Gender and non-communicable diseases in the Pacific

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has been an under utilised approach, and is one that has potential in the Pacific.

We focus on the arbitrarily selected studies of adult onset diabetes and accidents, to show how gendered patterns of disease is tied to the culturally associated variations in behaviour. The statistics used have not been disaggregated by gender, are frequently out of date, and are not directly

Papua New Guinea and Solomon islands the rate of female adult literacy is low. In contrast, approximately equal rates of educational participation are found in Fiji and throughout most of Polynesia. An interesting question is whether cultural construction of gender as well as the extent of modernisation directly influence levels of human development. This seems probable, for there are major differences in the relative status of men and women between Melanesian and Polynesian cultures.The way different cultures assign roles and status ranking to males and females has significant bearing on the interpretation of social indicators and epidemiological data.

Solomon islands most secondary schools are boarding institutions and parents may be reluctant to send their daughters away.

Women tend to be excluded from community management activities in many Melanesian societies. In the past the focal point of many Melanesian villages was the men's house where men lived, performed rituals, and negotiated political matters. Women lived in separate households with their daughters and young uninitiated sons. Women were often excluded from formal religious and political matters and had lesser claims to scarce resources. Many anthropologists have described the gender inequalities in sharing of

Table 1. Human Development Indicators (HDI) for selected Pacific Island countries, 1993-1994 *

Country	Aid per capita 1990	GDP per capita 1990	UNDP HDI rank *	Urban population %	Life expectancy at birth	Mean years at school	Population growth
Lower HDI							
Papua New Guinea	107	999	0.138	49 6	49.6	2.1	2 4
Solomon Is	136	529	0.191	13	60.7	2.8	2.9
Medium HDI							
Kiribati	279	461	0.439	33	60	6.1	1 8
Vanuatu	335	1020	0.424	18	62.8	4	3 1
Higher HDI							
Fiji	62	1991	0.652	39	63	6.8	1.9
FSM	>700	1474	0.604	26	64	7 6	1 6
Marshall Is.	>700	1579	0.611	66	61	8 5	2 7
Cook Is	710	3416	0:985	27	70	8.4	-0.6
Tonga	301	1396	0.723	26	69	7.1	0.5
Tuvalu	588	1068	0.652	30	67	6 8	4 1
Western Samoa	311	722	0 572	21	63	9 1	0 3

** Based on data presented in the Pacific Human Development Report, UNDP, Suva (1994)*

In Melanesia, horticulture and inshore fishing is seen as "womens work" . The institution of "bride price" is still well established in many Melanesian communities. This is a custom where the family of a man gives gifts of produce, money and other goods to the woman's family when a couple marry. Custom also tends to hold that the payment of bride price gives a husband and his family ownership rights over his wife, and such attitudes generally take precedence over legal provisions for women's rights. The desire to control a girl's marriage and the demand for female labour may help to explain why parents are less likely to educate their daughters at secondary school and beyond. It may also be of significance that in Papua New Guinea and food, with women and children having restricted access to highly prized generally more nutritious foods.

In contrast, studies of peoples from Western Samoa, Tonga and the Cook islands indicate women are only peripherally involved in agriculture and there are often strong cultural objections to women doing outdoor work which is seen as "dirty" or "heavy". At marriage both the families of the husband and wife give each other gifts and men are not considered to have ownership rights over their wives nor do they see their wives as objects of labour. In Tonga and Samoa custom dictates that men should respect their sisters, which effects the status of all women and

encourages equal educational opportunity. Pacific countries have also had close to two centuries of Christian influences on gender roles, which in some respects undermines women's status. Only relatively recently, have women held religious offices, and the Christian emphasis on the women's roles as wives and mothers fits well with the Polynesian and Miconesian reverence and support for pregnant and lactating women. In most Polynesian and Micronesian countries, women may be land owners, play a major role in community organisation and participate in local primary health care programmes. In Polynesian societies, rank and age are as important as gender, thus a woman's status rises with age.

Throughout the Pacific, culture determines gender patterns of substance abuse. The traditional drugs include kava (*Piper mythisticum*) which is a pounded root steeped in water and drunk with mild narcotic effects. This is used thoughout Western Polynesia, Eastern Melanesia (Vanuatu and Fiji) and on Pohnpei in Micronesia. Areca or betel nut which is chewed, with similar effects, is used by the Melanesians of New Guinea and Solomon islands, and by the Micronesians of Yap and Palau. Modern drugs - tobacco, alcohol and marijuana, were Western introductions. Tobacco smoking was introduced to islanders in the sixteenth century but not widely practised until the nineteeth centnury. The manufacture and drinking of alcohol was introduced from the earliest days of European contact but

Table 2. Male versus female prevalence rates in NIDDM for Polynesian populations

Population sample	Age-standardised (30 - 65 years) prevalence rate (%)			Source
	Male	Female	Ratio	
Cook Is - urban	7	9.2	100:131	*King and Rewers (Ref. 30)*
Niue, 1980	7.9	10.4	100:132	*King and Rewers (Ref. 30)*
Ouvea (Polynesian) **	6.6	6 3	100:95	*McGrath et al (Ref. 29)*
Rarotonga, 1980	7	10.1	100·144	*King and Rewers (Ref. 30)*
Western Samoa - rural, 1978	2 1	5 9	100:281	*King and Rewers (Ref 30)*
Western Samoa - urban, 1978	10.7	10 4	100:97	*King and Rewers (Ref. 30)*
Wallis Is., 1980	3.2	4.7	100:147	*King and Rewers (Ref. 30)*
Wallis islanders in Noumea **	10	14	100·140	*McGrath et al. (Ref. 29)*
Tuvalu, Funafuti	1.3	6.3	100:485	*King and Rewers (Ref. 30)*
Tokelau, 1982 **	6.97	14 2	100·2.04	*Wessen et al.*
Polynesians in new Caledonia, 1979	6.6	6.3	100.0.95	*King and Rewers (Ref. 30)*

** *Not age-standardised.*

Micronesia is an area of greater cultural diversity than Polynesia but the status of women is more comparable with Polynesia than Melanesia. The circumstances of atoll life are such that there are remarkable cross-cultural similarities in gender relationships and division of labour between Micronesian and Polynesian atoll populations. Men's roles tend to be specialised and center on fishing and the sea, whereas women are land based. In some Micronesian and most Polynesian societies women's activities are more restricted and sedentary and this may explain why mature women are usually fatter than men.

may have been practised in earlier times by atoll dwelling peoples[11]. It is very difficult to generalise about gender differences in the use of drugs. For example, betel nut chewing was practised by both men and women, but Kava consumption was usually reserved for men. Smoking is not a "gendered" activity, and there are wide cultural variations. In many parts of the Pacific where home grown "native" tobacco was (or is) smoked, women seem to indulge as much as men. Historical accounts of Samoa and Tonga in the nineteenth century suggest that smoking was as popular with women as men, although men may have had greater access to tobacco. When tobacco is purchased, rather than home grown, women seem less likely to smoke.

Drinking alcohol seems to be a far more widely "gendered" practice. It is generally perceived as a masculine activity, and while heavy drinking is tolerated in males, it is usually disapproved in women. Mark Mosko, describes how the Mekeo people of Papua New Guinea have incorporated alcohol comsumption into the local culture as a distinctive and exclusive male perogative[12]. However Fahey while looking at the household expenditure of people in the Madang province suggests that young women with financial independence commonly choose to drink alcohol[13].

Throughout the Pacific there is one factor that generally seems to contribute to women's more restricted access to tobacco and alcohol. Rural women and those in low income urban areas have less access to money than men. Studies of household economies in Papua New Guinea show that women with access to money, are more likely to buy food and other necessities for their families, than spend money on themselves, although gambling is very common[14]. It is also observed that modernity and urbanisation changes gender values concerning substance use. Urban women with their own incomes are more likely to drink alcohol and smoke.

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Accidents and accidental death

Accidents are an increasingly significant cause of morbidity and mortality in many Pacific nations, reflecting a global trend[15]. While accidents are probably under reported, this category accounts for more than 10% of the deaths in the Marshall Islands, Federated States of Micronesia, Palau, Northern Marianas, Guam, American Samoa and Hawaii, Nauru, New Caledonia, Western Samoa, Niue and among the Fiji Indians[16,17,18].

The limitations of the accidental death statistics for the Pacific are widely acknowledged in the available literature, including inconsistent use of definitions, the etiological categories and lack of disaggregation by gender and age. Some studies address accidental death within a broad category which includes accidents injury and poisons[19] and others relate to specific injuries such as spinal cord injuries[20]. While mortality figures may be relatively accurate, morbidity statistics are unlikely to reflect the level of accidents as it encompasses both duration and degree of disability, and is often measured in terms of loss of production outside the household. There is also some reason to suspect bias in the reporting of male versus female accidents. Vlassof and Bonilla, for example, suggest that women delay both reporting illness and seeking professional intervention[21].

Despite these concerns, it is clear that men sustain more reported injuries than women and are more likely to die of accidental causes. Naylor records only one accident sustained by a female in Tokelau Islands in 1987 compared to 13 for men[22]. Wessen et al, report seven male versus two women involved in fatal accidents in the Tokelau Islands between 1971 and 1981[23]. In Niue, men were four times the risk of dying of injury and poisoning than women of the same ages, and are twice as likely to seek casualty attention from road traffic accidents[24]. Men sustained 85% of all spinal cord injuries in Hawaii between 1987 and 1989[20]. In Nauru, the male accidental death rate in the age group 35 - 44 was six times that of women[16].

It is in road traffic accidents that elevated male risk of accidental death is particually evident. Importantly, more than 50% of road traffic accidents in most Pacific countries are alcohol related[26,27]. Prasad and Mar, note that road traffic accidents in Viti Levu, Fiji peak on Friday and Saturday nights, when males congregate to consume alcohol[28]. Men are also more likely to drive than women in many Pacific island nations, in part reflecting the status differences. Barker notes that twice as many men as women drive in Niue, and partly attributes the disproportionate gender differences in accident rates to the greater number of male road hours resuting in a greater exposure to risk[25].

Beyond the observation that it appears young men engage in greater risk taking and sustain more accidental injury and death than women, a number of socio-cultural factors appear to contribute to the high percentage of Pacific island male casualties due to accidents. As a generalisation, cultural contexts allow or encourage male alcohol drinking far more than female. Barker suggests that risk taking is culturally ascribed in Niue, where young adult men are expected to engage in *fuata*, which epitomises aggressive competitive behaviour[25]. Alcohol and risk taking make a powerful combination in promoting accidental male injury and death. Many of these themes which have been explored by Barker in Niue may be applicable to other Pacific countries.

Non-insulin dependent diabetes mellitus

Non-insulin dependent diabetes mellitus (NIDDM) is now a disease of major health significance in the Pacific, with higher and increasing prevelence in urbanising and urban groups. Despite abundant literature on NIDDM in the region, the complex etiology of the disease means the behavioural precipitating factors remained ill-defined. However, many potentially gendered activities are implicated, including those involving diet and access to Western food, and exercise activity patterns. Elevated risk is associated with many facets of "Westernisation", such as increased use

of imported foods, increased consumption of alcohol, and decreased physical activity - all of which cause increased adiposity and blood cholesterol levels. The data used to derive prevalence and incidence rates of NIDDM in the Pacific are comparable because similar sampling methods are used in the different studies. As the Pacific NIDDM literature is voluminous we have limited our observations to Polynesian studies. Overall, Polynesian women have a higher prevalence of NIDDM than men (Table 2), although several reversals of this trend are apparent. The patterns appear highly population specific, in as much as all the reversals are not limited to urban versus rural samples, or populations with higher overall prevalence. Other developing countries show similar gendered patterns of NIDDM with a sightly elevated risk for women, most likely due to diet and relative activity patterns[30].

These gendered patterns in the Pacific, as elswhere, can be linked very directly to differences in the lifestyle of men and women as they behave within the cultural milieu. This particular perspective is essentially absent from Pacific studies of NIDDM to date.

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Conclusion

A relatively unexplored dimension of differences in health between and within countries is a difference in gender and social staus. One value of this approach is in its applications for interpreting statistical evidence about the prevalence of NCD. Another is the provision of a different perspective on the behavioural aspects associated wth NCD risk on which to base health interventions. Using previous reports about accidents and NIDDM, this study attempted to highlight how gender roles resulting from cultural prescriptions affect the health status of the comunity.

The most explicitly developed Pacific ethnography on NCD and gender in our literature search examines blood pressure in Samoans[31] . It provides a valuable model for this form of analysis. Overall, the statistics on male versus female risk for the NCD in the Pacific are inconsistant, incomplete, and out of date. We encourage Pacific researchers to disaggregate data by gender when they publish results of their studies, as this would contribute to te understanding of patterns of risk.

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