


PROPOSAL FOR -
THE SOUTH PACIFIC COMMISSION
SPECIAL PROJECT ON DIABETES

By

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It is quite apparent that diabetes is a major health problem in Micronesia and Polynesia and, to a certain extent, in Fijian Indians. Already, high prevalence rates apparently exist in French Polynesia, Samoa, Tonga, Trust Territory of the Pacific Islands, Fiji Indians and Nauru. With progressive urbanization and westernization of the diet, the problem can only be expected to worsen. For this reason, it is suggested that the nutritional activities of the South Pacific Commission be extended to include a Special Project relating to the problem of diabetes in the South Pacific Region.

For more information on the problem of diabetes in the region, reference should be made to the Information Circular "Clinical and Epidemiological Aspects of Diabetes in the South Pacific Region".

In formulating a project plan, the subject should be discussed under several headings:

1. Definition of extent of problem
2. Preventive measures and treatment
3. Education
4. Research

1. DEFINITION OF EXTENT OF PROBLEM

While the extent of the problem is known in certain territories, the SPC Epidemiologist will need to formulate

a plan to determine the true situation in each country.

Three main activities should be pursued:

(a) Diabetes survey - a pilot survey of a randomly selected group should be carried out in territories where this has not been done previously. Surveys of the whole population might be an ideal but are impracticable for a number of reasons:

- (i) facilities may not exist to cope with such a sudden load of new diabetics: it would be morally wrong to discover large numbers of diabetics without having the means to treat them;
- (ii) limitation of finance;
- (iii) widespread distribution of communities and poor communication, etc in some territories.

A small pilot survey in each country could define the situation so that some projection could then be made as to the extent of the problem. Plans could then be made in a logical way to provide facilities to cope

with the expected problem.

- (b) Diabetic register - a register of all known diabetics should be made in each region. As a rule, it could be expected that there might be at least one or two unknown diabetics for every known one.

- (c) Dietary surveys - the SPC Medical Nutritionist and Dietitian should plan (with medical consultants) dietary surveys to determine dietary habits, caloric intakes in specific regions and the contribution of protein, fat, carbohydrate and alcohol to the total. Surveys should be made to assess currently available foods so that dietary advice can be given to governments in relation to what foods might be more appropriate.

Once the extent of the problem throughout the region is known, the establishment of special diabetes clinics could be pursued. These clinics, staffed by medical officers and/or trained nursing staff could then act as centres to provide facilities for:

- (i) detection of new diabetics
- (ii) education and treatment of
new and known diabetics
- (iii) education of the public about
diabetes.

2. PREVENTITIVE MEASURES AND TREATMENT

(a) Prevention

It appears that Micronesians and Polynesians have a genetic susceptibility to diabetes.

In general, the diabetes is precipitated by the process of "westernization" both cultural and dietary. The prevalence of diabetes is very low on islands where traditional exercise and dietary patterns still exist. In the groups already studied, it seems that the high caloric intake coupled with very low levels of physical activity (both work and exercise) lead to obesity. This, in turn, is a major factor in the development of the diabetic state.

Thus, education (to be discussed later) relating to proper dietary and exercise habits would be a major preventative measure.

(b) Treatment

In nearly every instance, the Pacific diabetic is of the maturity-onset type. This form of diabetes is usually amenable to treatment with:

- (i) Diet
- (ii) Weight reduction, and
- (iii) Drug therapy, i.e. oral hypoglycaemics.

Occasionally, insulin treatment is necessary and this creates enormous problems in the day-to-day management of the Pacific diabetic. In general, daily insulin injections are quite unacceptable and impracticable to these patients and there is rapid deterioration of the diabetic state.

- (c) New developments in treatment - there have been very few advances in the treatment of diabetics in the last 20 years so, in general, one cannot hold a great deal of hope for simpler means for treatment of diabetes. However, collaborative studies in Melbourne between the Monash University Department of Biochemistry (Head - Professor J Bornstein) and Department of

Metabolic Medicine and Epidemiology,
Southern Memorial Hospital (Director -
Dr P Zimmet) do hold some slight hope
for simpler treatment of Pacific diabetes.
Studies are proceeding on a new drug
(Cataglykin) which could represent a
breakthrough if clinical trials presently
in progress overseas are promising. It is
envisaged that only monthly tablets or
injections would be necessary to control
the diabetes and the patient would not
necessarily need to change dietary habits.

3. EDUCATION

- (a) Patients and Community - While dietary re-education, weight reduction and exercise programmes would appear to be the major weapons to be used, great difficulty has been encountered in changing traditional and newly developed dietary habits. Thus, while it might appear to be callous to say that little success can be expected from expenditure of time and money on treatment and education

of new and known diabetics, there can be little question that efforts directed at education of the general population (particularly children) in improved dietary and exercise patterns, should be the direction of the major effort.

While traditional beliefs hold that to be obese is to be affluent, the whole weight of medical evidence indicates disastrous associations between obesity as a cause of ill-health (diabetes, heart disease and hypertension) and premature death.

Acceptance of western habits - less exercise, sedentary jobs, motor cars and bikes, etc. which are deleterious to health - only accentuate the problem. Basically, a whole re-direction of newly adopted social, cultural and dietary attitudes will be necessary to reverse the current trend of increasing diabetes prevalence in the region.

- (b) Doctors and Allied Medical Staff - Training programmes relating to the management of diabetes will be necessary at regional and

local community levels.

There will be an important role for part-time consultants, the SPC Medical Nutritionist, Health Education Officer and Dietitian in formulating these educational activities.

Medical officers and nurses who attend regional meetings could hold local community education programmes on return to their own territories.

In territories where medical staff is limited, it should be possible to staff diabetic clinics with nurses or nursing aides who have undergone courses in the management of diabetes and diabetic diets etc.

A manual relating to all aspects of diabetes management and care (relating directly to the Pacific region) could be prepared by consultants and SPC staff.

4. RESEARCH

Certain research projects are already proceeding in the South Pacific region, particularly with a view to establishing why such high prevalence rates exist in Micronesian and Polynesian groups. Some resources should be directed towards₈

the continuation of diabetes research particularly in areas relating to:

- (a) new approaches to treatment
- (b) effect of diabetes on other aspects of community health, e.g.
 - heart disease
 - kidney disease
 - eye disease
 - foetal mortality
 - tuberculosis
- (c) effects of adequate treatment of diabetes in preventing long-term complications of the disease
- (d) the role of nutritional factors in causation of diabetes
- (e) the health effects of urbanization, particularly with relation to diabetes.

Collaboration between research groups is essential and should be coordinated.

RECOMMENDATIONS

1. That Recommendation No. 12 of the 8th Conference on Health Services (Vila) be implemented immediately, i.e. 9

(a) the SPC Epidemiologist extend his activities to cover the problem of diabetes in the region.

(b) health education activities be undertaken with a view to promote awareness of diabetes problems among high risk groups.

2. That a Special Project on Diabetes should be established or the Special Project on Nutrition should be extended to incorporate a project on diabetes.

3. That an Ad hoc Advisory Group for a Special Project on Diabetes be established. The SPC Medical Nutritionist, Health Education Officer and Dietitian should be co-opted to the Group.

BUDGET (ANNUAL) FOR S.P.C. PROJECT ON DIABETES

<u>PERSONNEL</u>	\$
Medical consultants (part time)	10,000
Medical technologist (part time)	4,000
Travel costs (consultants, survey visits)	6,000
Stationery, data sheets, printing, etc.	1,000
Publications and printing costs (Information circular, manual, course notes, etc)	3,000
Computer analysis	3,000
<u>SURVEY COSTS</u>	
Portable glucose analyser (YSA Model 23A)	2,600
Reagents and replacements	500
<u>EQUIPMENT FOR 4 TO 6 PILOT SURVEYS</u>	
(Syringes, glucose loads, needles, blood storage tubes, pipettes)	3,500
<u>MEDICAL EQUIPMENT</u>	
Seca metric scales (height & weight)	<u>250</u>
	\$33,850
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This budget is for one year and costs in the second year would be similar.