

人工妊娠中絶実施率

	平成15年度												
	総数	15歳未満	15歳	16歳	17歳	18歳	19歳	20歳未満	20~24	25~29	30~34	35~39	40~44
全国	11.2	2.4	7.3	11.8	15.7	19.9	11.9	20.2	14.8	13.3	11.6	5.4	0.5
北海道	15.3						18.9	31.4	22.3	17.7	13	5.8	0.4
青森	11.3						12.7	20.5	17.7	15.6	12.5	3.6	0.3
岩手	16.4						14.4	33.5	24.7	21.1	18.1	7.5	0.9
宮城	14.4						16.9	23.7	19	17.2	15.1	7.5	0.6
秋田	14.6						14.9	29.6	20.4	20.1	17	7.5	0.5
山形	13.3						12.2	26	18.8	17.9	15.4	6.9	0.4
福島	16.2						18.6	30	22.9	19.7	18.2	7.6	0.7
茨城	8.1						10.1	12.6	10.4	10.3	8.9	4.3	0.3
栃木	12.6						13.2	23.8	16.7	15.4	14.2	5.5	0.4
群馬	11.7						10.4	20.8	16.7	15.5	12.8	4.8	0.3
群馬	9.6						11.1	14.8	11.4	11.1	11.6	5.2	0.4
千葉	7						7.9	10.6	8.5	8.5	8.2	4	0.3
東京	9.8						8.5	19.5	13.8	10.3	8.8	4.2	0.4
神奈川	8.4						9.6	14.4	10.8	9.4	8.7	4.1	0.3
新潟	11.6						11.7	21.3	16.1	15.4	12.7	5.5	0.5
富山	11						10.5	17	14.3	14.4	13.3	6.9	0.8
石川	11.4						12.5	21.1	14	14.3	11.9	5.4	0.7
福井	10.5						8.7	19.9	13.8	15	12.8	4.9	0.3
山梨	7.5						6.3	13	10.5	10	9.1	3.7	0.4
長野	14.5						12.6	26.5	19.8	18.9	16.9	7.2	0.8
岐阜	10.7						10.1	16.6	14.1	14.3	13.2	5.5	0.5
岐阜	9.9						10.6	17.6	13.3	12.6	10.3	4.9	0.4
愛知	9.8						11.1	17.5	12	11.3	9.1	5.3	0.4
三重	12.7						13	21.2	16.4	16.6	13.7	6.9	1.4
滋賀	10.4						11.5	16.9	12.2	13.6	11.8	5.2	0.5
京都	10.2						11.2	17.1	12.2	12.3	10.9	4.5	0.3
大阪	10						11.1	18.3	12.7	11.2	9.6	4.4	0.3
兵庫	9.1						9.3	14.3	11.8	11.8	10	4.6	0.4
奈良	6.2						6.3	10.1	8	7.6	7.5	3.2	0.3
和歌山	11.3						11	19	15.9	15.4	13.1	5.7	0.3
鳥取	19.3						21.3	39.9	29.2	22.9	17.8	8.2	0.7
島根	11						11.2	17.2	15.9	16.2	11.9	6.1	0.5
岡山	15.1						14.3	26.9	20.2	19.9	14.8	6.3	0.4
広島	12.7						13.7	23.4	17.3	15	12.8	5.7	0.5
山口	12						12.7	23.6	16.7	15.8	12	4.7	0.3
徳島	11.5						11.1	19.5	16.1	15.8	13.8	5.4	0.3
香川	13.8						14.6	27.8	20.1	16	13.9	4.9	0.7
愛媛	12.8						14.8	25.1	17.6	15.2	13.3	5.1	0.6
高知	16.7						17.8	33.2	24	20.4	17.7	7.2	0.7
福岡	15.9						18	29.2	20.9	18.3	15.4	6.9	0.6
福岡	17.1						17.7	31.8	23.5	21	19.6	8.4	0.9
佐賀	15.9						16.2	30.6	22.3	20.2	17.4	8.3	0.7
長崎	15						15.3	28.8	20.3	21.1	15.9	6.7	0.6
熊本	16.5						15.1	33.9	22.3	19.7	19.2	8.5	1.3
大分	9.1						7	15.6	13.9	12.8	11.4	5.5	0.4
宮崎	13.7						11.8	28.1	18.2	17	16.5	7.3	0.7
鹿児島	9.8						7.3	15.3	13.6	12.6	12.5	6.9	0.4

注:「総数」は、15~49歳の女子人口千対。(15歳未満・不詳の人工妊娠中絶件数を含むが、50歳以上の人工妊娠中絶件数は除く。)

出典:母体保護統計報告(厚生労働省)、母子保健の主な統計(財団法人母子衛生研究会)

人工妊娠中絶件数

平成16年度
2004年度

	総数	15歳未満	15歳	16歳	17歳	18歳	19歳	20~24	25~29	30~34	35~39	40~44	45~49	50歳以上	不詳
全国	301,673	456	1,274	3,375	6,447	9,747	12,946	74,711	61,881	61,628	46,878	20,067	1,666	16	81
北海道	17,748	40	82	248	374	642	940	4,924	3,814	3,323	2,385	894	78	1	3
青森	3,562	5	17	62	101	149	161	823	747	656	596	227	18	-	-
岩手	4,245	8	39	88	126	187	187	1,050	956	815	606	322	39	1	1
宮城	6,645	5	16	78	149	195	321	1,727	1,446	1,295	911	472	29	1	-
秋田	3,028	-	3	29	52	106	134	731	640	568	505	236	20	4	-
山形	3,097	1	5	26	64	112	138	698	648	620	516	246	23	-	-
福島	6,906	8	21	93	260	406	290	1,622	1,373	1,286	1,025	486	36	-	-
茨城	5,431	4	17	132	172	201	210	1,210	1,147	1,090	770	426	37	1	6
栃木	5,006	7	18	54	105	161	242	1,274	1,036	994	770	318	26	1	2
群馬	4,955	2	20	55	73	143	205	1,152	1,065	1,067	813	331	27	-	2
埼玉	12,876	26	64	204	261	436	631	2,820	2,456	2,687	2,300	932	55	3	1
千葉	9,305	15	45	131	209	308	389	2,010	1,734	1,994	1,728	657	56	1	28
東京	28,388	25	83	245	374	644	1,084	7,936	6,769	5,592	3,985	1,533	117	1	-
神奈川	16,798	29	78	216	396	477	644	3,929	3,407	3,477	2,862	1,189	89	2	3
新潟	5,896	3	12	57	103	178	234	1,339	1,153	1,209	966	413	29	-	-
富山	2,358	-	8	32	45	69	89	446	449	564	414	223	19	-	-
石川	2,671	4	9	38	52	80	106	631	569	586	407	178	11	-	-
福井	1,720	2	4	11	36	50	67	358	367	369	306	124	13	-	13
山梨	1,336	-	8	15	28	27	57	333	259	273	225	98	13	-	-
長野	5,844	12	23	70	131	190	196	1,278	1,195	1,197	1,050	440	59	-	3
岐阜	4,968	4	23	52	92	131	167	1,240	1,036	896	328	24	24	-	-
静岡	7,924	11	42	125	179	271	327	1,810	1,526	1,691	1,375	517	49	1	1
愛知	15,113	44	75	228	389	498	509	3,623	2,956	3,245	2,328	1,151	66	-	1
三重	4,723	10	25	49	117	175	223	1,066	933	983	771	340	31	-	-
滋賀	2,939	5	13	58	84	91	116	608	590	677	454	223	20	-	-
京都	5,851	7	28	58	113	166	277	1,546	1,131	1,172	925	394	30	1	3
大阪	19,757	40	94	262	420	549	808	5,120	4,113	4,163	2,947	1,161	79	1	-
兵庫	11,266	21	53	143	225	344	444	2,557	2,226	2,599	1,867	716	71	1	-
奈良	1,913	4	9	27	33	58	55	429	389	431	328	135	12	-	3
和歌山	2,429	3	14	32	42	59	74	86	503	465	509	456	211	15	2
鳥取	2,163	1	16	36	58	86	107	540	441	409	313	149	7	-	-
島根	1,439	2	10	17	44	40	64	315	288	308	228	110	12	-	1
岡山	5,743	7	25	86	129	199	264	1,457	1,155	1,255	1,103	452	33	-	-
広島	7,646	16	36	94	175	275	341	1,911	1,570	1,640	1,103	452	33	-	-
山口	3,472	4	10	46	89	145	152	853	705	759	506	188	15	-	-
徳島	1,999	3	10	36	38	54	86	439	410	402	327	173	18	-	3
香川	2,686	5	20	45	58	84	114	664	547	594	403	139	13	-	-
愛媛	3,967	8	22	70	98	143	169	1,041	789	799	559	247	22	-	-
高知	2,534	4	13	47	75	103	108	626	488	529	342	182	17	-	-
福岡	17,741	31	93	242	377	659	908	4,965	3,672	3,341	2,345	1,014	92	2	-
佐賀	3,103	3	19	39	63	115	172	783	600	561	460	258	30	-	-
長崎	4,490	3	9	59	103	147	195	1,191	885	847	680	343	28	-	-
熊本	5,619	4	24	63	118	194	299	1,489	1,094	1,092	823	383	36	-	-
大分	3,626	4	7	42	66	116	199	893	700	708	605	263	22	1	-
宮崎	3,221	3	4	39	73	104	124	758	631	669	513	277	25	-	1
鹿児島	4,768	5	17	56	80	165	222	1,285	857	897	753	380	49	1	1
沖縄	2,958	8	22	44	59	90	94	708	572	593	475	262	31	-	-

出典：母体保護統計報告(厚生労働省)、母子保健の主なる統計(財団法人母子衛生研究会)

人工妊娠中絶実施率

	平成16年度												
	総数	15歳未満	15歳	16歳	17歳	18歳	19歳	20歳未満	20~24歳	25~29歳	30~34歳	35~39歳	40~44歳
全国	10.6	2.1	6.1	9.8	14.5	18.4	10.5	19.8	14.4	12.7	10.9	5.1	0.4
北海道	14.3						16.9	29.7	20.7	16.5	12.8	4.9	0.4
青森	11.5						12.7	20.6	18.2	14.3	13.2	4.8	0.4
岩手	15.2						12.3	30.9	24.5	19.4	15.2	7.7	0.8
宮城	12.2						11.8	20.6	17.4	15.4	12.3	6.4	0.4
秋田	13.3						11.2	26.1	21.3	17.2	16.3	6.6	0.5
山形	12.6						10.5	22.5	19.6	17.2	15.2	6.6	0.6
福島	15.8						17.7	29.5	22.9	19.8	16.8	7.5	0.5
茨城	8.3						8	13	11.4	10.6	9.6	4.7	0.4
栃木	11.4						10.7	22.4	16.4	13.8	12	5.2	0.4
群馬	11.5						10.2	19.9	16.9	14.4	12.5	5.5	0.4
埼玉	8						9.2	13.3	9.8	9.1	9.1	4.3	0.3
千葉	6.8						7.3	11.2	8.3	8.1	8.1	3.6	0.3
東京	9.5						7.5	20.7	13.9	10.3	8.3	3.8	0.3
神奈川	8.3						8.4	15.1	10.8	9.3	8.6	4.3	0.4
新潟	11.4						9.6	19.7	16.2	15.5	13.2	5.8	0.4
富山	10.4						9.3	15.9	14	14.1	12.2	7	0.6
石川	10.6						9.6	19.1	15	13.3	11	5.1	0.3
福井	10.1						7.7	17	15.3	13.2	12.2	5	0.5
山梨	7.1						6.1	13.3	10	9.1	7.8	3.5	0.5
長野	12.9						11.3	23.2	18.4	15.8	15.2	6.7	0.9
岐阜	10.8						8.5	20	14.3	13.5	13.2	5.1	0.4
静岡	9.7						9.8	17.7	13	12.2	11	4.5	0.4
愛知	9.2						9.5	16.8	11.6	10.9	9.1	5.2	0.3
三重	11.7						12.7	20.1	16.1	14.5	12.6	5.9	0.5
滋賀	9.4						9.7	13.5	12.3	13	10.1	5.2	0.5
京都	9.8						9.5	18.4	11.3	11.3	10.5	5.1	0.4
大阪	9.7						9.8	19.1	12.7	10.9	9	4.3	0.3
兵庫	8.8						8.5	15	11.4	11.7	9.5	4	0.4
奈良	5.9						5.2	9.8	7.8	7.8	6.7	3	0.3
和歌山	11						10.3	18	15.5	14.1	13.4	6.4	0.5
鳥取	17.4						19	31.8	25.9	21.5	18.4	8.3	0.4
島根	10						9.8	15.8	14.4	14	11.4	5.2	0.5
岡山	13.8						14.2	24.3	18.3	17.9	13.8	5.8	0.4
広島	12.3						13	23	16.7	14.9	11.9	5.3	0.4
山口	11.6						12.1	21.9	16.4	15.5	11.8	4.5	0.3
徳島	11.8						10.8	19.1	17.1	14.9	13.6	7.2	0.7
香川	12.7						12.5	24.6	17.6	16.5	13	4.8	0.4
愛媛	12.8						13.8	25.4	17.9	16	12.4	5.6	0.5
高知	15.7						16.7	31.3	21.2	20.3	14.9	7.9	0.7
福岡	15.2						17.2	28.4	19.8	17.5	14.2	6.6	0.6
佐賀	16.5						15.8	30.1	23.1	20.8	17.7	9.6	1
長崎	14.2						12.6	27.1	21.1	18	15.1	7.3	0.5
熊本	14.3						13.5	28.1	19.9	19.2	14.7	6.6	0.6
大分	14.5						13.6	27.9	20	18.2	16.8	7.3	0.6
宮崎	13.1						10.5	23.7	19.1	18.6	15.1	7.7	0.6
鹿児島	12.7						10.7	25.7	16.5	16.9	14.8	6.9	0.8
沖縄	9.1						7.2	15.4	12.2	11.6	10.6	5.8	0.7

注:「総数」は、15~49歳の女子人口千対。(15歳未満・不詳の人工妊娠中絶件数を含むが、50歳以上の人工妊娠中絶件数は除く。)
 出典:母体保護統計報告(厚生労働省)、母子保健の主要な統計(財団法人母子衛生研究会)

人工妊娠中絶件数

平成17年度
2005年度

全国	年齢別										50歳以下	不詳	
	15歳未満	15歳	16歳	17歳	18歳	19歳	20~24	25~29	30~34	35~39			40~44
289,127	308	1,056	3,277	5,607	8,236	11,635	72,217	59,911	59,748	46,038	19,319	1,663	28
16,622	28	53	195	348	570	734	4,689	3,515	3,244	2,263	893	87	2
3,310	2	15	48	84	122	161	776	679	668	521	208	25	1
3,796	1	12	36	59	108	169	938	815	757	605	272	23	1
6,577	9	16	66	124	189	297	1,714	1,424	1,312	952	442	32	-
2,712	2	6	19	39	93	135	670	557	570	412	190	15	3
2,897	3	5	22	49	75	122	666	602	619	491	220	23	-
6,243	6	20	67	151	241	280	1,476	1,302	1,274	953	431	42	-
5,634	5	19	69	99	142	194	1,256	1,209	1,205	998	407	27	4
4,835	4	16	71	94	126	204	1,205	1,045	1,030	798	314	28	-
4,847	5	18	51	71	117	171	1,071	1,054	1,111	779	345	30	-
12,720	15	46	166	250	401	540	2,915	2,349	2,673	2,423	860	79	2
9,094	7	44	117	208	273	321	1,983	1,789	1,914	1,673	698	36	2
28,828	30	75	196	339	561	993	8,201	6,962	5,474	4,037	1,618	139	3
16,579	20	72	194	302	472	589	3,906	3,401	3,435	2,884	1,220	79	2
5,269	2	12	54	107	134	212	1,189	1,059	1,177	898	392	33	3
2,299	4	5	26	52	64	81	480	459	522	443	144	18	1
2,558	2	5	27	46	86	96	609	484	599	409	178	17	-
1,601	4	3	11	18	35	69	355	319	360	276	133	7	11
1,423	-	2	17	27	36	48	373	264	289	270	90	5	2
5,764	5	24	57	128	162	208	1,256	1,186	1,290	1,019	393	36	-
4,287	1	16	52	92	111	161	995	834	924	721	342	38	-
7,443	9	27	113	188	221	294	1,616	1,478	1,600	1,335	522	57	2
14,502	18	66	194	317	429	488	3,544	2,875	3,081	2,280	1,107	101	2
4,552	7	20	65	94	134	200	1,038	912	943	781	333	24	-
2,758	2	9	38	60	72	94	667	557	618	428	195	18	-
5,861	9	23	56	104	151	249	1,504	1,154	1,106	921	351	28	4
19,507	29	97	260	400	546	728	5,035	3,994	4,045	3,061	1,225	87	-
10,944	9	48	103	212	272	392	2,493	2,131	2,536	1,869	823	55	1
1,836	-	7	18	40	42	64	390	371	397	333	158	14	2
2,244	6	14	41	47	66	82	479	423	535	372	157	14	8
1,960	1	9	26	47	49	96	484	421	380	300	140	7	-
1,294	4	3	15	34	43	53	312	267	254	204	91	12	2
4,436	5	18	48	75	142	192	1,122	891	966	672	284	21	-
7,230	10	36	98	162	241	349	1,752	1,441	1,526	1,119	449	43	2
3,173	2	9	39	62	90	148	791	706	614	494	206	10	2
1,869	1	5	17	34	43	62	428	386	444	305	129	14	1
2,533	2	9	45	61	77	100	656	531	550	344	135	20	3
3,632	7	24	45	90	108	166	930	764	753	511	215	17	2
2,326	6	11	26	63	88	109	575	459	521	339	115	14	-
16,747	14	61	197	321	534	835	4,794	3,503	3,156	2,326	929	76	1
2,824	-	8	34	47	90	129	702	562	568	449	214	20	1
4,245	1	9	43	83	116	173	1,162	809	855	656	311	27	-
5,540	2	14	62	124	186	267	1,488	1,158	1,008	814	380	33	3
3,474	1	7	27	65	98	160	922	642	723	568	238	23	1
3,024	2	11	29	62	74	127	666	595	672	550	208	28	-
4,534	2	16	36	73	128	201	1,217	890	861	719	345	45	1
3,044	4	11	41	51	78	92	727	683	589	463	269	36	-

出典：母体保護統計報告(厚生労働省)、母子保健の主なる統計(財団法人母子衛生研究会)

人工妊娠中絶実施率

	平成17年度										2005年度		
	総数	15歳未	15歳	16歳	17歳	18歳	19歳	20歳未満	20~24歳	25~29歳	30~34歳	35~39歳	40~44歳
全国	103	1.8	5.3	8.8	12.5	17.3	9.4	20	14.6	12.4	10.6	4.8	0.4
北海道	13.6						13.6	30.1	20.2	16.1	12.2	4.8	0.5
青森	11.1						11.6	21.9	17.2	14.8	11.8	4.5	0.5
岩手	13.8						10.8	28.6	21.7	18.2	15.2	6.5	0.5
宮城	12.4						10.6	22.5	18	15.6	12.8	6	0.4
秋田	12.5						11	28	19.2	17.7	13.4	5.5	0.4
山形	14.6						8.9	23.4	18.4	17.3	14.7	6.1	0.6
福島	8.9						13.6	28.6	21.8	19.5	15.8	6.8	0.6
茨城	11.5						6.8	15.4	13.4	11.4	10.6	4.5	0.3
栃木	11.5						9.1	22.8	16.8	14.2	12.4	5.1	0.4
群馬	8						21.2	17.2	15.1	11.8	11.8	5.7	0.5
埼玉	6.7						14.1	10.1	9.3	9.4	9.4	3.9	0.4
千葉	9.5						6.6	11.4	9	7.9	7.7	3.7	0.2
東京	8.2						7.9	19.8	14.6	9.9	8	3.8	0.4
神奈川	10.9						8.1	15.1	11.3	9.2	8.4	4.2	0.3
新潟	10.4						8.4	20.5	15.5	15.1	12.5	5.5	0.4
富山	10.3						19.3	14.3	13	13	4.4	0.6	
石川	9.5						8.9	19.7	13.5	13.7	10.9	5	0.5
福井	7.7						6.8	17.6	13.2	12.9	11	5.2	0.3
山梨	9.5						5.5	16.3	10.5	9.8	9.4	3.2	0.2
長野	9.5						13.1	26	18.5	17.1	14.7	6	0.6
岐阜	9.3						7.9	17.3	12.9	12.2	10.6	5.2	0.6
静岡	8.9						9	17.4	12.9	11.6	10.7	4.4	0.5
愛知	11.5						8.3	16.7	11.7	10.3	8.8	4.8	0.5
三重	8.9						11.1	21.7	16.4	14	12.9	5.6	0.4
滋賀	9.5						7.2	16.1	12.1	11.6	9.3	4.5	0.4
京都	9.7						8.4	16.4	13	10.8	10.4	4.4	0.4
大阪	8.7						9.5	18.9	13.2	10.9	9.3	4.3	0.4
兵庫	5.8						7.2	15.6	11.9	11.5	9.4	4.5	0.3
奈良	10.6						4.3	9	8.4	7.6	6.9	3.4	0.3
和歌山	16.1						9.9	19.8	15.1	15.4	11.3	4.7	0.4
鳥取	9.4						14.8	32.4	24	19.7	17.7	7.9	0.4
島根	10.8						9.2	19.3	13.8	11.6	10.6	4.4	0.5
岡山	11.8						12.4	20.1	15	13.7	11.2	5	0.4
広島	11.3						22.7	16.2	14	11.9	5.2	0.5	
山口	12.3						9.9	22.2	17.2	12.7	11.3	4.9	0.2
徳島	12.3						8	19.8	16.9	16.4	12.9	5.3	0.5
香川	14.9						12.2	27.5	17.4	15.2	11.3	4.6	0.6
愛媛	14.6						12.2	26.2	18	15.1	11.6	4.8	0.4
高知	15.5						15.9	30.6	20.9	20.1	15.1	5	0.6
福岡	14.4						14.1	29.3	20.3	16.7	14	5.9	0.5
佐賀	14.4						12.6	29.3	21.8	20.9	17.7	8.1	0.7
長崎	14.2						13.1	29.6	21.6	17.5	14.9	6.6	0.5
熊本	12.7						11.9	30.1	18.3	18.5	16.1	6.7	0.6
大分	12.5						9.3	25.8	18.1	18.5	16.7	5.9	0.7
宮崎	9.4						6.3	17.2	14.6	11.2	10	6.4	0.7
鹿児島							17.2	14.6	11.2	10	6	0.8	
沖縄													

注:「総数」は、15~49歳の女子人口千対。(15歳未満・不詳の人工妊娠中絶件数を含むが、50歳以上の人工妊娠中絶件数は除く。)
 出典:母体保護統計報告(厚生労働省)、母子保健の主な統計(財団法人母子衛生研究会)

人工妊娠中絶件数

	平成18年度										2006年度				
	総数	15歳未満	15歳	16歳	17歳	18歳	19歳	20~24	25~29	30~34	35~39	40~44	45~49	50歳以下	不詳
全国	276,352	340	995	3,071	4,911	7,191	10,859	68,563	57,698	57,516	45,856	17,725	1,572	26	29
北海道	15,022	18	54	122	294	438	654	4,171	3,237	2,991	2,132	843	62	3	3
青森	3,073	7	10	39	56	82	192	746	620	616	513	183	8	1	1
岩手	3,650	2	7	27	51	86	145	878	849	757	579	240	26	2	1
宮城	6,243	4	23	58	115	152	290	1,576	1,365	1,245	936	434	44	1	1
秋田	2,587	1	6	21	41	66	113	654	502	539	445	180	15	1	3
山形	2,584	-	1	15	37	61	92	605	543	577	459	179	15	-	-
福島	5,948	4	14	65	96	171	251	1,496	1,226	1,228	958	392	47	-	-
茨城	4,965	3	10	47	91	128	176	1,115	998	1,062	930	372	29	1	3
栃木	4,827	-	20	51	90	138	162	1,161	966	960	772	279	27	-	1
群馬	4,529	3	10	47	77	113	168	996	944	1,060	802	286	23	-	-
埼玉	13,173	21	60	164	245	351	540	3,027	2,535	2,746	2,410	985	85	2	2
千葉	8,918	15	32	101	186	227	368	1,935	1,707	1,865	1,765	665	52	-	-
東京	28,393	20	81	233	313	557	946	8,055	6,949	5,365	4,150	1,597	126	1	-
神奈川	15,468	14	56	175	292	385	533	3,579	3,173	3,284	2,834	1,041	98	3	1
新潟	4,879	3	9	43	91	124	204	1,142	1,000	1,044	874	320	25	-	-
富山	2,258	1	6	16	36	53	68	479	413	570	424	173	19	-	-
石川	2,359	4	6	20	44	66	90	581	453	531	400	151	13	-	-
福井	1,587	1	5	7	19	44	51	354	332	351	299	112	12	-	-
山梨	1,284	4	-	8	16	27	42	299	260	282	253	81	12	-	-
長野	5,337	5	16	62	115	138	188	1,136	1,040	1,224	999	371	42	1	-
岐阜	4,096	4	10	40	68	103	139	945	790	892	784	293	28	-	-
静岡	7,176	6	33	101	170	201	391	1,571	1,461	1,469	1,302	422	47	1	1
愛知	14,131	26	67	191	299	393	490	3,432	2,850	2,886	2,370	1,045	81	1	1
三重	4,294	5	9	57	82	117	156	958	862	939	788	288	32	1	-
滋賀	2,672	4	11	18	46	87	95	633	501	568	493	202	14	-	-
京都	5,237	11	19	76	81	129	231	1,372	1,019	1,100	833	332	28	1	5
大阪	19,121	37	101	255	356	553	704	4,940	4,030	3,896	3,070	1,098	80	1	-
兵庫	9,910	14	38	130	178	252	332	2,262	1,977	2,176	1,812	677	61	1	-
奈良	1,709	1	7	16	24	25	60	377	334	387	337	124	14	-	3
和歌山	2,070	8	15	38	52	57	79	461	382	471	343	158	6	-	-
鳥取	1,770	1	7	25	38	55	68	301	410	445	288	123	9	-	-
島根	1,240	2	1	12	23	32	36	272	251	271	219	106	13	-	2
岡山	5,097	2	18	57	80	124	208	1,289	1,054	1,138	819	273	35	-	-
広島	6,947	15	30	86	141	194	269	1,691	1,475	1,469	1,120	414	40	1	2
山口	2,958	2	6	32	53	104	123	758	582	605	496	178	19	-	-
徳島	1,727	-	7	17	28	43	50	384	351	407	297	135	8	-	-
香川	2,391	4	7	41	44	55	98	575	510	559	366	126	6	-	-
愛媛	3,504	7	23	48	71	98	156	933	688	731	507	213	28	-	1
高知	2,080	5	14	26	30	63	76	497	446	464	324	122	13	-	-
福岡	15,664	26	60	213	282	445	740	4,374	3,316	3,070	2,265	804	68	1	-
佐賀	2,637	1	7	37	39	66	191	702	565	510	365	132	21	-	-
長崎	3,892	2	20	34	55	88	168	1,029	753	799	651	262	30	1	-
熊本	5,634	6	21	51	107	167	228	1,471	1,216	1,099	870	369	29	-	-
大分	3,114	1	4	21	58	75	138	790	609	688	517	196	17	-	-
宮崎	2,882	5	12	45	51	64	93	637	592	653	481	232	17	-	-
鹿児島	4,421	4	7	33	86	126	179	1,137	883	900	733	305	27	1	-
沖縄	3,094	11	15	50	64	88	88	787	679	627	472	212	21	-	-

出典：母体保護統計報告(厚生労働省)、母子保健の主なる統計(財団法人母子衛生研究会)

人工妊娠中絶実施率

	平成18年度										2006年度			
	総数	15歳未	15歳	16歳	17歳	18歳	19歳	20歳未	20~24	25~29	30~34	35~39	40~44	45~49
全国	9.9	1.7	5.1	7.9	11.2	16.3	8.7	19.2	14.6	12.1	10	4.5	0.4	
北海道	12.4						11.6	27.1	19.3	15	11	4.7	0.3	
青森	10.5						10.7	21.3	16.3	14	11.2	4.2	0.2	
岩手	13.5						9.1	26.6	23.6	18	14.1	6	0.6	
宮城	11.9						10.2	20.7	17.7	14.8	12	6.1	0.6	
秋田	12.2						9.2	28.4	17.9	16.8	13.9	5.6	0.4	
山形	11						6.6	21.6	17	16	13.5	5.3	0.4	
福島	14.2						10.5	30.5	21.1	18.9	15.5	6.4	0.7	
茨城	7.9						6	13.8	11.5	10.2	9.3	4.2	0.3	
栃木	10.9						8.9	22.3	16.4	13.3	11.4	4.7	0.4	
群馬	10.9						8.5	19.9	16.3	14.7	11.5	4.8	0.4	
埼玉	8.4						8	14.8	11.4	9.8	8.9	4.4	0.4	
千葉	6.6						6.5	11.3	8.9	7.9	7.6	3.5	0.3	
東京	9.4						8	19.8	14.9	9.8	7.8	3.7	0.3	
神奈川	7.7						7.3	14	11	9.1	7.8	3.5	0.4	
新潟	10.2						19.7	19.7	15.4	13.6	11.7	4.6	0.3	
富山	10.3						7.2	20	13.3	14.6	11.5	5.6	0.6	
石川	9.6						7.9	18.7	13.3	12.3	10	4.3	0.4	
福井	9.6						6	18.6	14.4	12.5	11.5	4.7	0.5	
山梨	7						4.2	13	10.8	9.7	8.4	3	0.4	
長野	12.3						10.1	24.2	17.3	16.3	13.9	5.8	0.7	
岐阜	9.1						6.7	16.6	12.7	11.9	10.9	4.6	0.4	
静岡	9.1						9.8	17.3	13.3	10.8	9.9	3.7	0.4	
愛知	8.6						8.1	16.2	12.1	9.8	8.5	4.5	0.4	
三重	10.9						9.1	20.4	16	14	12.3	5	0.6	
滋賀	8.6						7.1	15.4	11.1	10.7	10.1	4.7	0.3	
京都	8.8						8.4	14.9	11.8	10.9	8.9	4.2	0.4	
大阪	9.6						9.6	18.8	14	10.8	8.7	3.9	0.3	
兵庫	8						6.7	14.2	11.5	10.1	8.6	3.8	0.4	
奈良	5.5						3.6	8.8	7.8	7.6	6.6	2.8	0.3	
和歌山	9.9						9.6	19.2	14.1	13.9	10.1	4.9	0.2	
鳥取	14.9						12.9	21.5	24.1	23.4	16	7.2	0.5	
島根	9.1						5.9	17	13.2	12.3	11	5.6	0.6	
岡山	12.5						10	23	18.5	16.3	12.8	5	0.6	
広島	11.4						10.4	22	17.4	13.7	11.2	4.9	0.5	
山口	10.3						9.4	21.7	14.9	12.6	10.8	4.5	0.4	
徳島	10.6						7.3	18.3	16	15.1	11.9	5.9	0.3	
香川	11.8						10.4	25	17.6	15.5	11.1	4.5	0.2	
愛媛	11.8						11.2	26.7	16.8	14.9	10.8	5	0.6	
高知	13.5						11.9	26.2	21.2	17.8	13.5	5.5	0.5	
福岡	13.8						13.4	26.7	19.6	16.2	12.9	5.3	0.4	
佐賀	14.7						14.2	29.3	22.6	18.9	14	5.3	0.8	
長崎	13						9.4	28.6	19.3	17.4	14.2	6	0.6	
熊本	14.9						11.8	30	23.4	18.9	15.5	6.7	0.5	
大分	12.9						9.9	27.2	17.9	17.6	14	5.8	0.4	
宮崎	12.3						8.7	22.8	18.5	18.1	14.1	6.8	0.4	
鹿児島	12.4						8.9	25.3	18	17	14.4	6	0.5	
沖縄	9.6						6.7	18.3	14.8	12.1	9.8	4.9	0.5	

注：「総数」は、15~49歳の女子人口千対。(15歳未満・不詳の人工妊娠中絶件数を含むが、50歳以上の人工妊娠中絶件数は除く。) 出典：母体保護統計報告(厚生労働省)、母子保健の主な統計(財団法人母子衛生研究会)

平成 20 年度厚生労働科学研究費補助金（エイズ対策研究事業）
HIV 感染症の動向と影響及び政策のモニタリングに関する研究
(わが国の HIV 流行に関連する情報のモニタリングと統合的分析に関する研究)

Demographic and behavioral characteristics of male sexually transmitted disease patients in Japan: a nationwide case-control study.

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ABSTRACT

Backgrounds: Sexually transmitted infections (STIs) increased rapidly in Japan during the 1990s.

Methods: To determine the epidemiological characteristics of STI patients, male cases (n=765) from 21 clinics across Japan and controls from the general population (n=1167), both aged 18-59 years, were compared using two data sets of nationwide sexual behavior surveys conducted in 1999.

Results: Male STI patients were more likely to be under 40 years of age (OR=3.94, 95% CI: 2.17, 7.15), unmarried (OR=2.65, 95%CI: 1.80, 3.91), and at least college/university educated (OR=2.03, 95% CI: 1.45, 2.83). They were also more likely to have had multiple partnerships in the previous year (OR=3.33, 95% CI: 2.20, 5.05 for 2-3 partners, OR=6.29, 95% CI: 3.81, 10.37 for ≥4 partners), unprotected vaginal sex with regular partners (OR=2.70, 95% CI: 1.75, 4.17), unprotected vaginal and/or oral sex with casual partners (OR=2.14, 95% CI: 1.40, 3.26), and unprotected vaginal (OR=2.64, 95% CI: 1.46, 4.80) and oral sex with paid partners (OR=4.72, 95% CI: 3.04, 7.32) in the previous year. **Conclusions:** These results suggest that male STI patients in Japan are highly educated and have a diverse occupational background, and that STI risks exist universally for various types of sex and sexual partnerships.

INTRODUCTION

According to the sexually transmitted infection (STI) surveillance in Japan, STIs, especially non-viral STIs, began to increase rapidly in the mid 1990s. The increase between 1995 and 1998 was over 30 percent for chlamydial and gonococcal infections in both genders (1-2). Although surveillance information was interrupted due to a nationwide reorganization of sentinel sites in 1999, an increase in these STIs continued thereafter, reaching a peak in 2002 (3). Currently, patients less than 30 years old account for 47% and 68% of all male and female cases, respectively, and genital chlamydia and gonorrhea

are the most dominant STIs among both genders. STI surveillance provides useful information regarding trends in STIs. However, since demographic variables in the surveillance are limited only to age, gender and residential area, questions remain about what types of sexual behaviors in what subpopulations contributed to the recent increase in STIs in Japan. Such information is vital for developing effective STI/HIV prevention efforts (4-5). The present study was conducted to obtain insight into this research question.

MATERIALS AND METHODS

Study design

This was a case-control study in which cases and controls were selected from two data sets of sexual behavior surveys conducted in 1999 in Japan, one from a sample of STI patients and the other from a probability sample of the general population. We were able to combine these data sets since both were designed by the same authors (MOK, MK, TH) who used the same set of survey questions, other than those specific to each study.

Sexual behavior survey of the general population (6). This survey was conducted during June-July of 1999. A sample of 5000 individuals, aged 18-59 years, was selected from the general population using a 2-stage random sampling procedure. Briefly, the entire country was divided into 11 regions. Each region was further divided into 5 population density bands, yielding 57 strata. A total of 5000 samples were then allocated for each stratum proportionally to the population size. Within each stratum, sampling wards from which 9-22 samples were drawn systematically from residents' basic register or electoral register were selected randomly using the list of wards prepared for the census survey. Each subject was visited by a trained staff 4 times at most when absent and asked to complete an anonymous self-administered questionnaire. A total of 3562 subjects (1762 males, 1800 females) were sampled without replacement, yielding a final response rate of 71.2 percent.

Nationwide STI patient survey. This survey was conducted during July-September of 1999. STI patients were recruited from 21 private STI clinics in 7 large cities (Sapporo, Sendai, Tokyo, Osaka, Hiroshima, and Fukuoka) within 6 districts (Hokkaido, Tohoku, Kanto, Kansai, Chugoku, and Kyushu) of Japan. These clinics were recruited through consultation with local STI physicians' associations and chosen based on their proximity to the largest entertainment district of each city. Subjects were selected from patients who visited the clinic during the study period if they were diagnosed with STIs or typical STI symptoms. STIs included chlamydial infection, gonorrhea, syphilis, non-chlamydial non-gonococcal urethritis, genital herpes, condyloma acuminatum, chancroid, phthirus pubis, and typical STI syndrome included unusual genital discharge (flow), sores, warts, burning with urination, and redness or itching around the penis. Eligible participants were consecutively recruited and asked to complete an anonymous self-administered questionnaire in a waiting room. A total of 1119 subjects participated in the survey, yielding a final response rate of 84.9 percent (791 males, 304 females, 24 unknown gender). Because the survey was anonymous, not all patients responded and information from the clinic could not be linked to the survey, the distribution of the types of STIs or typical STI symptoms among participants was not determined.

Integration of the data sets

The data sets of the two surveys were combined for male subjects aged 18-59 years who lived within the 6 districts previously described and who had sexual intercourse during the previous year. The merged data set included information about age, gender, occupation, educational background, marital status, HIV/STI-related knowledge (17 items), age at first sex, number of sexual partners in the previous year, types of sexual partners (regular, casual, or paid) in the previous year, types of sex (vaginal, oral, or anal), and condom use with each type of sexual partner in the previous year or at the last sex. Female subjects were also excluded to avoid potential bias, given that 60 percent of them were recruited from a single clinic.

Sample characteristics

Compared to the 2000 census data (7), the control group was slightly older. The proportion of subjects in their 20s, 30s, 40s and 50s was 17, 23, 29 and 30 percent, respectively, for controls and 26, 24, 24 and 27 percent, respectively, for the male census population. Controls were less unmarried than census population (20 percent vs. 39 percent) and were slightly more educated (45 percent vs. 34 percent for at least a college/university education). Occupational pattern was similar between the populations. Regarding STI cases, only age was available for comparison with the 1999 national sentinel STI surveillance data (8). STI cases in this study were slightly older than the STI surveillance population where the proportion of subjects in their 20s, 30s, 40s and 50s was 44, 37, 14 and 5 percent, respectively, for cases, while they were 51, 31, 13 and 5 percent, respectively, for the STI surveillance population.

Ethical issues

In both surveys, verbal informed consent was obtained from the participants. Then they were asked to fill out the questionnaire and return it in a sealed envelope, in person or by mail. This research study was approved by the Committee for Research on Human Subjects at Kyoto University in Japan.

Statistical analysis

All statistical analyses were performed using SPSS for Windows (version 12.01; SPSS Inc., Chicago, Illinois, USA). Bivariate analyses were performed to determine the association between STI infection and demographic and behavioral variables. Logistic regression was performed to calculate adjusted odds ratios (AOR) and 95 percent confidence intervals (CI). Answers to HIV/STI knowledge questions were transformed into scores by giving 1 for a correct answer and 0 for an incorrect answer. Behavioral variables were combined to create variables that coded the presence (=1) or absence (=0) of unprotected sex for each type of sex with each type of partner. These variables were compulsorily entered into a multivariate model, together with age at first sex, number of sexual partners in the previous year, and demographic variables except for the variables of behaviors practiced by too few participants and those strongly interrelated. All statistical tests were two-tailed and results were considered significant when $p < 0.05$.

RESULTS

There were 765 cases and 1167 controls. Those who had STI in the previous year ($n=16$) were excluded from the control group.

Table 1 compares the demographic characteristics and HIV/STI-related knowledge of the groups. STI patients were much younger than the controls (average age 31.8 years vs. 41.6 years, $p < 0.001$). There were less self-employed and more unemployed individuals among the cases compared to the controls. Although statistically significant ($p < 0.001$), occupational differences between the groups were small. There was a significant difference in marital status. While 20 percent of the controls were unmarried, it was 66 percent among STI patients ($p < 0.001$). STI patients were significantly more educated than the controls, with 65 percent of cases having at least a college/university education compared to 45 percent of the controls ($p < 0.001$). Average scores on HIV/STI-related knowledge were both significantly greater in STI patients than in the controls ($p < 0.001$).

STI patients experienced first sex approximately 2 years earlier than the controls and there was a large difference in the number of sexual partners in the previous year (Table 2). Compared to only 6.1 percent of the controls, 53 percent of STI patients reported having at least 4 sexual partners. More than 50 percent of STI patients reported having casual or paid partners in the previous year, compared to only around 10 percent among the controls. Regarding the prevalence of unprotected sex, the largest differences between the groups were observed in vaginal and oral sex with casual or paid partners. It was 26-49 percent among STI patients, but only 6.3 percent, at most, among the controls. There were slightly but significantly more STI patients who experienced unprotected oral sex with regular partners in the previous year than the controls. Although unprotected anal intercourse with casual or paid partners was also significantly more common among STI patients than the controls, it was only around 2 percent even among STI patients. Proportion of men who had sex with men was 3.2 % among STI patients in the previous year, while it was 1.2% among general population in lifetime.

Multivariate analysis was performed to evaluate the independent association of demographic and behavioral variables with STI infection (Table 3). Age, occupation, number of sexual partners in the previous year, and district variables were entered collectively into the model, together with other demographic and behavioral variables that were entered as dichotomous variables. HIV/STI-related knowledge scores were excluded from the analysis. Unprotected anal sex, which was too few, was also excluded from the analysis as well as the sex between men since time frame for question was different between the studies. Variables representing unprotected oral sex and vaginal sex with casual partners were combined to create a single dichotomous variable that represents the presence or absence of unprotected oral and/or vaginal sex, since these variables were closely correlated ($r = 0.802$).

Results of the multivariate analysis showed that STI patients were more likely to be under 40 year-old, unmarried, have at least a college/university education, while occupational categories showed little association. STI patients were more likely to have multiple partners, unprotected vaginal sex with regular partners, unprotected oral and/or vaginal sex with casual partners, and unprotected oral and vaginal sex with paid partners.

As indicated in Table 3, magnitude of association for some variables was greatly reduced in the multivariate analysis. Association showed largest recovery when both age and marital status were removed from the model, suggesting that the results of the bivariate analyses were largely confounded by these variables. On the other hand, unprotected vaginal sex with regular partners, which was not significant in the bivariate analysis, became significant in the multivariate analysis. However, it became insignificant

when all the demographic variables and the variable for the number of partners were removed from the model, suggesting that the effect of this variable was suppressed by a complex interaction of multiple variables.

DISCUSSION

As the first nationwide case-control study of STI infection using a probability sample for controls, this study characterized the demographic and behavioral profiles of Japanese STI patients in comparison to controls.

Compared to STI clinic-based case-control studies, case-control studies that used representative samples for cases and/or controls are limited in number. A British study used probability samples of the British National Surveys of Sexual Attitudes and Lifestyles (NATSAL) conducted in 1990 ($n=13,765$) (9) and 2000 ($n=11,161$) (10), in which cases were those who had STIs in the previous 5 years and controls were those who did not. In Slovenia, a national general population survey ($n=1752$) was conducted in 1999-2001 using the same design as the NATSAL, in which subjects who had STIs in their lifetime were compared to those who did not (11). In China, subjects with chlamydial infections diagnosed with urine tests were compared to those uninfected among national probability samples ($n=3426$) in 1999-2000 (12). The National Health and Nutrition Examination Survey (NHANES) is a similar large-scale representative survey in the US using laboratory tests to determine STIs (13). It is less pertinent here, however, because published data to date has not included related analysis. Finally, case-control studies with cases and controls sampled from separate populations, as in this study, were conducted in the US and England. Gonorrhea cases ($n=103$) from the general Seattle population were compared to controls obtained through random digit dialing in 1995 ($n=376$) (14). In England, patients ($n=20,516$) from two STI clinics sampled during 1995-1996 were compared to the 1990 NATSAL population samples (15).

Multivariate analysis indicated that male STI patients were more likely to be under 40 year-old, unmarried, and have at least a college/university education, while occupation was not a significant predictor. Population-based case-control studies have consistently found that male STI patients are concentrated in younger age groups. Although the risk of STIs appeared to increase with age in the Slovenia study, it most likely reflected a lifetime history of STIs that was actually measured. The association of marital status and occupation with STI history was assessed in the NATSAL studies. As in this study, being unmarried was significantly associated with a greater STI risk among the 1990 NATSAL population, but not among the 2000 population.

Low socioeconomic status is a well established risk factor for STIs (16). Results of the China and Seattle studies support this association (12,14). However, such findings are not universal. Non-manual social class was found to be significantly more at risk for STIs among the 1990 NATSAL samples (9) and those with higher education were at increased STI risk in our study. Our findings may reflect the possibility that STI patients who actively sought medical care had higher education than those who did not. However, a recent cohort study showed that the general health practice index showed little association with educational background among urban middle-aged Japanese men (17).

The present study showed that STI patients were more likely to have multiple sexual partnerships, have unprotected vaginal sex with regular partners, unprotected vaginal and/or oral sex with casual

partners, and unprotected vaginal or oral sex with paid partners.

Multiple sexual partnerships and sex with paid partners are well established risk factors (18) and consistently identified by population-based studies, except for the China and Seattle studies (12,14). In contrast, unprotected vaginal sex with regular partners was unexpected as a risk factor, since such an association was shown only in the China study (12). Two recent case series studies in Japan support this association. One study reported that STI patients were estimated to have been infected equally from regular, casual and paid partners (19), while another study reported that 48 percent of male gonococcal or non-gonococcal urethritis patients were estimated to have been infected from regular partners (20). It may be that STI risk now exists even among regular partnership in Japan. Our finding was unlikely confounded with recurrent infections within regular partnerships, since similar findings were detected among new STI patients, as well as among those who experienced multiple STIs.

Although it has been well established that STIs, especially non-viral STIs, can cause orogenital infections (21-23), our study is the first population-based study that identified unprotected oral sex with paid partners as a risk factor for STI infection. This result is consistent with a recent clinical finding in Japan, where approximately half of the male gonorrhea patients appear to have been infected through oral sex with paid partners (19). This may be related to the fact that the oral sex industry has proliferated throughout the 1990s in Japan (24). Since oral sex and the use of paid sex are prevalent among youth (25), it is possible that oral sex plays an important role in STI transmission among young people. This concern is shared by a recent clinical finding that among STI patients, over 80 percent practiced oral sex, and approximately 50 percent practiced both oral and vaginal sex with multiple types of sexual partners (26).

Results of the present study should be interpreted with caution. Although the case-control design utilized here is pertinent for rare diseases such as STIs, the analytic value may be compromised compared with cross-sectional studies with a representative sample in which cases are nested. In the present study, STI cases were sampled from private clinics. This is because over 90% of medical institutions are private and because almost all people are covered by medical insurance programs, which are equally applied to both private and public institutions in Japan. Important characteristics of the STI cases in the present study are shared with other studies. Among the 16 patients with STIs in the previous year who were excluded from the control population in the analysis, 9 (56.3%) reported to have paid for sex in the previous year. These patients are younger, more likely to be unmarried, and more educated than the general population sample. A high prevalence of paid sex was also observed in our nationwide sexual behavior survey among national university students in 1999 (n=13100). In that survey, 7 (43.8%) out of 16 male students who ever had a STI reported that they had paid for sex in the previous year (unpublished observation). A case series study from a public hospital in Japan also reported that 52% of 98 gonococcal or non-gonococcal urethritis male patients were identified to be infected through paid sex (20). Such a high prevalence of paid sex among STI patients may reflect the fact that more than 10% of males reported to have paid for sex in the previous year in our national general population survey, compared with less than 0.5% in the National Health and Social Life Survey in the US (27). Such a high proportion of paid sex among men (6-16%) has been also observed from the surveys or surveillances of general population in other Asian countries around 1999-2003 (28), suggesting that STD epidemiology in Japan may share more with other Asian countries than other industrialized nations. Among control subjects, although the response rate of our survey (71.2%)

was similar to other general population sexual behavior surveys (29-33), our samples could have been biased in that the highly sexually active subpopulation may have avoided the survey. However, our experience with a nationwide survey of students from 30 universities in 1999 using a similar questionnaire showed little association between the answers to the questions related to sexual behaviors and the response rates that ranged between 16.4-100% (34). Finally, although the present study strongly suggests that oral sex may play an important role in the STI epidemic, it is possible that oral sex may be a marker related to sexual networks or other risks that were not captured in the present study.

Despite these limitations, the results of this study are important in showing that STI patients have diverse occupational backgrounds and are highly educated in Japan. It is also important to note that STI risk is universal, present not only in paid partnerships but also in casual and regular partnerships. Oral sex was just as much of a risk factor as vaginal sex. These findings should be translated into a socially and culturally appropriate STI/HIV prevention program in Japan. A particular focus of prevention should be placed on oral sex, as an oral sex industry has markedly proliferated in Japan during the last decade. This change may further spread STIs and thereby pave the way to an HIV epidemic in Japan. Finally it should be noted that 1999 is the middle of the period when Japan has experienced a dramatic increase in the sexual experience rate among teenagers, a sharp decline of domestic condom sales and the increases in STI and HIV infections (35). It is therefore possible that importance of the risk factors identified in the present study might have been intensified.

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Table 1. Comparison of socio-demographic characteristics and HIV/sexually transmitted infection (STI)-related knowledge between male STI patients at 21 STI clinics and male controls who were sexually active in the previous year taken from a randomized general population sexual behavior survey

Characteristic	STI*patients (n = 765)		General population controls (n = 1,167)		p value†
	No.	%	No.	%	
Age at survey (years)					<0.001§
18-19	29	3.8	16	1.4	
20-29	324	42.4	194	16.6	
30-39	274	35.8	266	22.8	
40-49	103	13.5	341	29.2	
50-59	35	4.6	350	30.0	
Mean(SD*)		31.8(8.8)		41.6(11.0)	
Median		30		43	
Employment					<0.001
Self-employed	100	13.1	206	17.7	
Management	20	2.6	36	3.1	
Employee	554	72.4	856	73.4	
Unemployed or fulltime student	74	9.7	49	4.2	
Missing	17	2.2	20	1.7	
Marital status					<0.001
Married	259	33.9	919	78.7	
Not married	504	65.9	238	20.4	
Missing	2	0.3	10	0.9	
Educational level					<0.001
High school or below	269	35.2	630	54.0	
College/university or above	494	64.6	529	45.3	
Missing	2	0.3	8	0.7	
HIV*-related knowledge score‡					<0.001§
Mean(SD)		7.4(2.2)		6.3(2.4)	
Median		8		7	
STI-related knowledge score¶					<0.001§
Mean(SD)		5.2(1.7)		3.9(2.0)	
Median		6		4	

* STI, sexually transmitted infection; SD, standard deviation

† p values for chi-square test unless otherwise mentioned.

‡ Score for HIV-related knowledge is the total number of 11 HIV-related knowledge questions answered correctly.

§ p values for Student's t-test

¶ Score for STI-related knowledge is the total number of 7 STI-related questions answered correctly.

Table 2. Comparison of sexual behaviors between male STI patients at 21 STI clinics and male controls who were sexually active in the previous year taken from a randomized general population sexual behavior survey

Characteristic	STI* patients (n = 765)		General population controls (n = 1,167)		p value†
	No.	%	No.	%	
Age at first sexual intercourse (years)					<0.001
<19	427	55.8	420	36.0	
19 or more	327	42.7	639	54.8	
Missing	11	1.4	108	9.3	
Mean(SD*)		18.4(2.8)		20.0(3.5)	
Median		18.0		19.0	
No. of partners (previous year)					<0.001
1	111	14.5	895	76.7	
2-3	231	30.2	181	15.5	
4 or more	408	53.3	71	6.1	
Missing	15	2.0	20	1.7	
Type of sex partner(s) (previous year)					
Regular partner(s)					<0.001
Yes	604	79.0	1068	91.5	
No	159	20.8	92	7.9	
Missing	2	0.3	7	0.6	
Casual partner(s)					<0.001
Yes	408	53.3	117	10.0	
No	351	45.9	1015	87.0	
Missing	6	0.8	35	3.0	
Paid partner(s)					<0.001
Yes	474	62.0	122	10.5	
No	283	37.0	1012	86.7	
Missing	8	1.0	33	2.8	
Sex with regular partners (previous year)					
Had unprotected vaginal sex					0.882
Yes	484	63.3	741	63.5	
No	251	32.8	390	33.4	
Missing	30	3.9	36	3.1	
Had unprotected oral sex					0.012
Yes	423	55.3	574	49.2	
No	273	35.7	475	40.7	
Missing	69	9.0	118	10.1	
Had unprotected anal sex					0.890
Yes	29	3.8	42	3.6	
No	696	91.0	1043	89.4	
Missing	40	5.2	82	7.0	
Sex with casual partners (previous year)					
Had unprotected vaginal sex					<0.001
Yes	284	37.1	73	6.3	
No	449	58.7	1056	90.5	
Missing	32	4.2	38	3.3	
Had unprotected oral sex					<0.001
Yes	286	37.4	74	6.3	
No	418	54.6	1050	90.0	
Missing	61	8.0	43	3.7	
Had unprotected anal sex					<0.001
Yes	18	2.4	6	0.5	
No	702	91.8	1122	96.1	
Missing	45	5.9	39	3.3	
Sex with paid partners (previous year)					
Had unprotected vaginal sex					<0.001
Yes	199	26.0	29	2.5	
No	551	72.0	1103	94.5	
Missing	15	2.0	35	3.0	
Had unprotected oral sex					<0.001
Yes	372	48.6	69	5.9	
No	346	45.2	1058	90.7	
Missing	47	6.1	40	3.4	
Had unprotected anal sex					0.004
Yes	14	1.8	6	0.5	
No	712	93.1	1125	96.4	
Missing	39	5.1	36	3.1	
Gender of sexual partners‡					0.003
Only women	728	95.2	1120	96.0	
Only men	17	2.2	6	0.5	
Both men and women	8	1.0	8	0.7	
Missing	12	1.6	33	2.8	

* STI, sexually transmitted infection; SD, standard deviation

† p values for chi-square test unless otherwise mentioned.

‡ Asked for the previous year for STI patients and for the lifetime for general population.

Table 3. Factors associated with sexually transmitted infection (STI) in a case-control study using male STI patients at 21 STI clinics compared to male controls who were sexually active in the previous year taken from a randomized general population sexual behavior survey

Characteristics	Crude OR*	95% CI*	Adjusted OR†	95% CI
Socio-demographic factors				
Age (years)				
18-39	13.2	9.12, 19.0	3.94	2.17, 7.15
40-49	3.02	2.00, 4.56	1.76	0.93, 3.30
50-59	1.00		1.00	
Employment				
Self-employed	0.32	0.29, 0.50	1.15	0.57, 2.30
Management	0.37	0.19, 0.71	1.00	0.31, 3.19
Employee	0.43	0.29, 0.62	0.95	0.54, 1.70
Unemployed or fulltime student	1.00		1.00	
College/university education or above (referred to high school or less)	2.19	1.81, 2.64	2.03	1.45, 2.83
Unmarried (referred to married)	7.51	6.11, 9.24	2.65	1.80, 3.91
Behavioral factors				
First sexual experience at ≤18 years old (referred to >18 year old)	1.99	1.64, 2.40	0.99	0.71, 1.39
Number of sexual partners in the previous year				
1	1.00		1.00	
2-3	10.3	7.80, 13.6	3.33	2.20, 5.05
≥4	46.3	33.6, 63.8	6.29	3.81, 10.4
Sex with regular partners in the previous year				
Had unprotected vaginal sex (referred to no)	1.02	0.84, 1.23	2.70	1.75, 4.17
Had unprotected oral sex (referred to no)	1.28	1.06, 1.56	0.70	0.48, 1.01
Had unprotected anal sex (referred to no)	1.04	0.64, 1.68	0.93	0.40, 2.17
Sex with casual partners in the previous year				
Had unprotected vaginal and/or oral sex (referred to no)	10.9	8.34, 14.1	2.14	1.40, 3.26
Sex with paid partners in the previous year				
Had unprotected vaginal sex (referred to no)	13.7	9.18, 20.6	2.64	1.46, 4.80
Had unprotected oral sex (referred to no)	16.5	12.4, 21.9	4.72	3.04, 7.32

*OR, odds ratio; CI, confidence interval

†Odds ratio was adjusted by multiple logistic regression analysis for districts (Hokkaido, Tohoku, Kanto-Koshinetsu, Kinki, Chugoku and Kyushu)

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HIV 感染症の動向と影響及び政策のモニタリングに関する研究
分担研究報告書

性感染症患者の HIV 感染と行動のモニタリングに関する研究

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研究要旨

主要都市の STD クリニックを受診した STD 症例及び検診のために受診した CSW (commercial sex worker) 症例を対象として、HIV 抗体検査や梅毒抗体検査などの血清疫学調査と、性器クラミジア、淋菌、ヒト乳頭腫ウイルス (HPV) の陽性率に関する検査を行い、STD 患者及び CSW における HIV 感染の浸透度を検討した。対象症例は、症状を有して STD クリニックを受診した患者及び検診のために受診した CSW とし、このうち STD クリニック受診者に対しては、同意を得て HIV を含む STD 検査を行った。また、可能な症例に対しては性に関するアンケート調査を行った。

平成 20 年度の集積症例数は、STD 外来を受診した男性患者 194 例、女性患者 205 例、検診目的の CSW 268 例で合計 667 例であった。このなかで HIV 検査を拒否した症例は、STD 外来を受診した男性患者 1 例と女性 STD 患者 2 例で合わせて 3 例であった。CSW において HIV 検査を拒否した症例はなかったが、HBs 抗原検査を拒否した症例が 17 例みられた。今年度の HIV 抗体陽性者は、男性 STD 外来受診者で尖圭コンジローマを有さない 132 例中 1 例 (0.8%)、尖圭コンジローマを有していた 61 例中 1 例 (1.3%) で、女性 STD 患者、CSW では HIV 抗体陽性者を認めなかった。その他の STD の陽性率はクラミジアは男性 STD 患者で 6.9%、女性 STD 患者で 10.3%、CSW で 9.7%、淋菌は男性 STD で 6.1%、女性 STD で 2.9%、CSW で 2.6% であった。TPHA 陽性者は男性 STD (コンジローマなし) で 8.4%、コンジローマ症例で 1.6% であったが、女性 STD では 1.0%、CSW では 1.9% の陽性率であった。HBs 抗原は男性 STD では 0%、女性 STD でも 0%、CSW でも 0.4% と低かった。性行動に関するアンケート調査に協力が得られたのは男性 179 例、女性 65 例 (CSW は除く) であったが、女性においては 78.4% が 20 歳代であった。この中で過去 3 ヶ月のセックスでのコンドーム使用状況に関する調査では、使用する方が多かった、毎回使用したと答えたのは、女性で 40%、男性 33.6% と女性の方が高かった。一方、自分が HIV に感染する可能性がどの程度だと思ふかとの質問に対しては、まったくないあるいは低いと思っているのは女性の 73.4%、男性の 73.8% であった。今回の調査の結果、わが国における男性 STD 患者において、HIV 陽性者は昨年と比べ減少していた。また、コンドームの使用状況調査についても女性において昨年と比べやや改善する傾向がみられたが、それでも HIV 感染症を含む STD の予防は十分には行われているとは言えず、HIV を含む STD への感染に対する認識もきわめて低いことが明らかになった。今後も継続して STD 患者における HIV 感染の浸透状況の検討を継続していくことが重要と思われた。