

# DISTRIBUTION OF DENTAL THERAPISTS AND ASSISTANT DENTAL OFFICERS TRAINED UNDER THE TANZANIA-DANIDA DENTAL HEALTH PROGRAMME 1981-1993

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## INTRODUCTION

International collaboration for development of oral health in Tanzania was initiated in the early 1980's through government agreements between the government for Tanzania and three donor-governments: the government of Denmark, the government of Finland and the government of Holland. Support from the Finnish and Dutch governments have mainly focused on undergraduate and postgraduate training of dentists and research. Danish support has been from the Danish International Development Agency (Danida) through the Tanzania-Danida Dental Health Programme and has included support to the training institutions under Ministry of Health'.

In Tanzania, training of oral health personnel comprises training of Dental Officers, Assistant Dental Officers and Dental Therapists (formerly Dental Assistants). Dental Officers are trained in the University of Dar es Salaam, while Assistant Dental Officers and Dental Therapists are trained in Ministry of Health training institutions.

Training of Dental Therapists has taken place in Tanzania since 1955, but was interrupted for a ten-year period from 1961 to 1971. The training of Dental Therapists is integrated in the Medical Assistant Training Schools in Mbeya and Tanga. The course is a three-year course of which the first two years are done together with the Medical Assistants and the third year is purely dental. The curriculum was reviewed and revised recently (2).

The training of Dental Therapists in Tanga was initiated in 1980 and in Mbeya in 1982. Both schools were built

and equipped by Tanzania-Danida Dental Health Programme and the programme has supported the running of the schools and the training, including training of teachers in teaching methodology. Both schools have been dimensioned to take up 12 students per year.

Assistant Dental Officers are trained in the Assistants Dental Officer School under the Institute of Allied Health Personnel of the Muhimbili University College of Health Sciences in Dar es Salaam. Admission to the course requires a minimum of 3 years of employment as a Dental Therapist and successful completion of an entrance examination. The course is a two-year course of theoretical and clinical training. The curriculum was reviewed and revised recently (3). The Tanzania-Danida Dental Health programme has supported the school through renovation of the school and support to the training, including training of teachers. The uptake has been 10 students every second year.

The purpose of the present paper is to describe the production of candidates from the two courses during the period of support from Danida 1981-1993 and their subsequent posting in the oral health services.

## MATERIAL AND METHODS

List of graduates for each of the three training institutions was obtained from the principals. The lists included the year of graduation and the name of each graduate. The sex was subsequently determined from the name of the graduate. Information on posting was obtained from the files on dental personnel in Tanzania, Mainland kept in the Central Oral Health Unit, Ministry of Health, Dar es Salaam and from the Chief Dental Officer, Ministry of Health, Zanzibar. These lists were updated in March 1994 through correspondence with the Regional Dental Officers.

Linking of the list of graduates with the information on posting was done manually on the basis of name. In cases of doubt, the Principals, the professional staff in

1 - Tanzania-Danida Dental Health Programme, P.O. Box 9171, Dar es Salaam, Tanzania.

2 - Dental Therapist Training School, P.O. Box 5744, Tanga, Tanzania

3 - Dental Therapist Training School, P.O. Box 1142, Mbeya, Tanzania.

4 - Assistant Dental Officer School Muhimbili, P.O. Box 65014, Dar es Salaam, Tanzania.

5 - Central Oral Health Unit, Ministry of Health, P.O. Box 273, Dar es Salaam, Tanzania.

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Central Oral Health Unit or the Regional Dental Officer was consulted.

**RESULTS**

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Table 1 shows that until the end of 1993, 169 graduates have been produced, 21 % of which were females.

**Table 1 : Number of dental therapists trained after the programme started in 1981**

Year	Male	Female	Total
1983	2	4	6
1984	5	1	6
1985	13	2	15
1986	18	0	18
1987	16	1	17
1988	15	4	19
1989	15	5	20
1990	13	4	17
1991	11	5	16
1992	15	6	21
1993	11	3	14
<b>Total</b>	<b>134</b>	<b>35</b>	<b>169</b>

Since 1985 the number of graduates have ranged from 14 to 20 or from 5.8 % to 83 % of the total production capacity of the two schools, giving an average of 70 % for the entire period.

Table 2 shows that 38 Assistant Dental Officers have graduated, corresponding to 95 % of the capacity. 29 % of the graduates were females. It should be remembered, that only 21 % of the Dental Therapists, among whom the Assistant Dental Officers are recruited, are females.

**Table 2 : Number of assistant dental officers trained after the programme started in 1981**

Year	Male	Female	Total
1986	3	5	8
1987	7	1	8
1990	11	2	13
1992	6	3	9
<b>Total</b>	<b>27</b>	<b>11</b>	<b>38</b>

Since the newly graduated Dental Therapists have to serve for one year in the National Service, before they are posted, and since posting and reporting to the posts

may take a while, the following analysis of the posting of Dental Therapists is limited to those, who graduated before 1992, a total of 134.

Table 3 shows, that six Dental Therapists had gone for further training (including the Assistant Dental Officer course), six were recruited from other countries and had gone back to their home country, one had left the country and three had died. This leaves 118 (134-16) for further analysis.

**Table 3 : Distribution of 134 dental therapists trained from 1981 to 1991 according to station**

Station	Number
Regional or consultant hospitals	21
Municipal clinics	6
District clinics	47
Non government organisations	12
Military clinics and prisons	5
Private	5
Out of dentistry	7
Gone for further training	6
Gone to other countries	7
Deceased	3
No information available	15
<b>Total</b>	<b>134</b>

Of these 63 % (74) were working in government clinics with 40 % (47) in the district clinics. Slightly more than 10 % had been employed by non-government organisations and a few had gone to private practice. Out of the entire group of 134, no information was available on 11 % (15).

Of the graduates from the Assistant Dental Officer course, one had been recruited from another country and had gone back (Table 4). Of the remaining 37, 86 % (32) were employed in government clinics. Two were working with non-government organisations and two had gone to private practice.

**DISCUSSION**

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The present study is based on information from on the one hand a list of graduates obtained from the Principals of the training institutions and on the other hand, the Regional Dental Officers reports to the Central Oral Health Unit, Ministry of Health. The lists of candidates from the training institutions must be considered as a

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valid roster of the graduates as they comply with lists of graduates who receive awards from Ministry of Health. The information on the posting of both Dental Therapists and Assistant Dental Officers is, however subjected to a number of sources of errors, such as lack of reporting, reporting of wrong information, including local transfers, problems with matching due to change of name etc. The information was repeatedly checked with the Central Oral Health Unit and subsequently reviewed with each of the Regional Dental Officers at their annual meeting in March 1994. In spite of all efforts, the information could still contain errors. The rather high number of Dental Therapists, on which no information could be found, supports this.

More efficient methods of reporting and monitoring the distribution of oral health personnel are needed to avoid similar problems in the future.

Production of Dental Therapists has for most of the years been above 70% and for Assistant Dental Officers above 90% of the capacity of the training institutions. Considering the fact, that a career in dentistry is not attractive to young Tanzanians, the teaching facilities sponsored by the Tanzania-Danida Dental Health Programme seems to have been utilised rather efficient. The higher utilisation of the training facilities at the Assistant Dental Officer School could be due to the fact, that this course is the only upgrading possibility for Dental Therapists and thus very attractive. It also reflects a high retention of the students, once they have entered the course.

Since the issue of women in development has been on the donors agenda for some years, it is interesting to note, that 21 % of the graduated Dental Therapists are females and that this increases to 29% for the graduates from the Assistant Dental Officers course.

Prior to the initiation of the Tanzania-Danida Dental Health Programme a total of 42 Dental Therapists were available in the country<sup>4</sup>. With the graduation of 169 Dental Therapists, the Programme has resulted in four times as many Dental Therapists as were available at the beginning of the programme. The production of Assistant Dental Officers has eliminated the decrease observed right after the start of the programme (see Table 5), probably due to retirement.

Table 5 shows, that those Dental Therapists, who have been trained during the Tanzania-Danida Dental Health

Programme, have been posted according to a pattern very similar to that which was found before the start of the programme, i. e. approximately 70 % of them have been posted to the district hospitals or the non-government organisation. Two features in the distribution of the Dental Therapists should, however be noted. Firstly, no information is available for 11% of the Dental Therapists graduated from 1981 to 1991. Several of these may have left the profession, but a number of them may also be practising in non-regulated private practice. Secondly, 14% of those who are posted in the districts are in non-government clinics, which are usually much better equipped and supplied than government clinics. Both issues may indicate that the conditions in government clinics are such, that many Dental Therapists find alternative posts on their own initiative.

For the Assistant Dental Officers, information was available for all the 38 graduates. The majority of the graduates were working in regional, consultant or municipal clinics, a distribution, which is very similar to that found before the programme started (1979). Only two were in private practice.

For both categories of dental personnel, the strategy, which was outlined at the start of the programme (firstly (by 1990) to staff the district hospitals, and secondly (by 2000) to staff a great deal of the health centres as well does not seem to have been implemented. This should be taken into consideration when the country's National Plan for Oral Health 1988-2002 is revised.

**Table 4 : Distribution of 38 assistant dental officers trained from 1986 to 1992 according to station**

Station	Number
Regional or Consultant Hospitals	13
Municipal clinics	8
District clinics	9
Training institutions	2
Non government organisations	2
Private	2
Further training	1
Gone to other countries	1
<b>Total</b>	<b>38</b>

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**Table 5 : Distribution of dental therapists and assistant dental officers working in either government or non-government clinics in 1979 (before Tanzania-Danida Dental Health Programme started) and in 1983 (immediately after the programme started) compared to those who have been trained during the programme (1994)**

Station	Dental therapists			Assistant Dental Officers		
	1979	1983	1994	1979	1983	1994
	(n = 42)	(n = 48)	(n = 86)	(n = 35)	(n = 19)	(n = 34)
Regional or consultant, incl. Training institutions	29	33	24	72	53	44
Municipal clinics	-	-	7	-	-	24
District clinics	62	67	55	27	47	26
Non-government organisations	10		14	0		6
<b>Total</b>	<b>101</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**SUMMARY**

The purpose of the present study was to describe the production of Dental Therapists and Assistant Dental Officers trained in Ministry of Health institutions in Tanzania during more than ten years of support from the Danish International Development Agency (Danida) through the Tanzania-Danida Dental Health Programme and to investigate their distribution and location. A total of 169 Dental Therapists and 38 Assistant Dental Officers have been trained from 1981 to 1993, representing more than 70% of the training capacity of the schools for training of oral health personnel under Ministry of Health.

The distribution of both Dental Therapists and Assistant Dental Officers according to working station was, however very similar to that found before the Danida support began. Two out of every three Dental Therapists in government service were stationed in district clinics or non-government clinics at the district level. The same was true for one out of every three Assistant Dental Officers.

It is concluded, that the intentions laid down in Tanzania's National Plan for Oral Health 1988-2002 of first staffing the district hospitals and, later on, the health centres with Dental Therapists have not yet been fulfilled.

**REFERENCES**

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