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DENTAL DEFECTS

AMONG ARMY INDUCTEES, MARCH 1943



CLASSIFICATION CHANGED

TO UNCLASSIFIED

AUTH EO 10501

DATE 5 Nov 53

SECURITY OFFICER

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REPORT NO. 1D

WAR DEPARTMENT
OFFICE OF THE SURGEON GENERAL
MEDICAL STATISTICS DIVISION
STATISTICAL ANALYSIS BRANCH
28 SEPTEMBER 1943

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Frank B. [illegible]

REPORT NO. 10

FOR THE
OFFICE OF THE
DIRECTOR
OF THE
BUREAU OF
INVESTIGATION
U. S. DEPARTMENT OF JUSTICE
WASHINGTON, D. C.

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DENTAL DEFECTS

AMONG ARMY INDUCTEES, MARCH 1943

Summary

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1. Approximately 88% of the inductees (white and colored) had one or more teeth missing. Of the white inductees 90% had one or more teeth missing, while 72% of the colored inductees were in this category.

2. About 22% of the inductees (white and colored) had one or more teeth requiring extraction. There was little difference by race in this respect. It is estimated that for every 100 men inducted into the Army about 60 extractions will be required.

3. The proportion of inductees with an artificial denture was 3.4%. Only 6% of these artificial dentures were considered unsatisfactory.

Nature and Extent of Data

This report is based on information obtained from an analysis of a 5 percent sample of the March 1943 Reports of Physical Examination and Induction (Selective Service Form D.S.S. 221). These reports were received and processed by the Office of The Surgeon General.

The study covered reports on 16,192 inductees, of whom 14,752 were white and 1,440 were colored.

The plan of this study was to consider dental status of inductees in respect to:

- a. The number of teeth missing.
- b. The number of non-restorable teeth present, i.e. teeth requiring extraction.
- c. The number of artificial dentures present or complete artificial dentures necessary at the time of induction.

Missing Teeth

Approximately 88% of the total number of inductees (white and colored) were reported as having one or more teeth missing. It should be noted that all extracted third molars were reported and counted as missing teeth. The reporting of non-erupted third molars is believed not to have been uniform and some were reported as missing.

Considering the anterior and posterior teeth separately it was found that while 13.3% had one or more anterior teeth missing as many as 87.5% had one or more posterior teeth missing.

About 13.3% of the inductees had 8 or more teeth missing.

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Table 1 presents the dental status of white and colored inductees combined, by age groups. This table indicates that the probability of having one or more teeth missing increases sharply with age. Among inductees under 20 years of age approximately 87%* had one or more teeth missing. The proportion of men having one or more teeth missing increases with advancing age to 96% for inductees between 35 and 39 years of age. A similar relationship was found to exist in the case of both anterior and posterior teeth. An even more striking picture of the relationship between age and the number of teeth missing is given by the group of inductees with 8 or more teeth missing. Of those inducted under 20 years of age about 8.5% had 8 or more teeth missing, as contrasted with 43.1% of those in the age group 35-39.

Tables 2 and 3 present the dental status of white and colored inductees, respectively, by age groups. It is clear that, in general, relatively fewer colored inductees have one or more teeth missing, as compared with white inductees in the same age groups. Among colored inductees 71.6% had one or more teeth missing, as compared with 90% of the white inductees. Moreover the percentage of inductees having 8 or more teeth missing was only 3.5% for colored inductees, but 14.3% for white inductees.

Non-Restorable Teeth (Teeth Requiring Extraction)

The proportion of inductees (white and colored) reported as having non-restorable teeth is shown in Table 4.

Twenty-two per cent of all inductees appear to require one or more extractions. Only 1% of all inductees need to have 8 or more teeth extracted. Considering the extraction problems of anterior and posterior teeth separately, the percentage of all inductees requiring extractions of anterior teeth was found to be 3.1 while the corresponding percentage for posterior teeth was 21.3.

The data pertaining to non-restorable teeth among white inductees are given by age in Table 5. The variation by age groups in the proportion of inductees requiring at least one extraction is not significant. However the proportion of inductees over 25 years of age who needed 8 or more extractions was more than twice that for the younger inductees. The proportion

* The actual data for inductees under 20 years of age showed 91.2% having one or more teeth missing. However, a detailed study of the original records disclosed that in many cases the examining dentists at the induction boards had reported third molars as missing, even though such teeth were probably present but had not become visible. The percent of inductees having one or more teeth missing was estimated separately for white and colored inductees.

of inductees requiring extraction of one or more anterior teeth also increases with age.

The data pertaining to non-restorable teeth among colored inductees are given in Table 6. The proportion of colored inductees needing one or more extractions is about the same as among white inductees, but the age factor appears to be of greater significance for the colored group. Colored inductees between 35 and 39 years of age are twice as likely to be in need of at least one extraction as are colored inductees under 20 years of age. The increase with advancing age in the proportion of colored inductees requiring at least one extraction may well reflect the lack of previous dental care of carious teeth among colored inductees, as compared with white inductees.

The number of inductees with different numbers of teeth found to be non-restorable is shown in Table 7. On the basis of this data it is estimated that about 60 extractions will be necessary for every 100 men inducted into the Army. The need for dental extractions among white and colored inductees was considered separately for each race and no essential differences were observed between the two races in this respect.

It is of interest to note that of the inductees requiring one or more teeth extracted (who composed 22.2% of all inductees) nearly half are in need of only one extraction.

Artificial Dentures

As indicated in Table 8 approximately 3.2% of the inductees (white and colored) were found to have satisfactory artificial dentures and only 0.2% were found to have an unsatisfactory artificial denture. In addition about 0.1% of the inductees were found to be in need of full dental plates at the time of induction.

Of the total number of inductees with artificial dentures (whether satisfactory or otherwise), 22% (or 0.7% of all inductees) have both upper and lower plates, 6% (or 0.2% of all inductees) have lower plates only and 72% (or 2.5% of all inductees) have upper plates only.

Less than 1% of the colored inductees, as contrasted with 3.7% of white inductees, have an artificial denture.

Table 9 sets forth the distribution by age groups of the white inductees according to the presence of artificial denture. The proportion of inductees with satisfactory plates and with unsatisfactory plates or in need of full dental plates is shown to increase with age.

In a future study it is hoped to develop data bearing upon the probable need of full dental plates following the removal of non-restorable teeth subsequent to induction.

TABLE 1

**MISSING TEETH BY AGE GROUPS
WHITE AND COLORED INDUCTEES COMBINED**

Age Group	Number of Inductees Examined	Inductees With Missing Teeth							
		One or More Missing Teeth		One or More Missing Anterior Teeth		One or More Missing Posterior Teeth		Eight or More Missing Teeth	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 20	7,196	6,254*	86.9*	602	8.4	6,182*	85.9*	610	8.5
20 - 24	5,308	4,637	87.4	610	11.5	4,600	86.7	497	9.4
25 - 29	1,800	1,634	90.8	381	21.2	1,620	90.0	392	21.8
30 - 34	1,282	1,195	93.2	354	27.6	1,182	92.2	397	31.0
35 - 39	606	583	96.2	212	35.0	578	95.4	261	43.1
Total	16,192	14,303	88.3	2,159	13.3	14,162	87.5	2,157	13.3

* Reported figures decreased to correct the erroneous reporting of non-erupted third molars as missing teeth.

Data based upon 5% sample of March, 1943 inductees.

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TABLE 2

MISSING TEETH BY AGE GROUPS
WHITE INDUCTEES

Age Group	Number of Inductees Examined	Inductees With Missing Teeth							
		One or More Missing Teeth		One or More Missing Anterior Teeth		One or More Missing Posterior Teeth		Eight or More Missing Teeth	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 20	6,783	5,969*	88.0*	587	8.7	5,901*	87.0*	608	9.0
20 - 24	4,591	4,136	90.1	571	12.4	4,103	89.4	481	10.5
25 - 29	1,653	1,529	92.5	363	22.0	1,517	91.8	384	23.2
30 - 34	1,184	1,115	94.2	341	28.8	1,104	93.2	386	32.6
35 - 39	541	523	96.7	198	36.6	520	96.1	247	45.7
Total	14,752	13,272	90.0	2,060	14.0	13,145	89.1	2,106	14.3

*Reported figures decreased to correct the erroneous reporting of non-erupted third molars as missing teeth.

data based upon 5% sample of March, 1943 inductees.

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TABLE 3

MISSING TEETH BY AGE GROUPS
COLORED INDUCTEES

Age Group	Number of Inductees Examined	Inductees With Missing Teeth							
		One or More Missing Teeth		One or More Missing Anterior Teeth		One or More Missing Posterior Teeth		Eight or More Missing Teeth	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 20	413	285*	69.0*	15	3.6	281*	68.0*	2	0.5
20 - 24	717	501	69.9	39	5.4	497	69.3	16	2.2
25 - 29	147	105	71.4	18	12.2	103	70.1	8	5.4
30 - 34	98	80	81.6	13	13.3	78	79.6	11	11.2
35 - 39	65	60	92.3	14	21.5	58	89.2	14	21.5
Total	1,440	1,031	71.6	99	6.9	1,017	70.6	51	3.5

* Reported figures decreased to correct the erroneous reporting of non-erupted third molars as missing teeth.

Data based upon 5% sample of March, 1943 inductees.

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TABLE 4

NON-RESTORABLE TEETH PRESENT BY AGE GROUPS
WHITE AND COLORED INDUCTEES COMBINED

Age Group	Number of Inductees Examined	Inductees with Non-Restorable Teeth							
		One or More Non-Restorable Teeth		One or More Non-Restorable Anterior Teeth		One or More Non-Restorable Posterior Teeth		Eight or More Non-Restorable Teeth	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 20	7,196	1,578	21.9	167	2.3	530	21.3	50	0.7
20-24	5,308	1,197	22.6	154	2.9	149	21.6	36	0.7
25-29	1,800	413	22.9	76	4.2	394	21.9	31	1.7
30-34	1,282	261	20.4	58	4.5	241	18.8	26	2.0
35-39	606	148	24.4	39	6.3	133	21.9	14	2.3
Total	16,192	3,597	22.2	494	3.1	3,447	21.3	157	1.0

Data based upon 5% sample of March, 1943 inductees.

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TABLE 5

NON-RESTORABLE TEETH PRESENT BY AGE GROUPS
WHITE INDUCTEES

Age Group	Number of Inductees Examined	Inductees With Non-Restorable Teeth							
		One or More Non-Restorable Teeth		One or More Non-Restorable Anterior Teeth		One or More Non-Restorable Posterior Teeth		Eight or More Non-Restorable Teeth	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 20	6,783	1,496	22.1	162	2.4	1,448	21.3	48	0.7
20-24	4,591	1,031	22.5	142	3.1	987	21.5	33	0.7
25-29	1,653	369	22.3	71	4.3	351	21.2	29	1.8
30-34	1,184	223	18.8	54	4.6	203	17.1	24	2.0
35-39	541	122	22.6	31	5.7	108	20.0	11	2.0
Total	14,752	3,241	22.0	460	3.1	3,097	21.0	145	1.0

Data based upon 5% sample of March, 1943 inductees.

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TABLE 6

NON-RESTORABLE TEETH PRESENT BY AGE GROUPS
COLORED INDUCTEES

Age Group	Number of Inductees Examined	Inductees with Non-Restorable Teeth							
		One or More Non-Restorable Teeth		One or More Non-Restorable Anterior Teeth		One or More Non-Restorable Posterior Teeth		Eight or More Non-Restorable Teeth	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 20	413	82	19.9	5	1.2	82	19.9	2	0.5
20-24	717	166	23.2	12	1.7	162	22.6	3	0.4
25-29	147	44	29.9	5	3.4	43	29.3	2	1.4
30-34	98	38	38.8	4	4.1	38	38.8	2	2.0
35-39	65	26	40.0	8	12.3	25	38.5	3	4.6
Total	1,440	356	24.7	34	2.4	350	24.3	12	0.8

Data based upon 5% sample of March, 1943 inductees.

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TABLE 7

**NUMBERS OF NON-RESTORABLE TEETH PRESENT
AND ESTIMATED EXTRACTIONS REQUIRED
WHITE AND COLORED INDUCTEES COMBINED**

Number of Non-Restorable Teeth Present (a)	Inductees		Number of Extractions Required per 100 Inductees (a x c) (d)
	Number (b)	Percent (c)	
1	1,698	10.5	10.5
2	782	4.8	9.6
3	417	2.6	7.8
4	236	1.5	6.0
5	129	0.8	4.0
6	97	0.6	3.6
7	81	0.5	3.5
8 or More	157	1.0	15.0*
One or More None	3,597 12,595	22.2 77.8	60.0 *
Total	16,192	100.0	60.0

* Estimated Average.

Data based upon 5% sample of March, 1943 inductees.

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TABLE 8

ARTIFICIAL DENTURES BY TYPE
WHITE AND COLORED INDUTEES

Dental Plate Status	White and Colored Combined		White		Colored	
	Number	Percent	Number	Percent	Number	Percent
With Upper and Lower Plates						
Satisfactory	113	0.7	109	0.7	4	0.3
Unsatisfactory	6	0.0	6	0.0	0	-
With Upper Plates						
Satisfactory	379	2.3	376	2.6	3	0.2
Unsatisfactory	18	0.1	17	0.1	1	0.1
With Lower Plates						
Satisfactory	33	0.2	32	0.2	1	0.1
Unsatisfactory	1	0.0	1	0.0	0	-
Total With Plates						
Satisfactory	525	3.2	517	3.5	8	0.6
Unsatisfactory	25	0.2	24	0.2	1	0.1
Total Without Plates						
With All Teeth Present	1889	11.7	1480	10.0	409	28.4
One or More Teeth Missing (other than edentulous)	13,735	84.8	12,711	96.2	1,022	71.0
Edentulous	18	0.1	18	0.1	0	-
Total Inductees Examined	16,192	100.0	14,752	100.0	1,440	100.0

Data based upon 5% sample of March 1943 Inductees

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TABLE 9

ARTIFICIAL DENTURES BY AGE GROUPS
WHITE INDUCTEES

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Age Group	Number of Inductees Examined	Inductees with Satisfactory Plates		Inductees with Unsatisfactory Plates or Edentulous with No Plates	
		Number	Percent	Number	Percent
Under 20	6,783	130	1.9	7	0.1
20 - 24	4,591	145	3.2	7	0.2
25 - 29	1,653	84	5.1	12	0.7
30 - 34	1,184	89	7.5	6	0.5
35 - 39	541	69	12.8	10	1.8
Total	14,752	517	3.5	42	0.3

Data based upon 5% sample of March, 1943 inductees.

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