

# INCIDENCE OF CANCER IN FIJI

by  
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## Introduction

Cancer will become the second greatest killer in Fiji by 1985; preceded only by heart disease. At present, because of under-reporting, it is accorded third to fifth place as a major cause of death in Fiji with yearly toll of approx 250 to 280. On average, 500 cancer cases are admitted annually to hospitals throughout the country. The cancer registry was established in 1965 by the Ministry of Health with the help of Dr R Doll and Dr J T Boyd. It registers cases diagnosed by histopathological examination but not cases diagnosed solely on clinical, radiological and biochemical grounds etc. Serious problems arise from the omission of cancer cases diagnosed by other methods and consequently the registered average of 140-200 cases is much less than the real number of cancer cases. The number of histologically diagnosed cases registered each year since the cancer registry began in 1965 is shown in Table I

Table I

YEAR	NO OF CANCER CASES
1965	212
1966	153
1967	187
1968	283
1969	191
1970	218
1971	214
1972	219
1973	143
1974	151
1975	101
1976	144
1977	146
1978	156
1979	164

Since during the course of our work in the pathology Dept of the CWM Hospital, we were reporting an average of 1 malignancy per day, we

realised that the registration of cancer cases in Fiji were inaccurate. Consequently on 1st November 1979 we opened a cancer register in the pathology Dept of CWM Hospital. In the first two years (1st Nov 1979 - 31st Oct 1981) we registered 720 cases. It is interesting to note that 455 cases or 63% of all cancers occurred in females; mainly because of a very high incidence of cervical and breast cancer in females.

The five leading cancers in females are shown in Table II and the five leading cancers in males are shown in Table III.

Table II

### Five Leading Cancers in Females

TYPE OF CANCER	NO OF CASES — OUT OF 720	PER-CENTAGE
Cervix	162	22.5%
Breast	79	10.9%
Ovary	33	4.6%
Thyroid	17	2.4%
Endometrium	16	2.2%

Table III

### Five Leading Cancers in Males

TYPE OF CANCER	NO OF CASES — OUT OF 720	PER-CENTAGE
Lymphoma	25	3.5%
Skin	24	3.3%
Leukaemia	20	2.7%
Liver	18	2.5%
Prostate	14	1.9%

## LEADING CANCERS

### Cancer of Cervix

Cancer of cervix is the commonest cancer in Fiji. Out of 720 cancer cases seen in two years (1st Nov 79 - 31st Oct 81) 162 were cancer of the cervix. The breakdown by race and age is given in table IV. Cervical cancer represents 22.5% of all

our cases. Most were "invasive" cancers, discovered without cytology screening, in patients being examined for other reasons. The discovery of a large number of cervical cancers is probably also related to the increased use of the cytology service in this country, demonstrated in Table V.

There is irrefutable evidence that regular, frequent screening of a population for cervical carcinoma will reduce the incidence of **invasive** cervical carcinoma to vanishing point. A protocol for a survey into the incidence of cervical carcinoma in Fiji has been written and approved by the Ministry of Health. As soon as funds are made available a survey will be conducted to find out the incidence of cervical cancer in Fiji. However, this will not conquer the disease. For that, a yearly screening of all women must occur. Most published cervical cancer screening programmes have revealed that patients have been screened once every five years, and a few, every three years. Indeed, those who have screened every three years have confined their screening to what they thought was the "peak incidence age". Now, many workers are suggesting that screening should be more often, and that closer attention should be paid to the 20-35 years age group. If one considers that 20% of cervical smears are false negative, then screening based on a cervical smear once every five years is a poor screening programme. Further, if we postulate that "stage" is not a diagnosis but a function of genetics in certain races and that as a result cervical carcinoma becomes invasive much sooner in these races, then there is only one answer — yearly cervical smears in these races. We do not know of any population that has been screened yearly for cervical cancer. Even in a small scattered population like ours with approx 250,000 women aged 16 to 80 years, yearly screening for cervical cancer presents formidable problems, but they are not unsurmountable. The greatest problem will be the initial setting up of the programme. Once that has been achieved, yearly screening will be relatively easy. Of course, it will not be an easy matter to motivate all the women, particularly the most vulnerable social class II women, to attend for their smears; but, if WHO could conquer smallpox, we in Fiji can conquer invasive cervical carcinoma by yearly screening of all women.

We are very enthusiastic about this intensive screening programme, and we feel that provided

we can achieve yearly screening of 95% of the women at risk, many workers in developing countries will wish to emulate our plan. If we turn out to be wrong after say, five years, then we shall have settled the question — Does yearly screening of all women reduce the incidence of invasive cervical carcinoma?

#### Incidence of Cervical Cancer Nov 79 - 31st Oct 81

Table IV

AGE	INDIAN	FIJIAN	OTHERS	TOTAL
20 - 29	4	5	2	11
30 - 39	23	16	—	39
40 - 49	22	34	—	56
50 - 59	18	13	3	34
60+	9	11	—	20
Un-known	1	1	—	2
Total	77	80	5	162(22.5%)

#### Cytology

Table V

YEAR	NUMBER OF SPECIMENS
1971	179
1972	228
1973	550
1974	833
1975	1519
1976	2209
1977	3565
1978	5078
1979	6247
1980	10676
Jan - Jun 1981	5368

#### Cancer of Breast

Breast cancer is the second commonest cancer in Fiji. Out of 720 cancer cases, 79 (10.9%) occurred in breast. The distribution by race and age is given in Table VI.

**Table VI Incidence of Breast Cancer  
1st Nov 79 - 31st Oct 81**

AGE	INDIAN	FIJIAN	OTHERS	TOTAL
20 - 29	1	3	—	4
30 - 39	5	9	2	15
40 - 49	11	9	2	21
50 - 59	4	12	2	18
60+	6	9	2	17
Un-known	1	—	1	2
Total	28	42	9	79(10.9%)

**Cancer of Liver**

Cancer of the liver which accounts for 4.2% of all our cases shows a very high incidence in one ethnic group. Out of 30 cases, 27 occurred in Fijians, 2 in Indians and 1 in Part-European. This may be related to the high rate of infectivity with Hepatitis B virus in Fijians as shown by Ian Gust Figures I & II. It is interesting to note that clinical hepatitis is much more common in Fijians (Table VIII) while cirrhosis of the liver is slightly more common in Indians (Table IX).

**Table VII (A) Incidence of Liver Cancer by Sex  
1st Nov 79 - 31st Oct 81**

SEX	INDIAN	FIJIAN	OTHERS	TOTAL
Male	1	16	1	18
Female	1	11	—	12
Total	2	27	1	30

**Table VII (B)**

**Incidence of Liver Cancer by Age  
1st Nov 79 - 31st Oct 81**

AGE	INDIAN	FIJIAN	OTHERS	TOTAL
0 - 9	—	1	—	1
10 - 19	—	—	—	—
20 - 29	—	1	1	2
30 - 39	—	2	—	2
40 - 49	—	6	—	6
50 - 59	1	9	—	10
60+	1	8	—	9
Total	2	27	1	30 (4/2%)

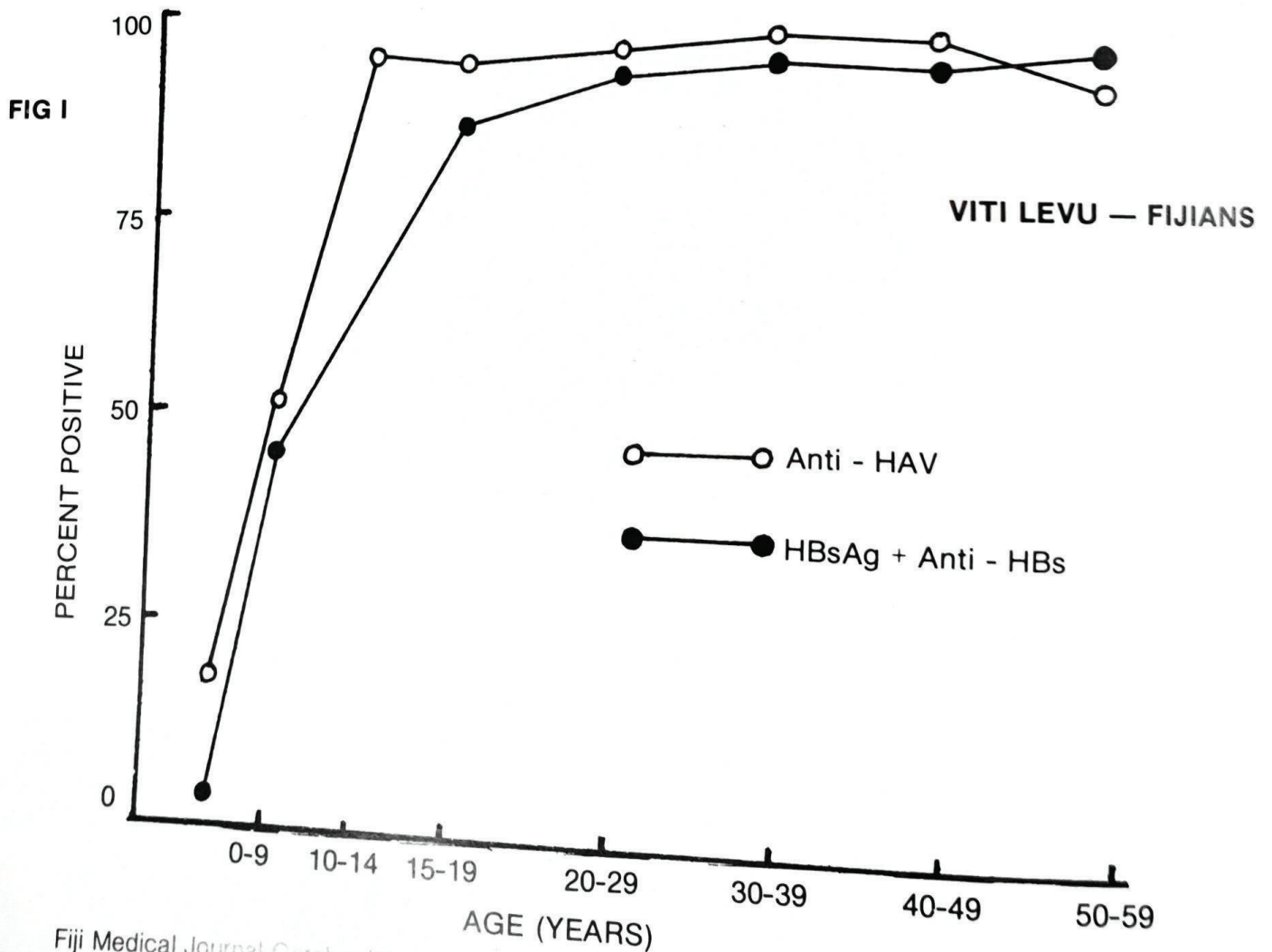
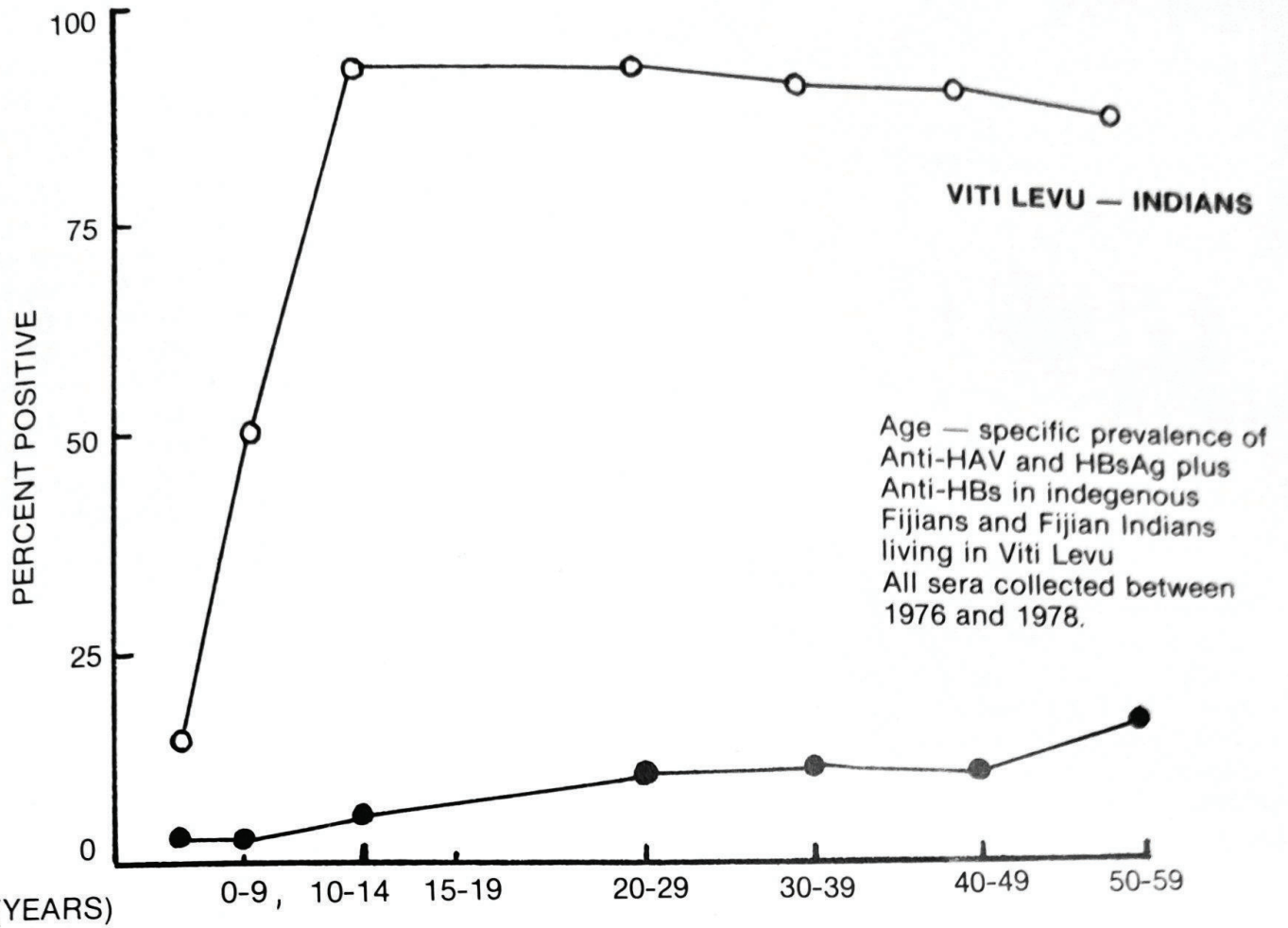


FIG II



Frequency of Clinical Hepatitis in Fiji  
1975 - 1979

Table VIII

YEAR	RACE			SEX		TOTAL	DEATHS
	FIJ	IND	OTHERS	M	F		
1975	116	47	12	107	68	175	3
1976	70	60	15	93	65	145	2
1977	92	84	7	129	54	164	3
1978	57	44	14	81	34	115	4
1979	100	53	7	105	55	160	5

Frequency of Cirrhosis of Liver in Fiji  
1975 - 1979

Table IX

YEAR	RACE			SEX		TOTAL	DEATHS
	FIJ	IND	OTHERS	M	F		
1975	24	26	8	34	24	58	8
1976	23	28	8	40	19	59	11
1977	25	35	3	45	18	63	6
1978	16	19	2	22	15	37	13
1979	26	35	4	32	33	65	9

## Thyroid Cancer

This accounts for 2.5% of all our cases. 17 out of 18 cases occurred in females and the age and race distribution is given in the Table X.

**Table X**

AGE	INDIAN	FIJIAN	OTHERS	TOTAL
10 - 19	—	—	1	1
20 - 29	2	1	—	3
30 - 39	—	2	—	2
40 - 49	2	3	—	5
50 - 59	—	3	1	4
60 - 69	—	2	—	2
70+	1	—	—	1
Total	5	11	2	18

## Stomach Cancer

Contrary to the popular belief that the stomach cancer is more common in Indians because of a high intake of spices and chillies, our figures show that the incidence in our series of cancer cases in the Fiji community is slightly higher in Fijians (Tables XI and XII).

**Table XI**

### Occurrence of Stomach Cancer by Sex 1st Nov 79 - 31st Oct 81

SEX	INDIAN	FIJIAN	OTHERS	TOTAL
Male	4	9	1	14
Female	6	3	1	10
Total	10	12	2	24

**Table XII**

### Occurrence of Stomach Cancer by Age 1st Nov 79 - 31st Oct 81

AGE	INDIAN	FIJIAN	OTHERS	TOTAL
20 - 29	1	—	—	1
30 - 39	1	2	—	3
40 - 49	2	2	—	4
50 - 59	3	3	2	8
60+	3	5	—	8
Total	10	12	2	24(3.3%)

## Present Method of Diagnosis

The Medical Services in Fiji are provided by either the Government doctors (224) or by private doctors in General practice (70). For administrative purposes the country is divided into four divisions i.e. Central, Western, Northern and Eastern. The popula-

tion and the number of beds in each Divisional hospital is shown in Table XIII. Each division is under the control of Divisional Medical Officer. The divisions are further divided into Subdivisions and Areas. The Subdivisional hospital usually have 3-4 medical officers and are under the control of Subdivisional Medical Officers. Each area is in the charge of a Medical Officer who is both a general practitioner and public health advisor. Each Area Medical Officer is assisted by Medical Assistants and District nurses who look after their own Nursing districts. The three main general hospitals are CWM Hospital in Suva, Lautoka Hospital and Labasa Hospital. There are three Specialist hospitals dealing with Tuberculosis, leprosy and mental disease, all located in Suva under control of Medical Superintendents.

The Medical Dept had its origin shortly after cession in 1874. Today with a doctor/population ratio of 1:1850 it provides a comprehensive cover over the whole country and virtually all communities have access to organised medical services — even on the most isolated of the islands.

The diagnosis of cancer is established at either CWM Hospital or the Lautoka Hospital. When a suspected case of malignancy is seen at a health centre or subdivisional hospital the case is referred to the Divisional Hospital for confirmation of diagnosis and treatment. Services of a Pathologist are available at CWM Hospital and at Lautoka Hospital. Biopsy material from Labasa Hospital and Levuka Hospital are sent to CWM Hospital.

**Table XIII**

DIVISION	POPULATION	DIVISIONAL HOSPITAL
Central	227,600	CWMH Beds — 379
Western	256,391	Lautoka Beds — 297
Northern	114,242	Labasa Beds — 120
Eastern	44,217	Levuka Beds — 47

## Present Method of Registration

Two notification cards are used by the Ministry of Health for Cancer registration.

1. Notification of suspected cancer, Stage I
2. Notification of suspected cancer, Stage II

The notification Form, Stage I is filled in either by subdivisional or divisional hospital when a suspected cancer patient is seen — the form is forwarded to the Ministry of Health. This is a tentative notification. The Ministry of Health uses this Stage I form for indexing i.e. the forms are filled according to alphabetical order.

The notification form Stage II is prepared when the patient's diagnosis is confirmed by histological examination. This stage II form is also forwarded to the Ministry of Health for registration. Stage II forms are filed according to registration number. The registry also maintains a book in which the registration number and ethnic groups of cancer cases are entered according to the rubric number of International Classification of Diseases, 8th Revision. In addition the Ministry of Health also receives all copies of Pathological reports of cancer cases. The pathological reports are always checked with the Form Stage II. In cases where a Stage II form is not available, the pathological report is used as a substitute.

#### Discussion & Proposal

The present system of cancer registration must be modified as there is clearly an under-reporting of cancer cases in our community. The present histology-based cancer Registry in Fiji should be expanded to cover other modes of diagnosis e.g. radiological, biochemical/serological and clinical. Further, the data collection system must be improved. We suggest a National cancer register with two components i.e. a Central Registry located in the Ministry of Health and two hospital registries in the Departments of Pathology at CWM Hospital and Lautoka. The two components would have different objectives. The Central Registry would record the incidence of cancer with a certain number of variables, such as anatomical site, ethnic group, age, sex.

This would provide the information required for the planning and evaluation of a national cancer control programme. The hospital based registry on the other hand would be used for Clinico-epidemiological research as well as follow up of patients after initial treatment. The CWM Hospital would register cases from Central, Northern and Eastern divisions while Lautoka hospital would handle cases from the Western division. The CWM Hospital could become the focal point for cancer work. Of course, there would be a need for coordinating mechanism with representations from the three centres to meet regularly.

It must be emphasised that now is the time to make a long-term plan for comprehensive cancer control in this country. The necessary elements would be the development of efficient cancer registries, integration of the control programme, in particular the screening programme into the national health services, treatment facilities to meet the need, and selected preventive measures, including effort directed towards behaviour modification and public education. Cancer is a public health problem of growing importance not only in developed countries but also in developing countries.

#### References

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