

***PREVALENCE***  
***OF***  
***DIABETES***  
***AND***  
***HYPERTENSION***  
***IN ROTUMA***

***(JULY - 1996)***

*Report by - Dr. Temo Kiloni*  
*(Medical Officer Rotuma)*

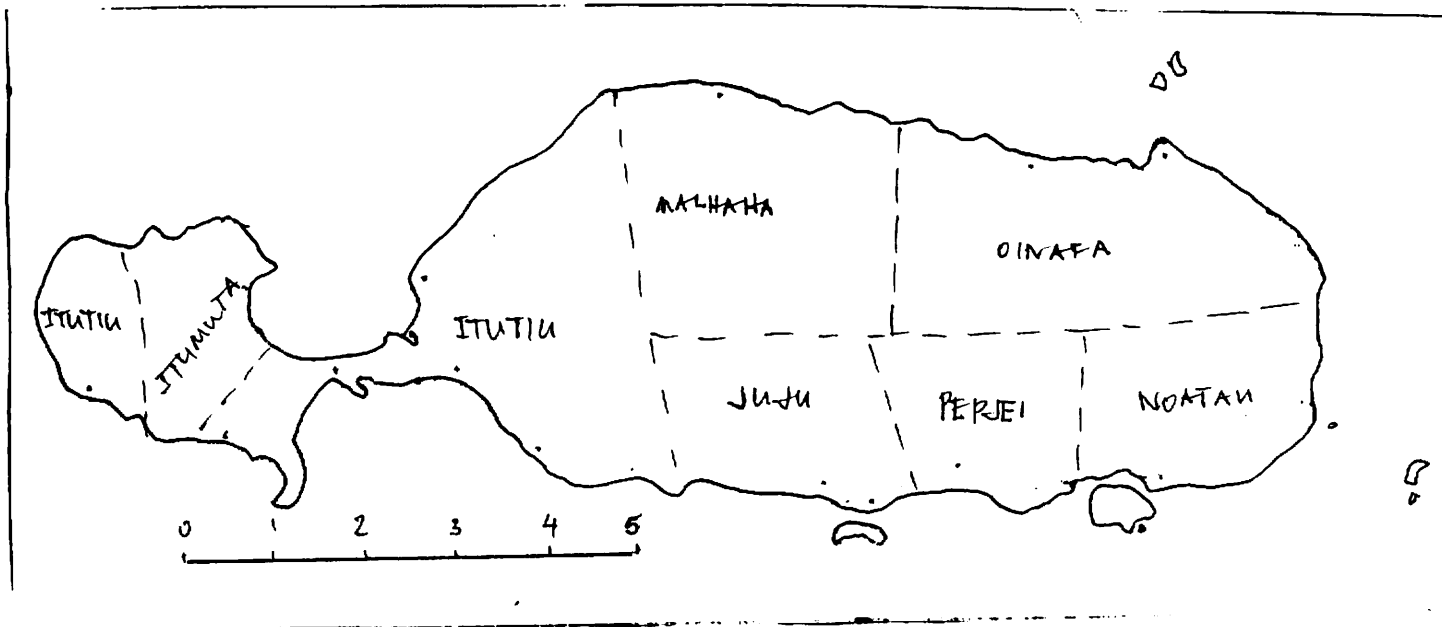
# PREVALENCE OF DIABETES & HYPERTENSION IN ROTUMA - JULY '96

(Survey conducted by Dr. Temo - Medical Officer Rotuma, Staff Nurse Olovi A, Staff Nurse Mita P, AHI Salote K, VHWS Luisa, Marsuana, Maria, Selina and Mr. Sumasafu)

## INTRODUCTION:

With the high rate of admissions due to Diabetes Mellitus and Hypertension complications, poor controls in clinic follow ups and absence of figures to define the two diseases, the Medical Department in Rotuma set forth in July, 1996 to survey the population and define the prevalence of Diabetes and Hypertension, conducting Health Education and picking up defaulter and new cases in the process. Apart from that, the survey also tried to describe the overweight problem as a result of lifestyle problems - its prevalence in different sexes and age group.

Fig.1 Map of Rotuma showing the boundaries of the seven districts.



## OVERVIEW:

Rotuma is a volcanic island with a population of 2, 5050 (June '96) with an area of 43sq km located at 12 deg. 30' South, 177 deg East and lies 465km northwest of Cikobia which is the northern most island of Fiji.

It is a setting of rural people living an urban lifestyle and so non-communicable diseases like Diabetes Mellitus and Hypertension prevail to certain alarming proportion as the survey sets forth to describe figuratively. Although the National figures could not be obtained, the estimated is about 10% for Diabetes Mellitus and slightly higher for Hypertension.

#### MATERIALS AND METHODS:

The sample population was those of the age-group 20 years and above and their BP was taken with three consecutive readings in the sitting positions of 2 mins apart and one RBS reading using the Advantage Glucometer. Anyone with a high reading was to report to hospital the next day whereby another set of reading is taken and therapy started where appropriate.

Also their weight and heights were taken and tabled then compared against the standard weight and height table from NFNC to classify as Under, Ideal, Overweight or Obese. A single reader for each of the parameters was done to minimise inter-observer error.

Hypertension:- reading of 140/90 sitting up on three consecutive readings is diagnostic with special consideration for age.

Diabetes:- RBS reading of 11.0mmol on two occasions is diagnostic. Those with RBS 10-11.0 were also called to hospital for a repeat check.

RESULTS: Survey population - 915

	<u>Hypertension</u>	<u>Diabetes Mellitus</u>
New cases	66 (47.4%)	23 (26.4%)
Registered cases	73 (52.5%)	64 (73.6%)
<u>TOTAL</u>	<u>139</u>	<u>87</u>
Prevalence	Hypertension - 5.5% (15.2 - age specified)	
	Diabetes - 3.5% (9.5 - age specified)	

Fig. 1.0 Table of percentages of Diabetes, Hypertension and overweight in different age-groups in Rotuma

AGE GROUP	DIABETES			HYPERTENSION			OVERWEIGHT/OBESE		
	No.	Total	%	No.	Total	%	No.	Total	%
20 - 29	1	149	0.7	3		2.0	77		51.7
30 - 39	3	225	1.3	17		7.5	153		68
40 - 49	13	180	7.2	25		13.9	129		71.7
50 - 59	26	185	14.5	41		22.2	134		72.4
60 - 69	38	128	29.7	42		32.8	84		65.6
≥ 70	6	48	12.5	11		22.9	23		47.9
TOTAL	87	915	9.5	139	915	15.2	600	915	65.6

Fig 1.1 Table of percentages of Diabetes Mellitus, Hypertension and overweight in different sexes in Rotuma

	M A L E			F E M A L E		
	No.	Total	%	No.	Total	%
Diabetes	23	436	5.3	64	479	13.4
Hypertension	47		10.8	92		19.2
Overweight/Obese	223		51.1	377		78.7
Total						

Fig 1.2 Table of percentages of underweight, Ideal, overweight and obese in different sexes in Rotuma

SEXES	UNDERWEIGHT	IDEAL	OVERWEIGHT	OBESITY	T O T A L
MALE	26 (6.4%)	187 (42.7%)	146 (33.3%)	77 (17.6%)	438
FEMALE	19 (4.0%)	83 (17.3%)	151 (31.5%)	226 (47.2%)	479

Fig 1.3 Table of percentages of underweight, Ideal, overweight and obese in different age groups in Rotuma.

AGE GROUP	UNDERWEIGHT	IDEAL	OVERWEIGHT	OBESITY	TOTAL
20 - 29	5 (3.4%)	67 (44.9%)	51 (34.2)	26 (27.4%)	149
30 - 39	9 (4)	63 (28)	70 (31.1)	83 (36.8)	225
40 - 49	7 (3.9%)	44 (24.4%)	64 (35.5%)	65 (36.1%)	180
50 - 59	10 (5.4%)	41 (22.2%)	52 (28.1%)	82 (44.3%)	185
60+	14 (7.9%)	55 (31.3%)	60 (34.1%)	47 (26.7%)	176
TOTAL	45 (4.9%)	270 (29.5%)	297 (32.5%)	303 (33.1%)	915

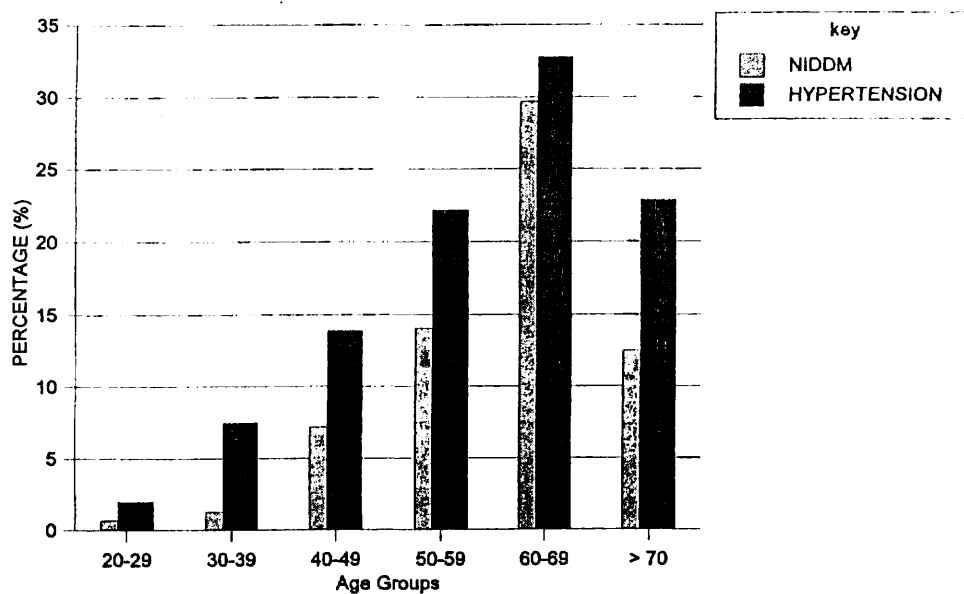


Fig. 1.4 Graph of percentages of NIDDM, Hypertension in different age groups in Rotuma.

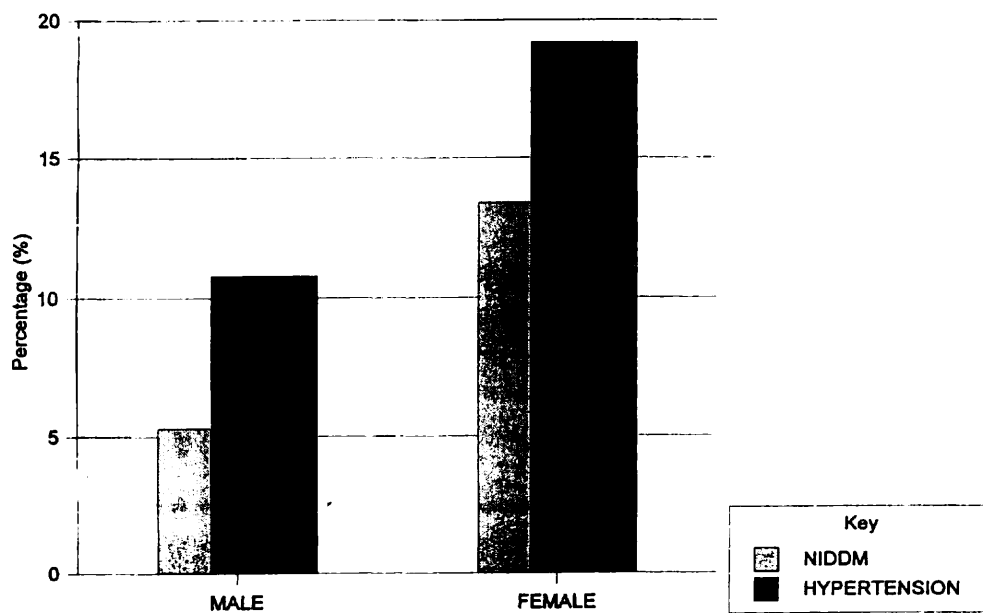


Fig. 1.5 Graph of percentages of NIDDM, Hypertension in different sexes in Rotuma.

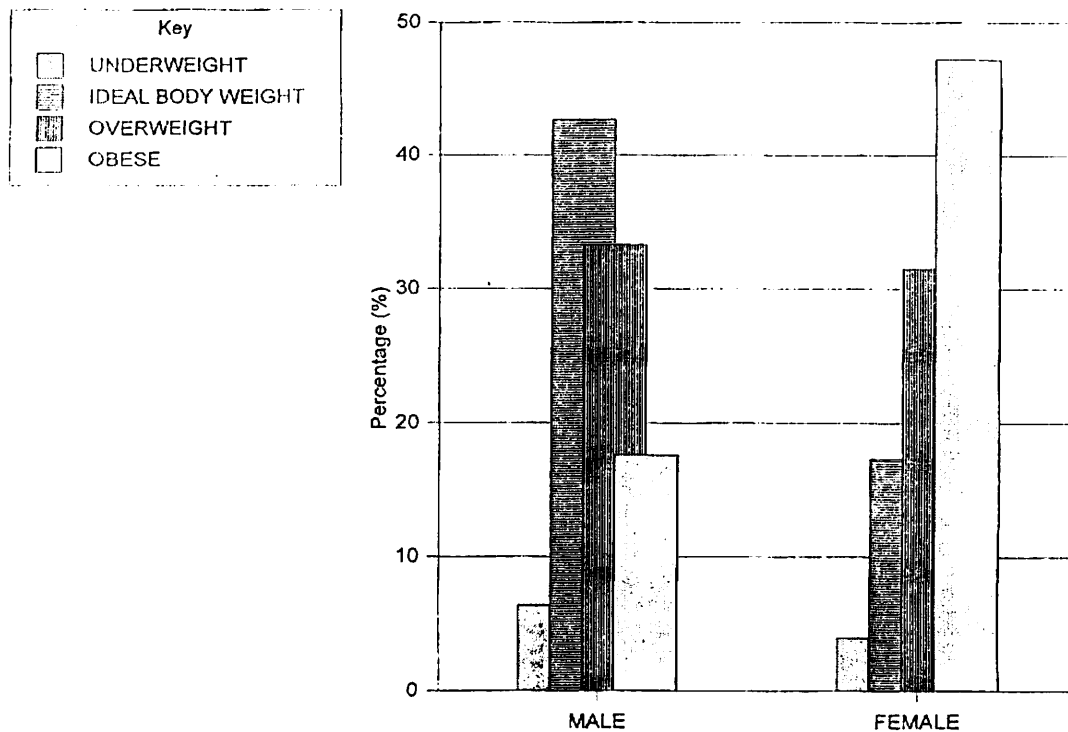


Fig. 1.6 Graph of percentages of underweight, ideal, overweight and obese in different sexes in Rotuma.

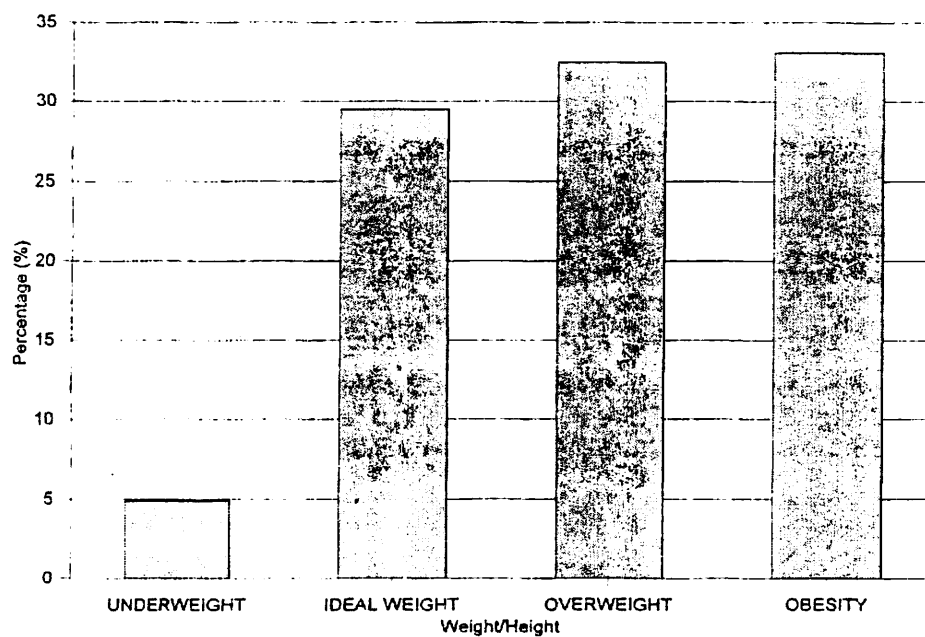


Fig. 1.7 Graph of percentages of underweight, ideal, overweight and obese in Rotuman population.

## DISCUSSION:

It could be noted from the study that the prevalence of Hypertension (5.5%) and Diabetes (3.5%) is comparable to the National figures although slightly lower than the estimated. As expected, when taken for specific age group population the values are higher.

The age group with highest percentage of both Diabetes Mellitus and Hypertension was the 60-69 years age group but interestingly enough there is some significant percentage in the 20-40 category.

As far as sexes is concerned the females had the higher percentage of both Diabetes Mellitus and also overweight and obesity.

It is interesting to note that about 66% of Rotuma's about 20 years population are either overweight or obese. Also from Figure 1.6, it could be seen that with males - most of them were in the 'ideal' body weight category whereas for females most of them fall in the 'obese' category.

Although the survey was purely descriptive and no statistical tests of comparison was done, it could be said that the problem of overweight hence Diabetes Mellitus and Hypertension is more with females than males which could be explained by the fact that females live a very sedentary lifestyle as compared to the men.

One of the most useful element of this survey was the amount of new cases picked up, diagnosed and started on therapy. As shown, about 89 new cases of either Hypertension or Diabetes Mellitus or both were picked up - which could have later gone into complications undetected if it wasn't for the survey.

Health Education on Diabetes Mellitus and Hypertension and other topics conducted by the survey team in forms of Role Plays and Posters were quite informative and well received and appreciated by the communities at large. There were also a good number of Defaulters picked up for further follow up and treatment.

### CONCLUSION:

1. Prevalence
  - Diabetes Mellitus - 3.5% (9.5% - age specified)
  - Hypertension - 5.5% (15.2% - age specified)
  
  - Overweight - 32.5%
  - Obese - 33.1%
2. The highest prevalence of Diabetes Mellitus and Hypertension was in the 60-69 age category.
3. Highest prevalence in terms of sex for both diseases is in the females.
4. The highest percentage of obesity is found in females and age group 50 - 59.

There were the total of 89 new cases of either Diabetes Mellitus or Hypertension or both picked up during the survey and commenced on treatment.

### PLAN OF ACTION:

1. Health Education:- as started during the survey, emphasis on Risk Factors especially Diet, Smoking and Exercise.
  - programme started with Health Promotion Unit of promoting sporting activities organising NO SMOKING SPORTS DAY for clubs and there has been a good response so far.
  - a seminar is planned for all Diabetics and Hypertensives to emphasise on
    - Complications
    - Management at Home
    - Dietary
2. Clinic Follow-up - each patient is made a folder and to be followed up on a regular basis.
3. Community Follow Ups - Village Health Workers are to be issued with the names of Diabetes Mellitus and Hypertension cases in their area for follow up in case of defaulting clinic or non-compliance.

4. *Hospital Education: Continuing thorough education on patients admitted to Hospital with Diabetes Mellitus or Hypertension from therapy to follow up and prevention of complications.*

ACKNOWLEDGEMENT:

1. *To GOD ALMIGHTY for strength, ability and wisdom.*
2. *Dr. Vilikesa Rabukawaqa and Dr. Lepani Waqatairewa and Mrs. E. Dass for the approval and financial support.*
3. *Chiefs of the seven districts of Rotuma for their approval and support.*
4. *District Office Rotuma for coming to the rescue in terms of transport problems.*
5. *Community Medicine Tutor Dr. Arnold Calo-oy (FSM), for help in advise for the survey.*
6. *All Village Health Workers for their hard work and support.*