

Dealing with disease in the desert: a new approach

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The Pintupi people of Australia's western desert region are known as the last of the nomads. Some did not leave their traditional lifestyle roaming in the Gibson Desert until the mid 1980s. The majority have now settled at Walungurru (Kintore), 500 kilometres west of Alice Springs near the Northern Territory/ Western Australia border.

Sadly, the change to a sedentary lifestyle and a western diet has had a devastating effect on their health. The children are often growth retarded and wracked with infectious diseases. Scabies, head lice, impetigo and skin sores are commonplace. New cases of rheumatic fever and post streptococcal glomerulonephritis continue to occur. Suppurative otitis media usually commences within the first three months of life and repeated attacks leave many children deaf. Trachoma is widespread with its potential for blindness later in life. Chronic suppurative lung disease is so bad that a number of children are now undergoing surgery to remove sections of their lungs which have become little more than bags of pus. A quarter of young adults have sexually transmitted diseases. Over a third of the adults are diabetic and ischaemic heart disease is common. Diabetic nephropathy is so severe that the prevalence of end stage renal failure amongst the Pintupi is 40 times that in the general Australian population.

The community has set up its own health service, the Pintupi Homelands Health Service (PHHS), arguably continental Australia's most remote medical practice, to provide health care for the Pintupi and to work towards addressing the underlying causative factors for the high burden of disease. PHHS is an Australian General Practice Accreditation Limited (AGPAL) accredited general practice.

Current state of health of the Pintupi

Kintore has a population of approximately 400 (350 indigenous and 50 non-indigenous). PHHS has 406 current patients listed on its medical database, 251 adults and 155 children under 16 years old (1). This reflects the typically youthful nature of indigenous communities: approximately 40% of Kintore's population is children as compared to around 20% of Australia's population (2). Despite the small population of the township, the clinic, normally staffed by at least one doctor and two nurses, is busy. In 2010 there were 13,084 individual visits to the clinic, ie on average approximately 30 visits per resident per year (1). This averages to approximately 42 health service encounters per day on the six days of the week PHHS is open, ie on average 10% of the town's population visit the health service every day. In 89 of these encounters the patients were so ill they required medical evacuation to Alice Springs Hospital, typically flown there by the Royal Flying Doctor Service (1).

In 2010 there were 6 children diagnosed with failure to thrive (growth faltering), 59 cases of impetigo (school sores), 30 children with suppurative otitis media, 6 children with significant hearing impairment, 8 cases of bronchiectasis (chronic suppurative lung disease), two of whom required partial lung removals for treatment, 61 cases of scabies, 21 cases of head lice, 98 visits for boils and carbuncles, one newly diagnosed case of rheumatic fever and one new case of post streptococcal glomerulonephritis (1).

A screening program of 71 children conducted in 2010 found that 62% had trachoma (3) warranting all members of the community being treated with oral Azithromycin.

A screening program of 59 males and 72 females between the ages of 14 and 35 years conducted in 2008 for sexually transmitted infections found that over 24% had either gonorrhoea or chlamydia (4). The prevalence of gonorrhoea alone was 15% and chlamydia 17% (4). This compares to rates in the general Australian population of 0.04% for gonorrhoea and 0.2% for chlamydia (5). This outcome led to all residents in the above age group being treated with oral Amoxicillin, Probenacid and Azithromycin, or intramuscular Ceftriaxone and oral Azithromycin.

For such a small township large quantities of antibiotics are used. For example in 2010 the clinic used 805 preloaded syringes of Penicillin (Procaine and Benzathine) (6), enough for all residents to have had 2 doses each.

Many of the adults are overweight or obese and 87 (35%) have a diagnosis of type 2 (adult onset) diabetes (1). This compares to the national prevalence of diagnosed diabetes of 4% (7).

Thirteen Pintupi from Kintore are in end stage renal failure (ESRF) on dialysis (8). The prevalence of ESRF in the town's population is 3.2%. In 2007 16,770 Australians were receiving renal replacement therapy (dialysis or kidney transplant) for ESRF (9). This is 0.08% of Australia's population. Thus the prevalence of ESRF in the Pintupi is 40 times higher than in the general population. Indigenous Australians are reported as being 6 times as likely as other Australians to be receiving dialysis or to have had a kidney transplant (9) however clearly the need for renal replacement therapy is much higher amongst the Pintupi.

This epidemic of chronic kidney disease (CKD) shows no sign of abating with 59 cases of CKD not on dialysis currently documented amongst the Pintupi (1). 39 of these 59 CKD cases are in stage 1 or 2, 12 in stage 3, 4 in stage 4 and 4 in stage 5 (pre-dialysis). The main causes of this high rate of renal disease are considered to be the high prevalence of diabetes and streptococcal disease. Kintore now has a kidney centre with two dialysis machines and 3 full time renal nurses to allow those in ESRF the opportunity to intermittently return home from Alice Springs and spend time in country with their families.

Causative factors for the current health state of the Pintupi

It takes no more than a quick tour around the community to identify a number of significant causative factors for the poor state of health of the people living there. Rubbish is everywhere. From the edge of the verandahs that surround the houses there's a morass of used nappies, food scraps, empty soft drink bottles and meat tins and dog faeces lying like flotsam and jetsam on a sea of sand. The people sit in these filthy conditions, surrounded by flies, and the children, pus coming from their ears and noses play amongst the rubbish. Everywhere is the smell of smoke from wood fires and tobacco. 64% of the population smoke or chew tobacco (1).

It is well known that diseases such as trachoma, rheumatic fever, impetigo, gastroenteritis and middle ear disease, which are rife in this community, are caused by poor sanitation (5). And diseases such as diabetes and ischaemic heart disease, virtually unknown in traditional indigenous societies, are caused by poor nutrition and lack of exercise (5).

Many of the Pintupi lived their childhood or young adulthood as hunter gatherer nomads. And those that were born in settled communities are typically only one generation from the nomadic lifestyle. In a traditional hunter gatherer nomadic lifestyle there was no need for domestic or environmental hygiene because the rubbish was biodegradable and with small groups moving frequently the group could move before the rubbish created a hazard. By the time the group returned natural biodegradation had taken place and the location was safe again. The chance for infectious diseases to enter and spread within a small group of nomads was much less than exists when a larger group lives in a fixed location.

Traditionally the foods eaten were minimally processed and very nutritious and exercise levels involved in travelling for food hunting and gathering and for cultural/spiritual reasons were very high (10). The accounts of explorers and anthropologists who encountered aborigines living traditionally describe them as being very fit and healthy (11, 12).

Non-indigenous Australians have centuries of tradition living in settled communities. In the 19th century, with the advent of public health principles, they learnt the importance of sanitation, clean water, sewerage systems and the avoidance of overcrowding. In the latter half of the 20th century Australians learnt of the dangers of cigarette smoking, the importance of nutritious food and the need for exercise for its own sake to prevent cardiovascular disease, certain cancers and diabetes.

Efforts being undertaken to improve the situation through the “healthy house” project:

The Pintupi have no tradition of living in settled communities and within one or two generations have had to try to learn the skills required to have a healthy lifestyle in a completely new way of living. The PHHS Board and management considered this and decided a way needed to be developed to mentor the people in healthy township living. It was decided the best way of doing this was to set up a model house where personal, domestic and environmental hygiene, nutrition, exercise and healthy behaviour programs could be introduced in a culturally sensitive manner. Thus was born the “healthy house” program.

A dilapidated rundown house in the town was lent by the community to PHHS for this project. Funding was received from the Walungurru Community Council, Central Australian Aboriginal Congress, Myer Foundation, Waltja Tjutanku Palyapayi Aboriginal Corporation, NT Community Benefit Fund and the Western Desert Nganampa Walytja Palyantjaku Tjutaku Aboriginal Corporation to supplement PHHS’s own funds to enable renovation of the house and ensure it had a functional kitchen, bathroom and laundry and was fitted with modern appliances such as a cooking stove, refrigerator, clothes washing machine and air conditioning units. A vegetable garden was commenced and fruit trees planted.

Two health promotion officers were employed, female and male, and five local indigenous staff to assist them. Traditional indigenous people typically do not mix with the opposite sex except for their cultural marriage partner. Thus separate women’s and men’s and girls’ and boys’ health programs were developed.

The women’s program consists of healthy food preparation, hand washing, growing, preparing and cooking fresh vegetables and fruit, kitchen hygiene, rubbish disposal, clothes washing, health education including “sex sickness” prevention and avoidance of chewing tobacco, and an exercise program: walking in the cool season and water aerobics in the community swimming pool in the hot season.

The men’s program is similar but there is also a strong emphasis on cigarette smoking cessation and the use of condoms to prevent “sex sickness”. In the hot season a water polo competition has been trialed and an air conditioned gym is currently in construction for men and women to use (separately) to improve fitness.

For girls and boys (aged approximately 8 to 12 years old) single sex sleepovers have been held under supervision by indigenous and non-indigenous carers. During these sleepovers the children are taught hand washing, showering, tooth brushing, healthy food preparation, house cleaning and clothes washing, all in a friendly happy manner.

Clinic doctors and nurses can refer patients with specific health problems to the “healthy house” for a general program or for specific health goals, eg weight loss or learning how to prepare a diabetic diet.

The “healthy house” program has been in place for two years and has already gained widespread acceptance by the community. It is seen as a fun place to attend or work and approximately 20 members of the community participate on a daily basis. It is difficult at this early stage to quantitate the success or otherwise of this program however the participation in the program has been heartening and the sale of fresh fruit and vegetables at the community store, the town’s only food outlet, has doubled since this program commenced (13).

Conclusion

The burden of disease is extremely high in the remote aboriginal community of Walungurru (Kintore). The general state of health of the Pintupi people is poor and much worse than that of the general Australian population. It is likely that the health situation is similar in many other remote aboriginal communities because remote indigenous peoples have only relatively recently changed from a nomadic lifestyle to settlement living and have not been trained in the skills required to live this new lifestyle.

Health promotion policy in remote indigenous communities needs to take this into account. Healthy lifestyle behaviour programs such as the “healthy house” project are necessary to assist remote indigenous communities attain the skills necessary to live a healthy long productive life in a township environment.

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