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EDITORIAL

from the editor

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NON-COMMUNICABLE DISEASES

Fiji like many other countries is experiencing an epidemic of non-communicable diseases (NCD). These are a diverse group of conditions, which are not infectious (hence non-communicable) to a large extent due to behavioural, lifestyle and environmental determinants. These are chronic in nature, progress slowly, go on for a long period and requiring continuous treatment causing considerable financial stress to an affected individual, his family, health department and the country. Although seen most commonly in the adult and olderpatients (causing considerable premature deaths) but no age or sex groups are immune. It was regarded as a disease of the rich in the past but now have greater burden on poorer countries.

NCD's has reached epidemic proportions in Fiji accounting for over 80% of mortality which is alarming and everyone is well aware of this. We need to reverse the trend.

Globally NCD's kill more than 40 million annually accounting for 71% but over 85% of these premature deaths occur in lower socio-economic countries.

The increase in NCD is primarily due to four major risk factors – tobacco use (smoking), harmful effects of alcohol, physical inactivity and unhealthy diet (diet high in salt, sugar, fats and calories and low in fibre, fruits and vegetables). These lead to a number of modifiable metabolic changes of raised blood pressure (hypertension), overweight and obesity, raised blood sugar and raised cholesterol levels. The four major NCDs are cardiovascular disease (heart attacks and strokes), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease) and diabetes.

All these diseases arise in the community and affect the community (from individuals their family, the community and ultimately the country). All prevention and control measures need to be directed to the community.
Education remains the most important, most effective, essential and least costly approach to prevention. The education imparted must be adapted to the special needs of the country and its people, taking into consideration their lifestyle, culture and education level (1). It must reach the man in the street.

Everyone needs to be educated about NCD, including politicians and policy makers (to make regulation for health protection and improvement and provision for adequate facilities and health funding), the administrators and health care workers (for guidance, information and education),the community leaders (to set examples and influence community attitudes), patients and their families (for self-care) and children (future generation).

EDITORIAL

A well informed, educated, motivated and participation community, assisted by well informed, educated, dedicated and committed health workers and with necessary facilities and support will lead to success against NCD, the most common cause of death in the world.

In simple terms NCDs are largely caused by unhealthy lifestyles of *DRINKING TOO MUCH, EATING TOO MUCH, SITTING TOOMUCH AND SMOKING*.

The preventive measures of REDUCING ALCOHOL INTAKE, HEALTHY DIET (avoiding obesity), *SITTING LESS* (remains physically active) and *STOPPING SMOKING* are readily accessible to everyone. These are very cost effective or cheap and would lead to healthy and enjoyable long life. One needs to take responsibility for his/her own health.

Detection, screening, treatment of NCD's, as well as palliative care are key components of the response to NCD's

References

1. Ajgaonkar S. S, Health Care Education: vital part in the treatment of diabetes. In Diabetes Mellitus. Ed. Nitiyanant W et. al. Crystal House Press, Bangkok 1985: 164-172.

Drs. P. Ram and Ram Raju

INSIDE:

NON-COMMUNICABLE DISEASES IN FIJI; the emergence, early studies and activities

Dr. Parshu Ram and Dr. Ram Raju

The non-communicable diseases were rare in Fiji in the first half of the twentieth century but emerged as a major and increasing health problem and progressing to an epidemic proportions in the second half of the century. The two most common of these diseases were diabetes and cardiovascular diseases, the details of which had been published previously (1-16) and more recently (17-20) and are briefly summarised.

DIABETES MELLITUS

With the increasing incidence of diabetes and hospital admissions in the 1950's (Figure. 1), the first diabetic clinic was started at the C.W.M Hospitalin 1956 by Dr. C. H. Gurd, then specialist physician. Several years later similar clinic was started at the Lautoka hospital, followed by other divisional and subdivisional hospitals and larger health centres. The first diabetic study was carried out by Dr. J. Cassidy in 1964-65. He examined 1000 adult (over the age of 21 years) Indians from Samabula and 1000 adult Fijians from Rewa Delta area. He found the overall prevalence of diabetes of 3% (diagnostic criteria was fasting or two hour blood sugars of > 120mg % or random blood sugar of ≥ 180mgs %), with Indians having a very high rate of 5.7% and relatively low rate of 0.6% among Fijians.

In 1969 the Fiji Medical Association annual conference was wholly devoted to diabetes mellitus with the guest speaker being Dr. Ken North, a Rhodes Scholar, prominent Endocrinologist and Diabetologist from Wellington, New Zealand. In 1970 diabetes was declared a public health problem by the Ministry of Health. In 1971 the Fiji Diabetic Association was formed and in the same year diabetic register was started in the statistics section of the Ministry of Health. Three case finding studies in 1973, 1974 and 1981 found the prevalence of glycosuria of 7-15%. In one of the studies blood sugars were done and the prevalence of diabetes was 2%.

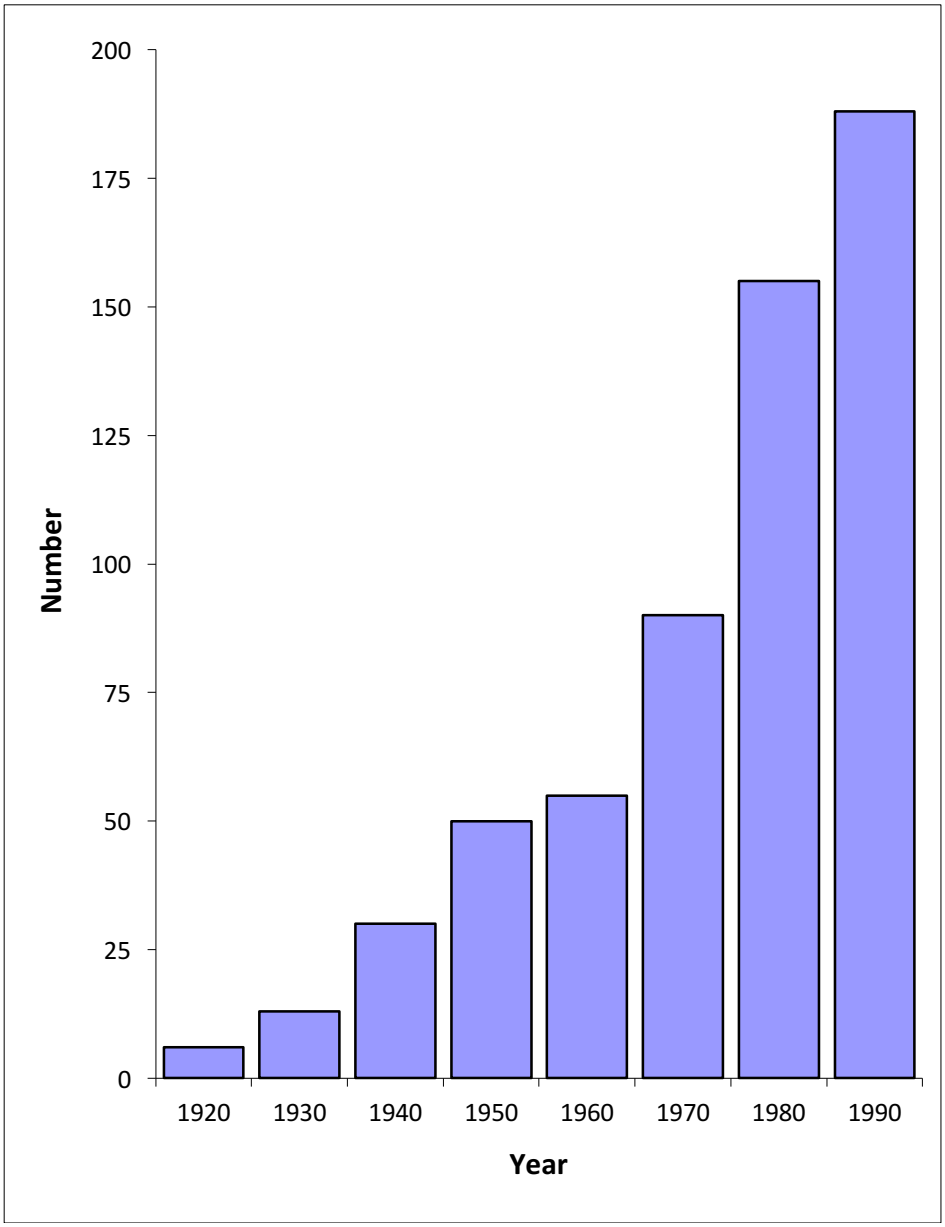

Fig. 1: Hospital admissions (per 100,000 population) for diabetes in Fiji 1920 - 1990

In 1980 a National Diabetes and Cardiovascular diseases survey was carried out.

Following a detailed planning and preparation a six week national diabetes and cardiovascular diseases survey was conducted by the Ministry of Health and two Melbourne Hospitals, the Royal Southern Memorial and the Royal Melbourne hospitals and was largely funded by the World Health Organization.
Both rural and urban samples as well as island populations were selected. The Fijians sample was the villages of greater Suva and Indians sample was the suburb of Samabula. For both ethnic groups rural sample was the upper Sigatoka Valley and the island sample was Lakeba in Lau Group.

The target population consisted of all residents 20 years of age and over in the selected areas. The age and sex distribution of the survey samples conformed closely to the age and sex distribution of the Fiji population to the 1976 national census.

The survey included 21 personnel including five doctors and local support staff. A number of students from the Fiji School of Medicine were attached to gain experience in proper epidemiological survey.

The diagnostic criteria for an abnormal glucose tolerance was based on National Diabetes Data Group and World Health Organization criteria (Impaired glucose tolerance - two hour plasma glucose of 140 – 199mg/100ml (7.8 – 11.0mmol/L) and not known to be diabetic; diabetes mellitus two-hour plasma glucose of 200mg/100ml (11.1mmol/L) or greater or known to be diabetic).

The prevalence of diabetes and impaired glucose tolerance are shown in Table. 1 (also refer to section on submission to the Ministry of Health). The survey showed more than 50% of diabetics in the community were undetected.

Table 1: The overall age adjusted prevalence of Impaired glucose tolerance (IGT) and diabetes mellitus (DM) in Fiji – 1980 (Males and Females 20 years and over combined)

Ethnic Group	Number Examined	IGT	Prevalence (%)* DM	IGT + DM
Fijians				
Rural	477	7.1	1.1	8.2
Urban	863	10.4	5.4	15.8
Lakeba	430	4.7	5.7	10.4
Indians				
Rural	477	9.9	11.7	21.6
Urban	863	10.4	11.8	22.2

*Age standardized to 1976 Fiji census

A further study in 1983 showed the prevalence of diabetes and impaired glucose tolerance similar to the 1980 survey. The gestational diabetes study in 1985-87 by Dr. Gyaneshwar showed an overall prevalence of gestational diabetes mellitus of 3% with the prevalence of 5% in Indian women compared to 0.5% in Fijian women.

Following the 1980 national diabetes and cardiovascular diseases survey, diabetes awareness and educational activities were intensified using all the available means from individual and group discussions, seminars, lectures to social clubs and groups and medical publications. Contributions from the two national newspapers, the Fiji Times and the Fiji Sun and vernacular papers were outstanding.

With the late Ratu Sir Kaimese Mara, the prime minister's keen personal interest and the support from Professor John Turtle, lead to the establishment of the National Diabetes Centre in 1984, one of the first suchcentres in the developing countries.

CARDIOVASCULAR DISEASES

In 1960 cardiovascular diseases accounted for 5% of all hospital admissions. This percentage increased to 9% in 1971 and to 15% in 1980, in that year there were 27,115 admissions. The hospital morbidity was150/100,000 in 1960 and 559 in 1980, an increase of 280%. The greatest increase was for ischaemic

heart disease (613%) followed by other heart diseases (331%), cerebrovascular disease (287%) and hypertensive heart disease (177%) and virtually no increase for chronic rheumatic heart disease. For the above period the average annual increase for ischaemic heart disease was 31%, other heart diseases 17%, cerebrovascular disease 15% and hypertensive heart disease 9%. Most of the increase had occurred since 1969-1970. The pattern of cardiovascular diseases as seen in inpatients had changed considerably in the above two decades. In 1960 the main cardiovascular diseases were seen with equal frequency whereas in 1980 40.4% of all cardiovascular admissions were for ischaemic heart disease, indicating an absolute increase in the incidence of the disease.

Ischaemic heart disease may present with chest pain, acute myocardial infarction, arrhythmias or sudden deaths. Several studies in 1964-93 period showed that acute myocardial infarction was predominantly a disease of adult males (aged 40-59 years) especially Indians. The male:female ratio varied from 4:1 to 12:1. The ethnic ratio Indian to Fijian was generally 11:1. The case fatality was as high as 24-38% in some earlier studies but much lower in later studies (Table. II)

Table II: Myocardial infarction in Fiji 1964-93 – Summary of several studies

Authors (Year/Place)	*Number Studied*	*Ethnic Groups*			*Case Fatality*
		Indians %	*Fijian* %	*Others* %	
BAKANI I. R. (10) (1964-65, SUVA)	100	97	3	0	24
RANDALL G.R. (11) (1968-70, LABASA)	50	94	6	0	38
PATHIK B. RAM P. (12) (1969-71, SUVA)	227	89	5	6	16
SOROKIN M. (13) (1969-71, LAUTOKA)	212	87	5	8	24
PATHIK B. RAM P. (14) (1969-72, SUVA)	300	89	6	5	16
RAM P, NADIU V, NASEROA J. (15) (1979-81, SUVA)	306	90	7	3	17
NAIDU V, NASEROA J, RAM P. (16) (1979-80, SUVA)	28	28	–	–	4
PATEL K. GOKAL, KRISHNA K. E, RAM P. (17) (1981-82, LABASA)	100	93	7	0	19
RAM B, RAM P. (18) (1989-91, SUVA)	342	81	15	4	18
RAM B, RAM P. (19) (1982-93, SUVA)	280	79	16	5	15

(Reproduced from the article: Ischaemic heart disease in Fiji: The emergence, early studies and experiences. Pharmatimes)

HYPERTENSION

From a number of previous studies the overall prevalence of hypertension (SBP ≥ 160 and DBP ≥ 95mmHg) was 10-15% and slightly higher in females. If those with borderline hypertension (SBP 140-159 and DBP 90-94) were included with definite hypertension than almost a quarter of the population had blood

pressure higher than that defined by the World Health Organization (SBP ≥ 140 and DBP ≥ 90mmHg). In the early years there was virtually no primary prevention and secondary prevention of cardiovascular diseases was through overcrowded hospital and health centre medical clinics. The first weekly hypertension, diabetic and medical clinics were started in mid 1950s at the C.W.M Hospital (21). Some years later similar clinics were started at the Lautoka Hospital and other hospitals and health centres.

A two bed Coronary Care Unit was started at the C.W.M Hospital in 1972 and later at the Lautoka hospital. Cardiac stress testing was introduced at the Lautoka Hospital in 1985 and C.W.M Hospital in 1986. Echocardiographic facilities become available in 1980s

SUBMISSION TO THE MINISTRY OF HEALTH IN 1982

More than a third of a century ago (in 1982) a submission was made to the Ministry of Health about the Non-Communicable Diseases; its consequences, burden, risk factors, time trend and the need for action (22). Sections from the submission are reproduced.

The major Non-Communicable Diseases are hypertension, coronary heart disease, diabetes mellitus and chronic diseases of the respiratory system. The Non-Communicable Disease share several common features; they have major environmental determination, have an early onset of the underlying pathological process, a long incubation period and becomingclinically overt in the adult life, the age group which bears the greatest individual, family, community and national responsibilities. The initial manifestation may be disastrous. The loss of national workforce in terms of absenteeism from work, hospitalization and premature deaths is considerable.

The major environmental determinants are the change in diet (from high complexed carbohydrate high fibre diets to high fat high refined carbohydrate low fibre diets), decreasing physical activity, increasing obesity, smoking, alcohol consumption and psychosocial stresses.

A) Mortality data

The Non-Communicable Diseases are responsible for more than 50 per cent of all deaths, with cardiovascular diseases (CVD) alone causing 31 per cent of these deaths in Fiji, the same number as second, third and fourth causes of deaths combined. In addition the Cardiovascular Diseases (CVDs) are responsible for 46% of deaths in adults (40-59 years) and 76% of all sudden deaths.

B) Risk factors in the population

The CVDs are risk factors dependent conditions. All these risk factors are prevalent in the community as showed in the 1980 National Diabetes and Cardiovascular Diseases Survey in Fiji.

i) Hypertension
The prevalence of hypertension is 4-7% in rural populations and 8-10% in urban population, It should be realised that hypertension is the most prevalent, most potent, most readily detectable and most readily treatable predictor of cardiovascular morbidity and mortality

ii) Diabetes mellitus
The prevalence of diabetes is relatively lower in rural Fijians (1.1%) than in urban Fijians (5.4%). The

rates in Indians are higher (11.8%). These rates are very high. There are 20,000 diabetics and 19,000 borderline diabetics in Fiji. It is estimated that 1000 adults will develop diabetes every year. The diabetic complications are seen with increasing frequency and 18% of hospital beds are occupied by diabetics

iii) Smoking
This habit is prevalent in Fiji. It is more common in rural than in urban dwellers, more in Fijians than in Indians and more common in males than in females

iv) Other factors
There is an increasing tendency towards physical inactivity and obesity. These trends are more in urban dwellers. The mean cholesterol level is high indicating a change in dietary pattern

C) Time Trends

The time trend has been disastrous in the last two decades.

i) CVDs mortality was 16.5% in 1960-61 and in 1980 increased to 31%

ii) Since 1971 CVD has been the leading cause of deaths in all ethnic groups

iii) Hospital admissions for all CVDs (with the exception of rheumatic heart disease), increased in the last 20 years. The increase was most marked (6 fold) for coronary heart disease. The hospitalization for diabetes mellitus increased 4 fold in Indians and 22 fold in Fijians

iv) The prevalence of diabetes increased 3 fold in Indians and 25 fold in Fijians in the last 15 years

v) The hospital admissions for myocardial infarction is high in Indians and rapidly increasing in the last 20 years.

The epidemic increase in CVDs is mainly due to environmental, nutritional and behavioral changes in our lifestyles leading to a marked increase in all CVD risk factors in the population. It should be realised that increase in CVD is not an inevitable consequence of modernization. With preventive measures it is possible to decrease the incidence of these diseases as shown in several developed countries.

We need to take steps now to halt this rising and disastrous trend in CVD and NCD. These have become mass diseases and need a national approach.

"There is a pressing need for National Non-Communicable Disease Centre to plan, coordinate and institute preventive measures, a National Diabetes Centre for coordinating diabetic services and an urgent need to revive Fiji Diabetic Association and the National Heart Foundations. Serious consideration be given to declaring Cardiovascular Diseases and Diabetes as national problems and making appropriate provisions and even subsidies for treatment and prevention of these diseases"

DISCUSSIONS ON NON-COMMUNICABLE DISEASES

In 1982-83 discussions were held between the Ministry of Health, World Health Organization and the South Pacific Commission about non-communicable diseases prevention (23,24).

EDUCATION

In 1982 a detailed community based and existing health structure integrated Cardiovascular Diseases and Diabetes Mellitus Control Programme was prepared by a World Health Organization consultant following a field visit to Fiji in late 1981 (25). The specific suggestions involved seven subprogramms on Antismoking, Nutrition, Hypertension, Diabetes, Ischaemic heart disease and stroke, Rheumatic heart disease and Rehabilitation. Each of the subprogrammes to include the following; health education of the public, reorganization of services mainly in the primary health care and supported by specialized services, training of personnel, modification of environment and the development of an information system to serve the programme needs.

Due to financial and other constraints further action was deferred.

NATIONAL DIABETES CENTRE AND NON-COMMUNICABLE DISEASES

The national diabetes centre was developed as a model for non-communicable disease (NCD) control. The activities involved the training of health professionals, education of the diabetics, their relatives and the community including the politicians and health administrators, to be a resource centreand to conduct research. Education was regarded as the most important, most effective, essential and least costly approach to disease prevention. All available means were used and these included individual to group discussions, seminars, printed materials, fan mail, awareness activities (World diabetes, World Health, No-smoking and World Food day), mass media (television, radio and in all languages), newspapers (The Fiji Times, Fiji Sun and venacular) and medical publications (The Fiji Medical Journal, The Fiji General Practitioner, Science Journal, Food and Nutrition Newsletter and the National Diabetes Centre's Diabetes Awareness newsletter).

The five day intensive national training course was based on the pooling of resources and expertise on diabetes of the national hospitals in Suva. In addition the training included lectures on other non-communicable diseases.

In 1990 the centre extended its activities to conduct a day long district seminars for medical, paramedical and the community in various parts so the country. The lectures also included other non-communicable diseases. An important feature of the seminars was lunch hour lectures on diabetes to high school and lectures on diabetes and NCD to the general practitioners in the area.

In 1991 the centre staff were guest speakers at the launching of the two day NCD programme in Labasa. Lectures were given on diabetes, hypertension, heart attacks, stroke, cancer, nutrition and the prevention of lifestyle measures to the general practitioners, civil servants and more than 150 participants from community development committees, religious, social, sporting groups, farmers and youth groups and clubs (Diabetes Awareness 1991; 5(3):2-3)).

In 1983 the centre staff conducted a daylong seminar at the Regent of Fiji , Nadi, as part of Health and Safety Week. This included several lectures on the major NCD (diabetes and cardiovascular diseases) with emphasis on prevention, discussions with management on various health aspects and the examination of the employees of the resort. Over a short period the centre acquired considerable expertise in the field of diabetes and was frequently requested to provide advisory and consultant to regional seminars, workshops and conferences. The centre training activities expanded from national to training regional students as well

In view of the rapid development of the Centre and its activities in diabetes control and prevention, a World Health Organization report in 1988 recommended that the Centre should take additional responsibilities in the prevention of Non-Communicable Disease:-

"The National Diabetes Centre which was established in 1984 is doing an excellent work in teaching health workers, diabetic patients and the community in the field of primary and secondary prevention of diabetes mellitus. This centre should be extended to an independent National Non-Communicable Diseases Prevention Centre" (26)

A similar suggestion was made again in 1992:-

"It is now the right time in Fiji for declaring officially the war against non-communicablediseases"

"It is the right time for the National Diabetes Centre with its experience for playing a leading role to embark on an ambitious plan of actions on non-communicable diseases for thisdecade (27)"

THE NEED FOR NON-COMMUNICABLE DISEASES CONTROL AND PREVENTION

With the emergence and increasing prevalence of the non-communicable diseases in the second half of the twentieth century there was a pressing need for control and prevention strategies. These were raised, discussed and suggested on a number of occasions including the establishment of the Non-Communicable Disease Centre (2,6-11,24-27,28-35).

The primary preventive strategies were deferred due to manpower and financial constraints and varying priorities of several prevalent medical issues. One major development had been the establishment of the National Diabetes Centre in 1984.

The national food and nutrition committee formed in 1976 developed the National Food and Nutrition Policy and this was adopted by the Government in 1983. In 1987 the Committee produced a well illustrated 32 page booklet on Health and Nutrition Guide in Fiji. It contained a wealth of information and advise on healthy living including those relevant to the prevention of non-communicable diseases, such as "cut down on sugar, use less salt, eat less fatty foods, keep a healthy weight, exercise for fitness, eat more foods rich in fibre, stop smoking and cut down on alcohol".

The activities of the Fiji Diabetic Association, formed in 1971, the Fiji Heart Foundation established in 1980, the Heart Foundation in the Western districts formed in 1985 and the antismoking programme started in 1986 were not sustained.

NON-CUMMUNICABLE DISEASES AND THE MEDICAL ASSOCIATIONS

The Fiji Medical Association, formed in 1967 with the amalgamation of the Fiji Medical Officers Association (of locally trained doctors) with the Fiji Branch of the British Medical Association (overseas trained doctors) had been active in postgraduate education. It conducted 4-7 day annual conference to educate and update the health professionals on the current medical issues of the time and NCDs features prominently. In the early years there used to be one international guest speaker for the conference, sponsored by the Dominion Committee of the Royal Australian College ofPhysicians. In the later years the number of international guest speakers was increased considerably.

A number of conferences were wholly devoted to a single topic i.e 1969 conference on diabetes mellitus,

1971 conference on cardiovascular diseases and 1992 on cancer. The conferences in 1970, 1976, 1983, 1986, 1989, 1991 and 1993 had several NDC topics. The first author of the article was a regular contributor to NCD at these annualconferences and branch mini-seminars on topics such as diabetes, hypertension, ischaemic heart disease and cardiovascular epidemiology.

The Western branch of the Fiji Medical Association had been conducting twice yearly mini-seminars since 1970, with NCDs were frequent seminar topics. The second author (RR) was a regular organizer and contributor to the mini-seminars. In the 39th mini-seminar in December 1992 the Western branch was honoured to have Professor Ian Maddocks, who conducted the earliest studies (1958-60) on hypertension in Fiji and was an international authority on the prevention of nuclear war.

Similarly the Central Branch of the Fiji Medical Association/Private Medical Practitioners Association, conduced regular mini-seminars and contributed to NCD awareness and education similar to as shown in the abridged seminar programme on October 1991 (Table III).

The Fiji College of General Practitioners, formed in 1994 held annual conference. This had become the largest medical conference in the country with considerable number of guest speakers. Non-communicable topics are regular inclusion in the conference programme. The college also used its Fiji General Practitioner Journal to increase awareness and educate about NCDs. The second author of the article (RR) remains a very active organizer and contributor to the conference. He was also the editor of the college journal and later the editor of the Phamatimes.

Table III: Mini-seminar Programme

Private Medical Practitioners Association

President:	Dr. Mua	G.P.O. Box Suva
Secretary/ Treasurer:	Dr. Usha Chand Nath	
	PMPA MINI SEMINAR/ANNUAL GENREAL , MEETING 1991	
DATE:	SATURDAY 26TH OCTOBER 1991	
VENUE:	BANYAN ROOM, TRAVELODGE, SUVA	
THEME:	PRIMARY CARE PHYSICIANSIN HEALTH CARE PROGRAMME	
PROGRAMME		
12.00 - 12.45 pm	REGISTRATION	
12.45 - 1.00 pm	OPENING	Charipersion – Dr Mua, President PMPA
1.00 - 1.20 pm	"Non-Communicable Diseases"	Dr. Parshu Ram
1.20 – 1.40 pm	"Office Management of Hypertension"	Dr. Gyaneshware Rao
1.40 – 2.00 pm	"Trends in Ischaemic Heart Disease in Fiji"	Dr. Parshu Ram
2.00 – 2.20 pm	"Management of Chest Pain"	Dr. Bhagat Ram
2.20 – 2.45 pm	Panel Discussions	
2.45 – 3.00 pm	TEA	
3.00 – 5.00 pm	STD, urological problems, office gynaecology	
	Role of private and specialist physicians in medical care	
5.00 – 5.30 pm	Discussions and seminars evaluation	

SUMMARY

The National Diabetes Centre with the support of the National Diabetes Foundation and its Diabetes Awareness Newsletter, the medical association with its continuing conferences and seminars, and the outstanding contributions from the media played a major role in increasing awareness, educating and sensitizing the community about the epidemic of non-communicable disease.

The above efforts had been necessary to get the community goodwill, participation and changes/modification in the lifestyle. The Ministry of Health was in the process of producing a comprehensive national Non-communicable Diseases Action Plan to guide the community.

With continued, dedicated approach, the success in the fight against the non-communicable diseases is inevitable.

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References

1. Ram P, Diabetes mellitus in Fiji – current studies. Fiji Med. J. 1979; 7: 68 – 71

2. Ram P, Banuve S, Zimmet P, Taylor R, Raper L.R, Sloman G and Hunt D, Diabetes in Fiji: The result of 1980 national survey. Fiji Med. J. 1982; 10

3. Ram P, Banuve S, Zimmet P, Taylor R, King H, Sloman G and Hunt D, Hypertension and its correlates in Fiji: The result of 1980 national survey. Fiji Med. J. 1982; 10:99-105

4. Ram B.P and Ram P, Hypertension and diabetes in Gau Island. Fiji Med. J. 1983; 11: 35-38

5. Ram P, Collins V, Zimmet P, Taylor R, King H, Sloman G and Hund D, The cardiovascular disease risk factors in Fiji: The result of the 1980 national survey. Fiji Med. J. 1983; 11: 88 – 94

6. Ram P and Okakowske T, Trends in cardiovascular disease in Fiji. Fiji Med. J. 1983; 11: 96 – 99

7. Ram P, Vernon N and Naseroa J, Myocardial infarction in Fiji 1979-1980. Fiji Med. J. 1983; 11: 101 –

104

8. Patel I.C, Gopalkrishanan K.E and Ram P, Acute myocardial infarction in Labasa. Fiji Med. J. 1983; 11: 110 – 112

9. Ram P, Diabetes mellitus: How does this concern Fiji?.Fiji Med. J. 1983; 11: 186 – 187

10. Ram B.P and Ram P, Hypertension in Kadavu. Fiji Med. J. 1986; 14: 134-140

11. Munif and Ram P, Hypertension in Lakeba. Fiji Med. J. 1986; 14: 142-144

12. Ram P and Cornelius M, Diabetes mellitus In food and nutrition in Fiji: A historical review, Vol. 2, Jansen A et.al.Ed, Suva 1991

13. Ram P and Cornelius M, Diabetes mellitus In food and nutrition in Fiji: A historical review, Vol. 2, Jansen A et.al.Ed, Suva 1991

14. Ram P and Cornelius M, Diabetes mellitus in Fiji. Monograph 1991, National Diabetes Centre, Suva

15. Ram P and Cornelius M, Diabetes mellitus in Fiji. Monograph 1991, National Diabetes Centre, Suva

16. Ram P and Raju R, Diabetes in Fiji in the Twentieth Century Part I: The trend, early activities and studies. Pharmatimes 2017; 14(3); 3-12

17. Ram P and Raju R, Diabetes in Fiji in the Twentieth Century Part II: Clinical aspects, diabetes control and prevention. Phamatimes (in Press)

18. Ram P and Raju R, Diabetes in Fiji in the Twentieth Century Part III: The establishment, activities and achievements of the National Diabetes Centre. Phamatimes (in Press)

19. Ram P and Raju R, Ischaemic heart disease in Fiji. The emergence, early studies and experiences. Phamatimes (in Press)

20. Ram P and Raju R, Early studies in Hypertension in Fiji. Phamatimes 2018; 15(1);4-13

21. Chaudhary B, Personal communication 2018 (worked at the C.W.M Hospital in 1950s with Dr. C.H Gurd)

22. Ram P, Diabetes prevention and control activities in Fiji. Fiji General Practitioner 1994; 1(2): 37-41

23. W.H.O Outlines of non-communicable diseases programme with special attention to cardiovascular disease and diabetes control in Fiji – A report prepared by the Ministry of Health in cooperation with WHO, March 11 1983, Suva, W.H.O

24. W.H.O Report of the joint WHO/SPC mission onpresentation and control programme for non-communicable disease in the South Pacific. 11-20th October 1983, Manila, W.H.O WPRO 1984 (WP) (CVD) (ICP/NCD)/001

25. Tuomilehto J, Report on a field visit to Fiji 18th August to 14th September 1981; Manila, WHO 1982 (WPR/CVD/FR15)

26. Barth W, Prevention and control of non-communicable diseases: Fiji assignment report 18-29th September 1988 (WP) NCD/ICP/001 – E.W.H.O

27. Sarda R, W.H.O 1992. NDC Annual Report 1992

28. Ram P, Diabetes Mellitus Educational, Fiji Med. J. 1982; 10: 1-2

29. Tuomilehto J, Ram P and Eseroma R, Mortality and morbidity of diabetes and cardiovascular disease in Fiji, Fiji Med. J. 1982; 10: 45-57

30. Ram P, Mataitoga M.V, Cabealowa S. King H, Zimmet P and Collins V, Epidemiological strategies in the control of non-communicable disease in Fiji, Fiji Med. J. 1981; 10: 99-105

31. Ram P and Beg F. Non-communicable disease, Editorial.Fiji Med. J. 1983; 11:87

32. Ram P, Collins V, Zimmet P, Taylor R, King H, Sloman G and Hunt D, Cardiovascular risk factors in Fiji. Fiji Med. J. 1983; 11: 88-94

33. Tuomilehto J, Ram P, Eseroma R, Taylor R and Zimmet P, Cardiovascular disease and diabetes mellitus in Fiji: Analysis of mortality, morbidity and risk ratio. Bulletin of Work Health Organization 1984; 62: 133-143

34. Tuomilehto J, Ram P, Kapadia V, Zimmet P and Wolf E, Sequels of screening for hypertension and diabetes in Fiji. Diabetes research and clinical practice. 1987; 4: 15-22

35. Ram P and Cornelius M, Ischaemic heart disease in Fiji. Fiji General Practitioner 1994; 1:6-10

Children's cough:

another cold or something more sinister?

Pharmacists should ensure that they assess the duration, nature, and type of cough to determine the need for referral, taking into account the presence of any alarm symptoms.

Cough is the most common symptoms presenting to a primary care setting, with 2007 data indicating that nearly 6% of all GP visits related to a cough. Cough can be a distressing symptom for children, affecting their daily activities and disrupting sleep. Cough can be a distressing symptom for children, affecting their daily activities and disrupting sleep.2 It also has a negative impact on the quality of life of parents.

Cough is a physiological reflex intended to release secretions, clear foreign matter, overcome bronchospasm, and protect the respiratory tract from infection. A healthy school – age child can cough up to 34 times a day, however this number increases significantly during periods of respiratory infection.

It is important to consider that the pattern of respiratory illness in children is very different to adults, with different physiology of the respiratory tract, cough reflex, and immune responses affecting the

respiratory tract. The investigations and management of cough in pediatric patients should therefore be managed very differently to adults.

Assessment of cough

An initial assessment of a child's cough can help determine whether it is a self-limiting condition, or whether referral for further investigation is required. A cough lasting more than four weeks is considered chronic, and would warrant referral to a general practitioner. Pharmacists should also consider previous medical history, and any alarm symptoms that may indicate a more serious diagnosis (see Table 1).

The type of cough and breathing patterns can also help determine the nature and management of a cough.

Stridor is a high – pitched respiratory noise, usually during inspiration, caused by partial upper airway obstruction. It is most commonly associated with croup, acute tonsillitis, and epiglottitis.

Wheeze on the other hand, is a consequence of turbulent airflow in the lower respiratory tract, and can be head during expiration. Wheeze is most commonly associated with acute bronchiolitis or asthma. All children with wheeze should be referred for further investigation.

Acute Cough

School aged children typically experience episodes of cough seven to ten times per year, with varying degrees of severity. Viral infections are the predominant cause among children.

Acute viral cough

The most common type of cough in children is an acute viral respiratory tract infection. This can present as a wet or dry cough, may be associated with other symptoms such as runny nose and mild fever. Symptoms usually resolve with three weeks.

There are few efficacious treatments for acute viral cough. In 2012, the TGA conducted a review of the use of cough and cold medicines in children, and found that there was a lack of efficacy and the potential for adverse effects from these medications in children younger than six years of age. In addition, the use of these medications could mask symptoms or reduce the immediate treatment of more severe respiratory conditions, such as influenza or asthma. Over-the counter medications for cough, including the antitussives pholcodine and dextromethorphan, and mucolytics guaiphenesin and bromhexine, are now indicated only in children older than six years of age. There is also no evidence for the use of bronchodilators in non-asthmatic children.

TABLE 1: ALARM SYMPTOMS REQUIRING REFERRAL

The following alarm symptoms should warrant immediate referral to a medical practitioner. (3,8)

* Prominent dyspnoea, particularly at night or at rest
* Recurrent episodes of chronic, wet, or productive cough
* Systemic symptoms, such as fever, weight loss, or failure to thrive
* Feeding difficulties, including choking or vomiting
* Recurrent pneumonia
* Stridor or other respiratory noises
* Abnormal chest x-ray or clinical respiratory examination

Management of acute cough in children is limited to analgesia (if required), rest and fluids. A Cochrane review of the use of honey as both an anti – inflammatory and antibacterial in cough indicated that it was

more effective at reducing cough than placebo, so many also be initiated.
An initial assessment of child's cough can help determine whether it is a self – limiting condition, or whether referral for further investigation is required

Bronchiolitis

Bronchiolitis is a viral infection generally affecting infants younger than six months.8 Presenting symptoms include dry cough, audible wheeze, inspiratory crackles, and increased breathing workload.2 Parents should be reassured that most cases of bronchiolitis are self – limiting, lasting less than 14 days, and require no intervention. Frequent feeding should be maintained, and any child with difficulties feeding should be referred.

Croup

Croup (acute laryngotrachaebrochitis) is a viral infection of upper airway, larynx, trachea and bronchi. It presents most commonly in children aged one to three years with a barking cough, inspiratory stridor, and wheeze. Assessment of symptoms can be used to classify croup severity (see Table 2).

Oral corticosteroids are recommended for all children with croup. Corticosteroids reduce oedema in the airways, and begin to improve symptoms within six hours. Prednisolone 1mg/kg as a single daily dose is the most commonly prescribed corticosteroid for croup, with a second dose prescribed for the following daily if required. Other options include 2mg inhaled budesonide, or oral dexamethasone 0.15mg/kg as single dose. As there is no commercially available dexamethasone solution, this likely to be seen only in a hospital setting.

Many parents have concerns about giving children corticosteroids, and may take a `wait and see' approach with regards to their child's symptoms. Pharmacists should emphasise that corticosteroids are recommended for all children with croup, irrespective of severity. There is strong evidence that early use results in a significant improvement in symptoms and reduction in hospital presentation. A Cochrane Review reported no adverse effects for glucocorticoids when given for croup.

TABLE 2: **SEVERITY OF CROUP** (14,15)

SEVERITY	SYMPTOMS
Mild air way obstruction	Barking cough, stridor only when active or upset, normal behavior, mild chest wall retractions
Moderate airway obstruction	Stridor at rest, chest wall retractions, increased respiratory rate, nasal flaring, some irritability
Severe airway obstruction	Stridor at rest, marked increase or decrease in respiratory rate, nasal flaring, marked chest wall retraction, marked tachycardia, irritability or fatigue

Other causes of acute cough

- Pertussis (whooping cough) should be considered in children who are not immunized. It is characterized by persistent coughing attacks, inspiratory whoops, and vomiting. Young children may also have episodes of apnoea.
- Allergic rhinitis may be identified when concomitant symptoms such as nasal inflammation and itching or conjunctivitis are present. Allergy avoidance and standard over the counter treatments can be initiated, however it should be noted that oral antihistamines have no demonstrated efficacy in reducing cough in children.3
- Foreign body aspiration is a rare but potential diagnosis, particularly in children under three years. The most common items to be aspirated by children include peanuts, seeds, dried fruits, small toys, and pen caps.18 Aspiration may be suspected when cough, wheeze or dyspnea is unresponsive to

medical treatment or when there is persistence of respiratory symptoms in the absence of other symptoms.

Chronic cough

Any childhood cough that persists beyond four weeks should be referred for further investigation.3 Asthma is the most common cause of chronic cough, with other potential diagnoses including persistent bacterial bronchitis, gastro oesophageal reflux disease, psychogenic cough, cystic fibrosis, or bronchiectasis.4,10

Asthma

Approximately 11% of the Australian population have asthma.19 While cough is a common symptom of the condition, a diagnosis of asthma cannot be made if cough is the only or predominant symptom present.20

Diagnosis of asthma involves consideration of:

- History of recurrent or persistent wheeze;
- Presence of allergies or family history of asthma or allergies;
- Absence of physical findings which suggest an alternative diagnosis; and
- Spirometry findings.

Asthma can be difficult to diagnose in children younger than three years, and there is no single reliable test.20 Infants commonly known as `fat happy wheezers' may have ongoing respiratory wheeze without respiratory distress, and this may be mistaken for asthma.10 In addition, a number of children who respond to bronchodilator treatment do not go on to have asthma later in childhood. Cough is therefore a poor marker of asthma, and pharmacists should be cautious against proposing this as a potential diagnosis. All children with persistent wheeze should be referred for further investigation.

Other causes of chronic cough

- A productive cough lasting more than three weeks may be suggestive of persistent bacterial bronchitis or suppurative lung disease such as cystic fibrosis or bronchiectasis.10
- A dry, hacking, repetitive cough with the absence of other symptoms may indicate a psychogenic cough. This diagnosis is supported when a child coughs more frequently in the presence of parents or caregivers, and reduces during periods of distraction, sport, and sleep.4
- Gastro oesophageal reflux may also be a consideration, however this is far less common in children than adults.21

Summary

Cough is a common occurrence in children, most often caused by acute viral infections. In most cases, there is little need for treatment, with most causes being self – limiting. The use of cough medicine is not indicated in children younger than six years of age, and should be used cautiously in children younger than six years of age, and should be used cautiously in children younger than 12years. Antibiotics are indicated only when bacterial infection, streptococcal tonsillitis, or pneumonia is suspected.4 Inhaled corticosteroids should not be used unless there is a diagnosis of asthma.3

Pharmacists should ensure that they assess the duration, nature, and type of cough to determine the need for referral, taking into account the presence of any alarm symptoms.

Irrespective of the cause and nature of cough, there are number of self – care recommendations which can be provided to improve outcomes. These include the avoidance of environmental factors such as tobacco smoke which may be contributing to cough, and reducing exposure to cold air.3.8 Parents can also be alerted to the ineffectiveness of antibiotics in most cases of cough to avoid antibiotic resistance.


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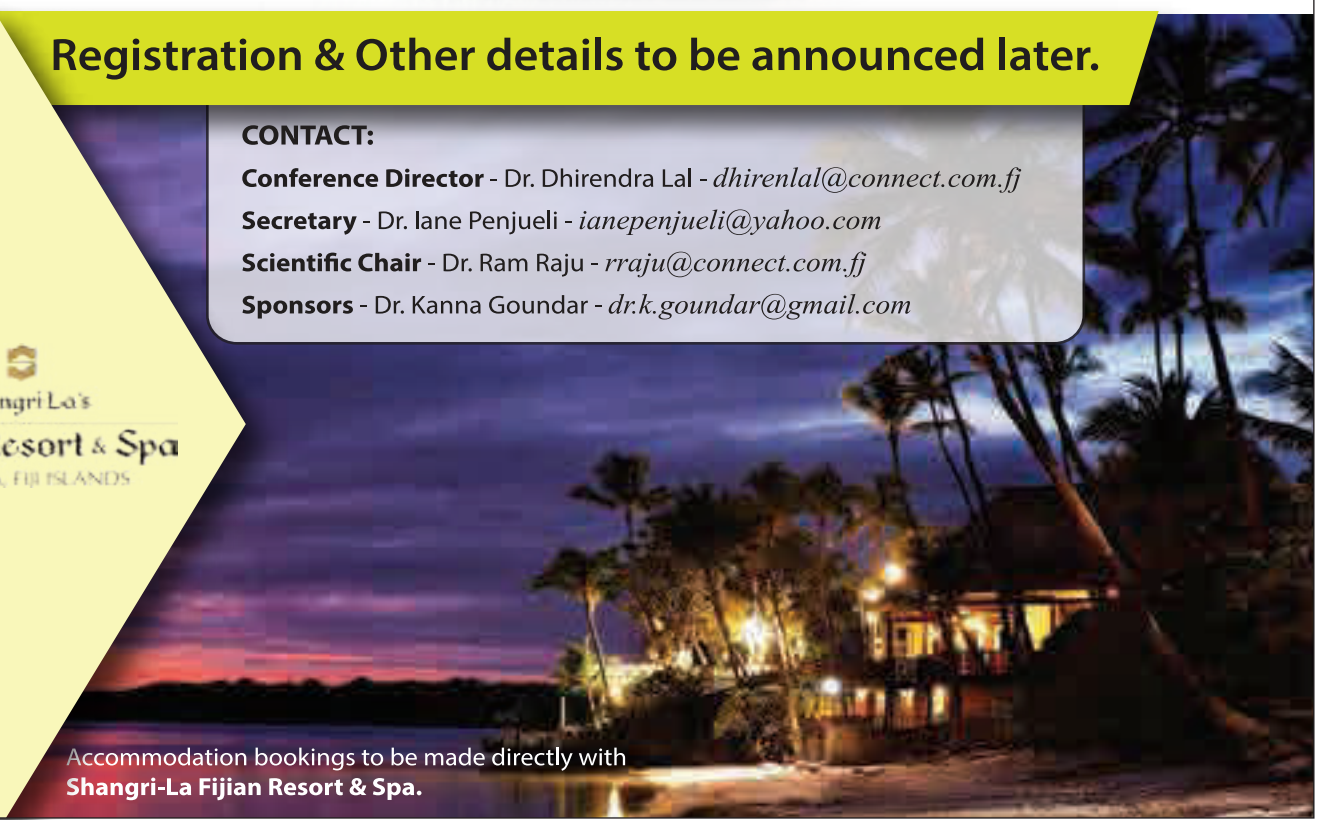

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