ENDODONTICS (includes pulpotomy)			
	Procedures (Patient)	Recementation of crowns/bridge (units)	Temporary crowns/ Bridge (units)	Posts (units)	Crown						Bridge (Total & Units)		Procedures (patients)	Teeth		
					Anterior			Posterior		Total Units Issued		Bridge		Units	New	Repeat
					Veneer	FPC	PBC	PBC	FPC	New	Repeat					
13-19	4	0	1	1	0	0	0	0	0	0	0	0	0	9	66	1
20-55	167	20	543	125	0	2	97	117	19	214	21	103	331	122	306	36
>55	39	5	113	37	1	0	9	66	0	72	4	6	49	10	13	4
All combined	210	25	657	163	1	2	106	183	19	286	25	109	380	141	385	41

FPC – Full Porcelain Crown, PBC – Porcelain Bonded Crown

Table 5.2.7b Number of patients and treatment done in the Prosthodontics Unit (March-December 2010)

Age group	PROSTHETIC						CONSERVATIVE			ORAL SURGERY	PERIO-DONTICS	RADIO-GRAPHS	
	Acrylic-based (number of units issued)		Metal-based	Repairs	Relines		Total number of Teeth & Surfaces Permanently Filled			No. of Teeth Extracted (Surgical)	No. of Scaling & Prophylaxis (Non-Surgical)	Intraoral	Extraoral
	Full denture	Partial denture			1 st treatment	Retreatment	Teeth	Surfaces					
								New	Repeat				
13-19	0	1	0	0	0	0	100	165	13				
20-55	19	120	80	9	22	6	602	998	123	59	72	473	108
>55	39	25	17	9	14	4	53	126	15	43	10	132	24
All combined	58	146	97	18	36	10	755	1,289	151	102	86	671	132

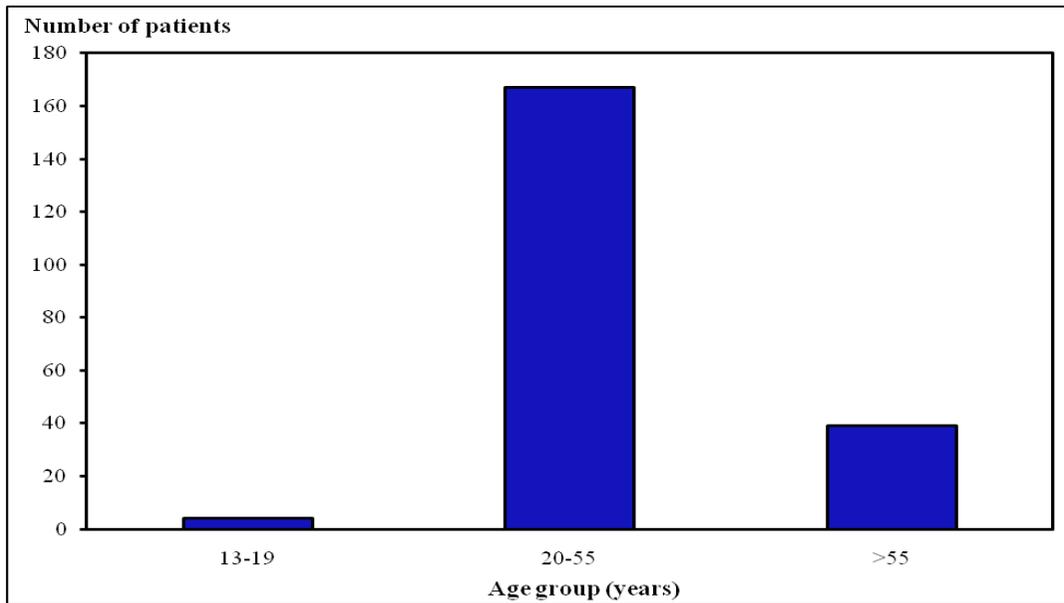


Figure 5.2.7a Number of attendances for prosthetics treatment by age group

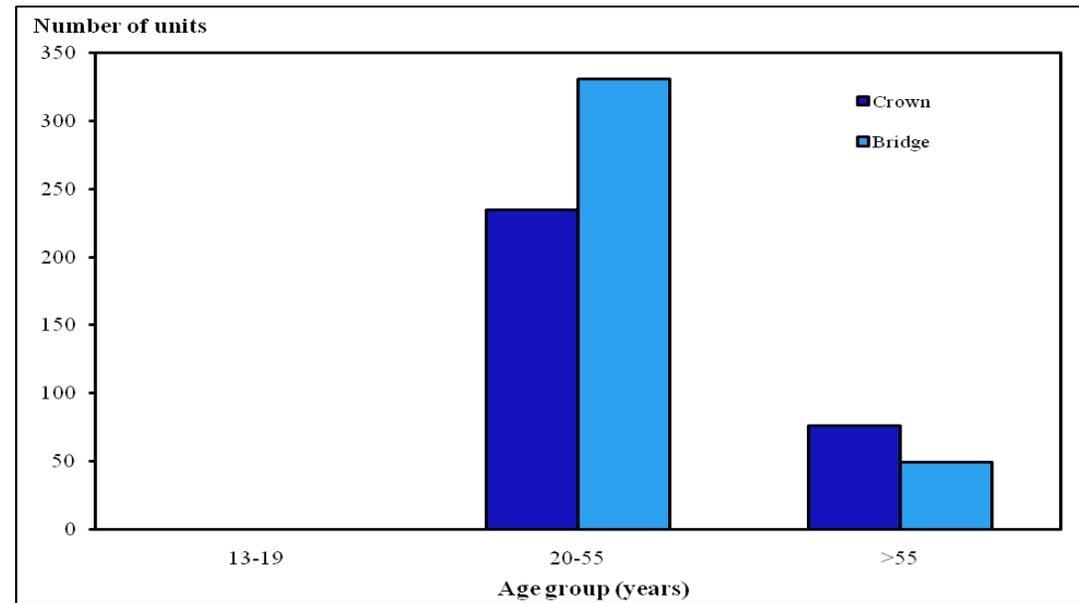


Figure 5.2.7b Number of crowns and bridges issued by age group

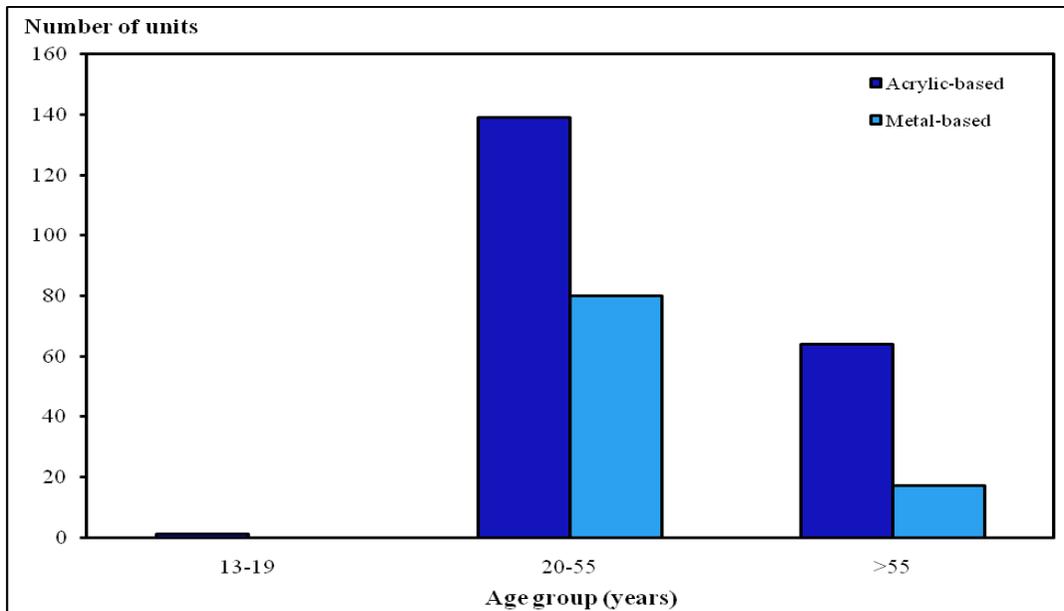


Figure 5.2.7c Number of acrylic- and metal-based dentures issued by age group

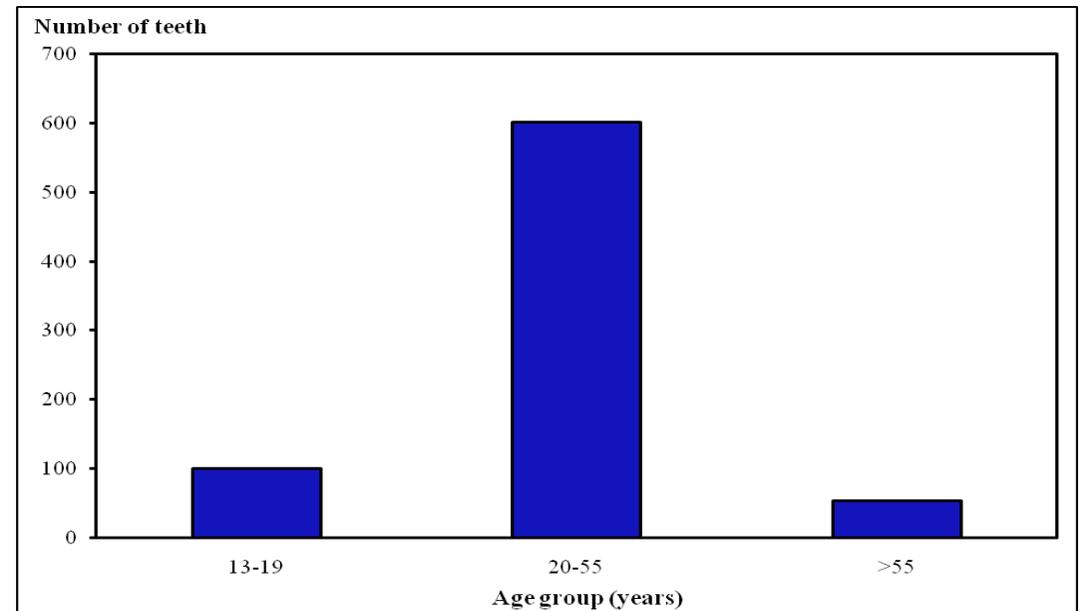


Figure 5.2.7d Number of teeth permanently filled by age group

PRODUCTIVITY – ORAL HEALTH PROMOTION

The Oral Health Promotion division was started by Dr Mary Cheong Poh Hua in August 2006.

Goals:

1. To reduce the prevalence of dental caries and periodontal disease in the population
2. To strengthen the Oral Health Promotion division to oversee all oral health promotion activities
3. To target population that are at risks to oral diseases and to utilise proven interventions

Overview of Oral Health Promotion (OHP) Division

Manpower

- 1 (local) Acting Specialist
- 2 (expatriate) Dental Officers – 1 part-time
- 1 (local) Acting Senior Dental Nursing Officer – part-time
- 1 (local) Senior Staff Dental Nurse
- 1 (local) Staff Dental Nurse
- 1 (local) Clerk

Services throughout the State

1. Antenatal Oral Health Care Programme

The Ante-Natal Mother's Oral Health Care Programme was launched in 2006 by Dr Mary Cheong Poh Hua in Maternal and Child Health (MCH) clinics. The Antenatal Oral Health Care Guide Book was launched by the Minister of Health in 2007.

Definition

Antenatal period is the period between the conception of the foetus and delivery. Antenatal oral health care is defined as specialised oral health care that should be received by all pregnant women.

Aim

The main aim of the programme is to render comprehensive dental treatment and impart oral health education to ante-natal mothers with special emphasis on taking care of their infant's teeth and feeding practices.

The programme aims to empower the expectant mother towards self-care; attaining good oral health for themselves, their infants and their families; thereby, improving their oral health status. It also aims at increasing the utilisation of oral health care services among antenatal mothers and provides them with systematic oral health care and dental health education.

Method

Antenatal dental cards are given to antenatal mothers by community nurses who are supposed to give oral health education to pregnant mothers by referring to the Antenatal Oral Health Care Guide book which were delivered to all MCH clinics. The community nurses then refers the pregnant mothers to dental clinics for oral health care treatment and oral health education.

Dental officers will examine the patients and fill in relevant data on the antenatal card. The data of the patients recorded are: (1) BPE score, (2) DMFT, and (3) details about oral health education given for mothers and child. Then, dental treatment and oral health education are rendered to the antenatal mothers. Oral health care data for antenatal mothers' attendances at all dental clinics throughout the state are collected and analysed by the OHP division. A summary of antenatal attendances is presented in Figure 5.3.

2. Parents and Toddler Programme (PT)

Parents and Toddlers programme is a counseling programme given by the staffs of the OHP division to parents and toddlers (0-5 years) twice a month at MCH clinics in Brunei Darussalam. The PT programme data is presented in Table 5.3a.

3. Daily Fluoridated Tooth Brushing Programme (DFTB) in Government Primary Schools

The goal of this programme is to reduce the prevalence of dental caries of primary school children through daily tooth brushing in schools using fluoride toothpaste (Polly paste, imported from Philippines, and tested the fluoride (1,450ppm) in ACTA Netherlands Germany). Monitoring of DFTB is being conducted by OHP division through monitoring forms, school visits and checklists.

4. Daily Fluoridated Tooth Brushing Programme In Ugama Schools (Siwak Programme)

The programme was started in April 2009 in Tutong I, Tutong II and Temburong III. In 2010, the programme was extended to Belait, Brunei I and Brunei IV. The total number of schools participating in the Siwak programme in 2010 was 49 schools. The programme will be extended to Brunei II in July 2011 and Brunei III in September 2011. The programme is monitored by the Islamic Studies Department (*Jabatan Pengajian Islam*), Ministry of Religious Affairs.

5. Rolling Tooth Paste Programme (RTP)

Rolling Tooth Paste Programme was started as a pilot project in three MCH clinics in 2009; namely in Kiarong, Sengkurong and Mata-Mata. RTP is an interventive oral health promotion programme. A package containing feeder cup, toothpaste, toothbrush and information leaflets are each given to 9 months old infants, followed by a toothbrush and toothpaste every 6 months until the child reach 5 years old. This is an on-going programme which is monitored by telephone calls, questionnaires, data collection, and dental check-ups at the end of the programme.

6. Fluoride Varnish Programme in Sg. Kebun MCH Clinic

A total of 147 children received oral application of fluoride varnish in August 2010; subsequently fluoride varnish is applied every 3 months until the child reach 5 years old. The programme is monitored by the OHP division through data collection of caries status, dmft and dental check-ups.

7. Oral Health Education Talks In Kindergarten, Primary and Secondary Schools and Public

Oral health education talks and tooth brushing exercises are conducted in Kindergarten, Primary and Secondary schools as well as to the public. Oral health activities held in the Brunei-Muara district in 2010 are presented in Table 5.3b.

8. Toothpastes Fluoride Monitoring

A random sample of fluoride tooth pastes from local market was sent for fluoride testing to ACTA (Academic Centre for Dentistry) in Amsterdam, a World Health Organization Collaboration Centre in 2008. Results revealed ineffective levels of anti-caries efficacy of fluoride in many tooth pastes in the local market, that is, less than 1,100 to 1,450 parts per million. A forum and seminar was conducted in February 2009 with Professor Palestine (Academic Centre of Dentistry, Amsterdam) for “Anticaries Efficacy and Effectiveness of Tooth brushing with Fluoride Tooth Paste and Water Fluoridation”. Safety and effective anti-caries fluoride content is presented in Table 5.3c.

9. Oral Health Promotion Programmes through Media

Two televised oral health promotion programmes have been broadcasted on the Radio Television Brunei (RTB) and the topics included were: - Importance of breast feeding, the adverse effects of bottle feeding, the correct use of adult fluoridated tooth paste, tooth brushing techniques for adults and children and healthy diet. These promotion programmes were also produced into DVDs and distributed to all MCH clinics together with DVD players.

10. Kampong Angkat Programme

The programme was conducted in November 2008 in Kampong Pintu Malim in Kota Batu. The programme aimed to educate the residents on ways to reduce dental caries and improve their oral health status.

This programme is hoped to educate them on:

- a. Oral diseases
- b. Prevention of oral diseases
- c. Reduction in oral diseases
- d. Promotion of oral health and its impact on quality of life

The programme also aimed to motivate participants to be the “change agents” for oral health promotion in their respective families.

11. Water Fluoridation - Monitoring Fluoride levels in Water

The first water fluoridation plant was installed at the Layong water treatment plant in Tutong district in 1987. Since then, 3 more water fluoridation plants have been commissioned throughout the country. The water treatment plants are as follows:

Fluoridation plants	Year of commencement	Area supplied
Layong	1987	Most of Tutong district up to Jln Jerudong, Brunei-Muara district
Bukit Barun	1996	Most of Brunei-Muara district
Seria	2000	Most of Kuala Belait district except Labi
Mengkabau	2000	The whole of Muara area up to Kg. Kapok Kanan in Kota Batu area
Temburong (Sumbiling I & II)	2008	The whole of Temburong district

About 95% of the population receives fluoridated water. All the water samples from these plants are monitored by Ministry of Health (MOH) and Jabatan Kerja Raya (JKR). The levels of fluoride in the water sample in Brunei are presented in Table 5.3d.

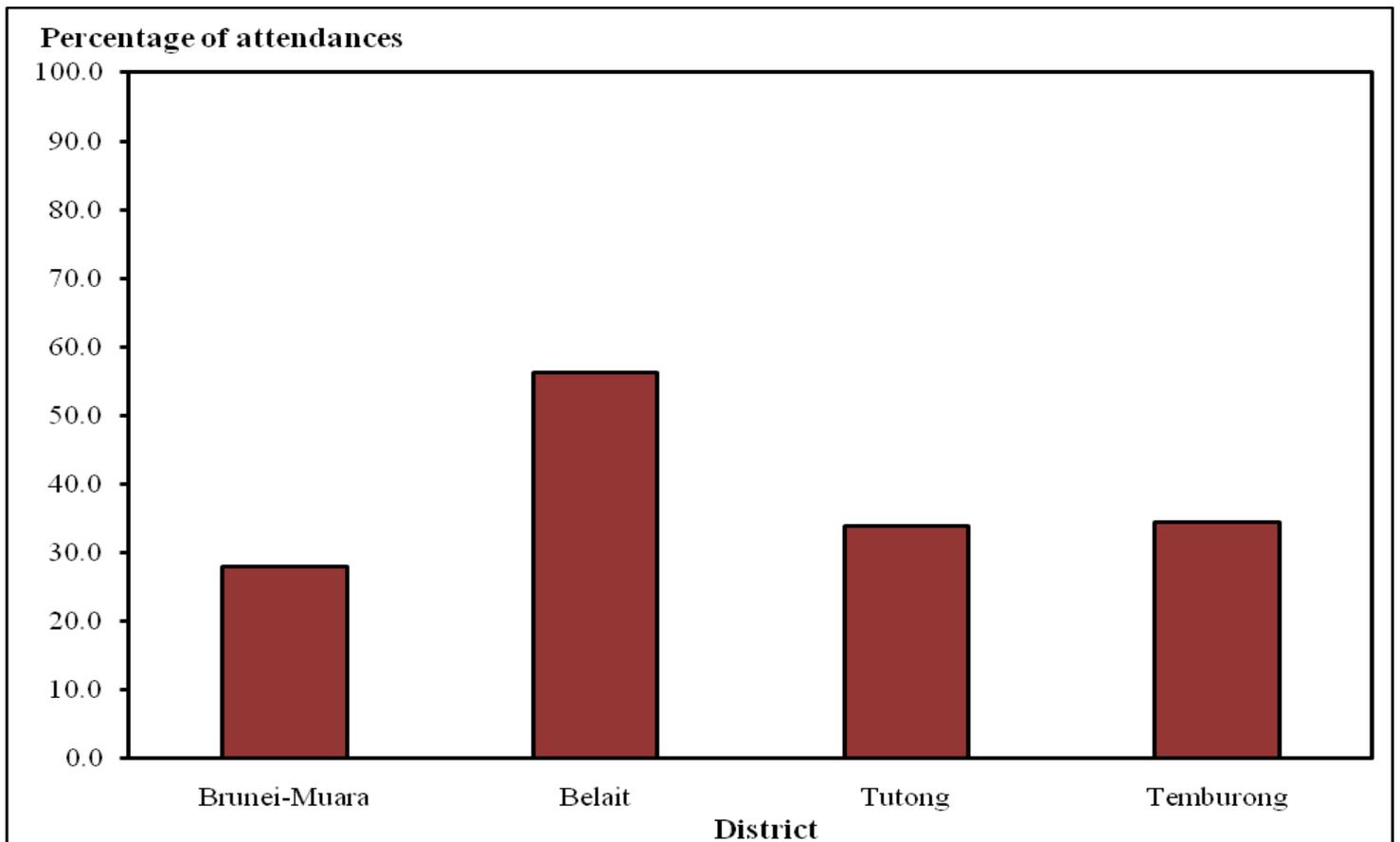


Figure 5.3a Percentage of antenatal patient attendances at dental clinics by districts

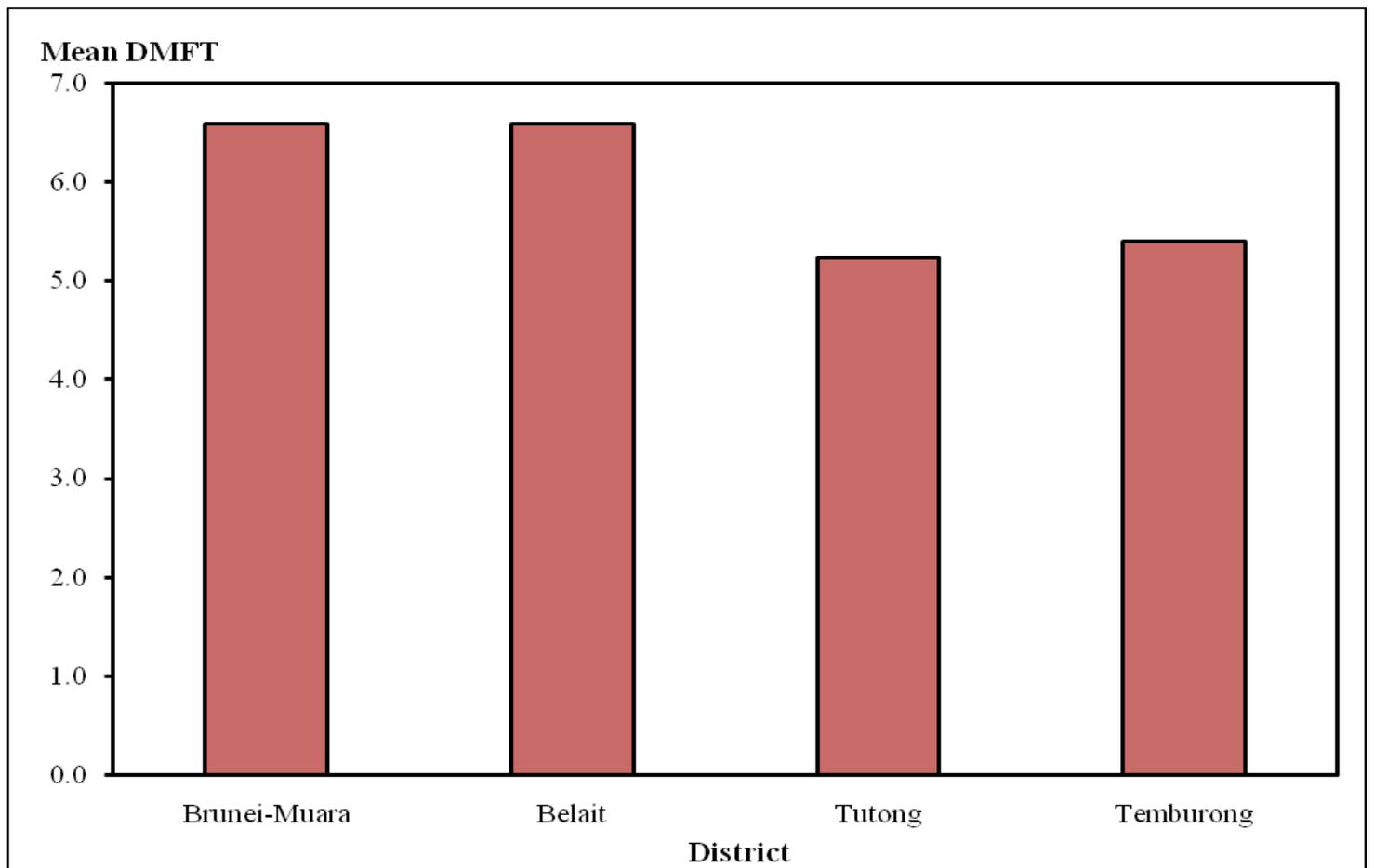


Figure 5.3b Mean DMFT for antenatal patients attending dental clinics by districts

Table 5.3a Parents and Toddlers programme returns from all MCH clinics in Brunei-Muara district (2010)

Health Clinic	No. of patients attended		No. of patients 0-5 year old	No. of patients with caries	No. of patients with caries free	No. of counseling		Oral Hygiene Status			No. of parent attendance	
	N	R				N	R	P1	P2	P3	N	R
Sg. Assam	91	1	92	34	56	91	1	57	33	0	91	1
Perpindahan Lambak	148	4	149	65	72	162	5	71	64	2	161	5
Gadong	249	5	254	109	131	252	5	139	74	27	250	5
Subok	65	2	67	24	36	62	2	36	24	0	61	2
Muara	99	0	98	37	38	109	0	33	38	4	108	0
Mata-Mata	38	2	40	3	33	40	1	33	3	0	39	2
Bunut	179	5	183	68	105	202	7	126	45	2	197	7
Sg. Besar	109	2	108	44	48	116	2	42	44	6	115	2
Kiarong	212	0	212	77	94	195	0	97	66	8	194	0
Sg. Hanching	223	1	221	69	151	253	1	157	57	6	250	1
Berakas 'A'	148	1	144	57	83	187	1	92	46	2	185	1
Sg. Kebun	184	17	201	99	87	183	19	98	86	2	181	19
Sengkurong	124	0	124	41	76	125	0	76	41	0	126	0
All combined	1,869	40	1,893	727	1,010	1,977	44	1,057	621	59	1,958	45

N - 1st visit of the year considered as 'New'
R - 2nd visit of the year considered as 'Repeat'
OH Status: P1 - Good, P2 - Fair, P3 - Poor

Table 5.3b Report of oral health activities held at Bandar Seri Begawan (2010)

No.	Date	Schools/Organisation	Class (Total participants)	Venue	Dental Activities
1.	Wednesday, 10.3.2010 (am)	Rising Star Kinder garden School, Rimba Gadong	Kindergarten 1,2,3 (85)	Rising Star kinder garden School, Rimba Gadong	Oral Health Talks Question & Answer session Tooth brushing drill, Stickers given
2.	Wednesday, 10.3.2010 (pm)	Rising Star kinder garden School, Rimba Gadong	Kindergarten 1,2,3 (65)	Star Rising kinder garden School, Rimba Gadong	Oral Health Talks Question & Answer session Tooth brushing drill, Stickers given
3.	Friday, 12.3.2010 (am/pm)	Special Olympics	(260)	SM Berakas	Dental Screening (Adult/Children) Dental Counseling
4.	Tuesday, 30.3.2010 (am)	SU PAP Majeedah Nurul Bolkiah, Kilanas, Brunei III	Kindergarten, Primary 1-6 (320)	SU PAP Majeedah Nurul Bolkiah, Kilanas, Brunei III	Oral Health Talks Question & Answer session Tooth brushing drill, Stickers given
5.	Tuesday, 30.3.2010 (am)	SU PAP Majeedah Nurul Bolkiah, Kilanas, Brunei III	Kindergarten, Primary 1-6 (320)	SU PAP Majeedah Nurul Bolkiah, Kilanas, Brunei III	Oral Health Talks Question & Answer session Tooth brushing drill, Stickers given
6.	Thursday, 1.4.2010 (am/pm)	Muara Health Centre	Public	Muara Health Centre	Tooth brushing demonstration Question & Answer session Stickers given
7.	Tuesday, 27.4.2010 (pm)	SU Tanah Jambu	Kindergarten, Primary 1-6 (315)	SU Tanah Jambu	Oral Health Talks, Question & Answer session Tooth brushing drill, Stickers given
8.	Tuesday, 11.5.2010 (am)	Des School, Anggerek Desa	Kindergarten 1,2,3	Des School, Anggerek Desa	Oral Health Talks Question & Answer session Tooth brushing drill, Stickers given
9.	Sunday, 24.10.2010 (am)	Mukim Sihat Ministry of Health	Public (560)	Balai Raya Mukim Sengkurong, Jerudong	Aerobics Dental Screening (Adult/Children) Posters, Dental Counseling
10.	Tuesday, 9.11.2010 (am)	International School Berakas	(86 Students and 6 Teachers)	Health Promotion Centre, Commonwealth Drive Studio 2	Oral Health Talks Question & Answer session Tooth brushing drill, Stickers given
11.	Thursday, 11.11.2010 (am)	SU Orang Kaya Besar Imas, Subok, Brunei II	(86 Students and 5 Teachers)	Library Room National Dental Centre Block C	Oral Health Talks Question & Answer session Tooth brushing demonstration, Stickers given

Table 5.3c Toothpastes from Brunei Darussalam collected in October 2007 and analysed in March 2008

Name of the tooth pastes	Produced in	Ca-abrasive	Fluoride on label	Calculated from label in ppm	Total Fluoride in analysis	Free Fluoride in analysis
Colgate Kayu Sugi	Guangzhou/China	CaCO ₃	SMFP 1.1%	1,450	1,450	1,024
Colgate Herbal white	HC Minh City/Vietnam	CaCO ₃	SMFP?	??	1,060	870
Colgate Fresh	Chonburi/Thailand	-	NaF 0.221%	995	962	711
Colgate Total 12	Chonburi/Thailand	-	NaF 0.22%	995	1,023	735
Colgate PCP regular flavour	Chonburi/Thailand	Ca ₂ Po ₄	SMFP 0.76% NaFO.1%	1,450	1,441	614
Colgate PCP cool mint	Chonburi/Thailand	Ca ₂ Po ₄	SMFP 0.76% NaFO.1%	1,450	1,509	577
Unilever Pepsodent Pencegah	Surabaya/Indonesia	CaCO ₃	SMFP 1.18%	1,555	1,659	994
Unilever Pepsodent Gum Care	Surabaya/Indonesia	-	NaF 0.32%	1,448	1,312	990
Unilever Pepsodent Herbal	Surabaya/Indonesia	CaCO ₃	SMFP 0.8%	1,054	1,109	391
Unilever Pepsodent Whitening	Surabaya/Indonesia	CaCO ₃	SMFP 0.8%	1,054	1,114	510
Darlie	Hawley & Hazel/China	-	NaF ? %	??	977	768
Sensodyne Original Glaxo SK	Pathumani/Thailand	CaCO ₃	SnF ₂ ?%	??	3	52
Sensodyne Freshmint Glaxo SK	Ermington/Australia	-	NaF 0.32%	1,448	1,364	1,176
Sensodyne Gum Care Glaxo SK	Pathumani/Thailand	-	NaF 0.221%	995	1,064	893
Systema Lion Corp	Japan	-	NaF? %	??	978	691
Follow me Earth Chemical Japan	Malaysia	CaCO ₃	SMFP? %	??	167	92
Jaifun	Kuala Lumpur/Malaysia	Ca ₂ Po ₄	SMFP ? %	??	922	471
Safi UNZA SDN.BHD	Selangor/Malaysia	CaCO ₃	SMFP ? %	??	266	82
Siwaki F	Indonesia	CaCO ₃	SMFP 0.7 %	922	1,109	411
Sensitive Church & Dwight	Mississauga/Canada	?	NaF 0.243%	1,100	1,095	925
Ciptadent Lion Corp	Jakarta/Indonesia	CaCO ₃	SMFP 0.8%/ NaF 0.01%	1,100	1,049	638
Smile up Lion Corp	Jakarta/Indonesia	-	SMFP 0.8%/ NaF 0.01%	1,100	1,035	843

Pepsodent Herbal contains formaldehyde; Ciptadent contains propylene glycol; Unilever Pepsodent Gum Care contains polyethylene glycol; Darlie contains polyethylene.

The three big names Colgate Unilever and GSK are produced in Asian countries except one in Australia. Many types of toothpaste contain Calcium abrasives in combination with SMFP, which is acceptable but the disadvantage is that with time the Phosphate dissociates allowing Fluoride to bind to Calcium.

Applying the criterion that Fluoride tooth paste should at least contain 70% of the total amount of Fluoride indicated on the package as free available Fluoride, or if not indicated on the package 700 ppm Fluoride, only the shaded ones (light red) meet that criterion.

Table 5.3d Split water sample annual report [Fluoride level (mg/l)] 2010

Name of End Point/Water Work	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
SG ASAM DC (BT BARUN)													
JKR	1.10	0.49	0.73	0.57	0.77	0.70	0.61	0.00	0.00	0.00	-	-	
MOH	0.93 U	0.60 U	0.76 A	0.55 A	0.65 U	0.78 A	0.25 U	0.63 U	0.43 U	0.67 U	-	-	0.67
MUARA DC (MENGKABAU)													
JKR	0.90	0.55	0.60	0.67	0.67	0.83	0.58	0.00	0.00	0.00	-	-	
MOH	0.76 U	0.67 U	0.63 A	0.64 A	0.64 A	0.73 A	0.24 U	0.55 U	0.49 U	0.35 U	-	-	0.60
TUTONG HOSPITAL/LAYONG													
JKR	0.73	0.44	0.63	-	0.59	0.51	0.55	0.00	0.00	0.00	-	-	
MOH	0.62 U	0.53 A	0.54 A	0.59 U	0.52 A	0.58 A	0.22 U	0.53 U	0.43 U	0.47 U	-	-	0.53
SERIA DC													
JKR	0.79	-	0.48	-	0.80	0.71	0.80	0.00	0.00	0.00	-	-	
MOH	0.71 A	-	0.67 U	0.62 U	0.78 A	0.88 U	0.34 U	0.76 U	0.66 U	0.18 U	-	-	0.77

A - Acceptable. U - Unacceptable

No reports received in the month of November and December 2010. The Proportionate Fluoride levels refers to the proportions of fluoride level for each month, in respective water treatment plants that are:

1. Low - fluoride level less than 0.45 mg/l
2. Acceptable - fluoride level 0.45 to 0.75mg/l
3. High - fluoride level more than 0.75mg/l

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