Remote Indigenous Aged Care Facilities of the Kimberleys – An Eye Health Audit and Comparison

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ABSTRACT for NRHA Adelaide 2013

AIM

An outreach circuit of indigenous aged care facility (ACF) residents was conducted in July 2012 providing optometry services to those unable to attend regular clinics. Examining the eye health of the residents and therefore establishing if their eye sight was adequate for their needs, or if not, referral pathways to local services were investigated.

METHOD

Liaising with the ACF staff, EHCs, visiting ophthalmologists and local optometrists to organize the circuit was imperative and included emails and phone calls from six months before the visit took place. Administrative requirements included lists of residents at each ACF and their medical records. Equipment suited to mobile optometry was required. Residents were examined in a consultation room at each ACF on the designated day. Results were recorded in a computerized record system. Referral to visiting ophthalmologists was implemented in consultation with ACF clinical nurse managers (CNM), GPs and the local eye health coordinator (EHC). Results of eye health and vision status were compared with metropolitan and rural ACF residents.

RELEVENCE

Service provision to remote areas is a recognized issue which needs to be highlighted if the health gap is to be closed. ACFs are the "final chapter" for health care and therefore, the gaps endured in earlier years can be revealed clearer. In eye health, optimum care results in good vision and therefore improved quality of life, especially in the latter years of a person's life. An audit of eye health indicates the wellbeing in this important sensory area-eye sight. Comparison with metropolitan and rural sample populations show whether the "gap" is approaching "closure" .

RESULTS

Six ACFs were visited over eleven days. A total of 94 indigenous residents were examined ranging from age 63-101 years of age. The majority had good eye health with nine requiring referral for ophthalmological examination, mainly cataract extraction. This compared better than residents eye health and vision metropolitan and rural ACFs.

CONCLUSION

The low incidence of ophthalmological referral required and the comparative findings of good vision and eye health in the ACF populations of the Kimberleys is a "Good News story" which should be celebrated by all who have worked so hard in the past to enable these legends to enjoy seeing the sunsets of their final years. When compared with residents in ACFs in metropolitan and other rural areas, they were found to have better eye health and vision. Is this a "first" in the closing of the gap in indigenous health?

INTRODUCTION

Health status in aged care facilities (ACFs) residents tends to be poor, chronic and terminally fated (1). It would be expected that eye health would follow the trend with residents in these communities suffering poor eye health and higher rates of blindness than the general community (2). Instead, a possible "first" in the closing of the gap has been identified in indigenous health: - eye health and vision, in the remote Kimberleys ACF residents of WA.

Service provision to remote areas is a recognized issue which needs to be highlighted if the health gap is to be closed (3). ACFs are the "final chapter" for health care and therefore, the gaps endured in earlier years can be revealed clearer. In eye health, optimum care results in good vision and therefore improved quality of life, especially in the latter years of a person's life (4). An audit of eye health and vision indicates the wellbeing in this important sensory area-eye sight.

In this study, an outreach circuit of indigenous ACFs was conducted in July 2012 providing optometry services to those unable to attend regular clinics. Examining the eye health and vision of the residents and therefore establishing if their eye sight was adequate for their needs, or if not, referral pathways to local services were investigated. This included ophthalmological referral and spectacle provision. Results were compared with ACF residents in metropolitan and rural ACFs of WA.

The Kimberley region in WA is rated as ASCG-RA 5 noted for its reduced access to health services, social isolation, severe climate conditions and difficult work situations(5). While this part of Australia is one of the most sparsely populated, it also has one of the highest populations of indigenous people(6).

There are some unique eye issues that affect the indigenous people of the Kimberleys, namely cataracts, trachoma and diabetic retinopathy(7, 8). They do not seem to have the same incidence of glaucoma or age related macular degeneration (MD) that white people suffer, which indicates a genetic disposition to these latter diseases(9).

Royal Flying Doctors founder Rev Dr John Flynn, Dr Ida Mann, Professor Fred Hollows and others found that cataracts and trachoma in the indigenous communities are mainly due to environmental factors and are preventable and treatable with surgery, medication and lifestyle changes (10) .

Cataracts are partially caused by UV radiation and age (11).Trachoma is caused by a type of bacteria which can be eradicated by washing the face daily. It is spread by flies and close living conditions. It has been eradicated in most of the developing world, but is still prevalent in some remote Aboriginal communities(8). Lid entropian is a consequence of trachoma which requires ophthalmological surgery to reduce blindness from scarring.

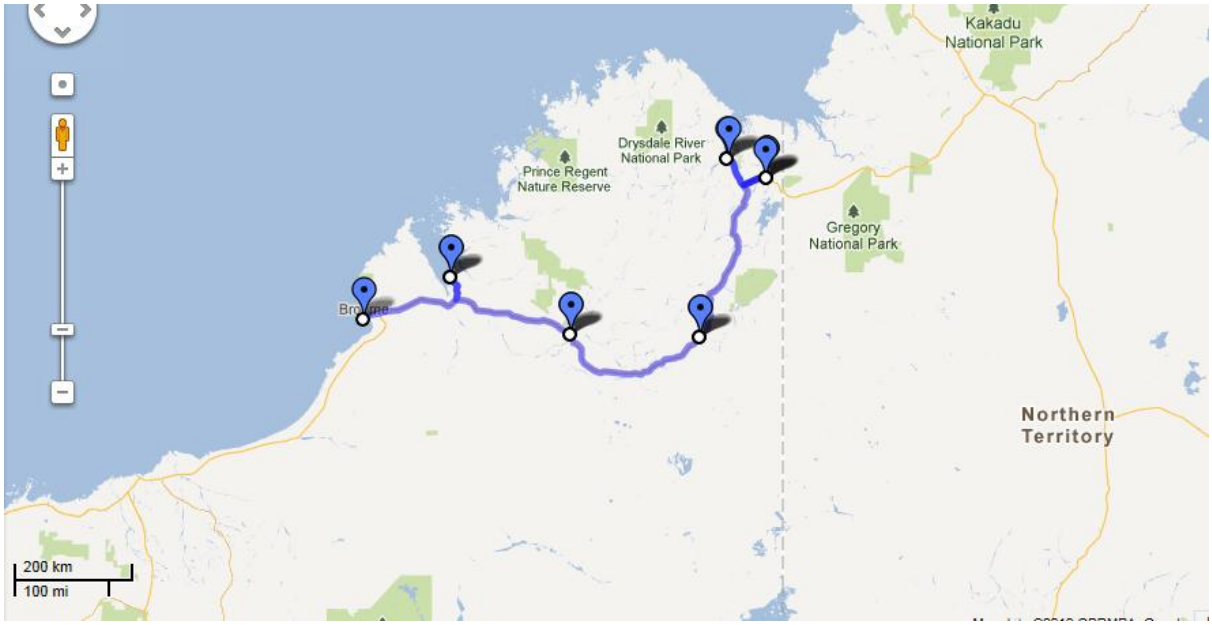
Diabetic retinopathy is a consequence of diabetes mellitus which is mainly a diet and lifestyle related disease in indigenous populations (12). It has been found to be increasing in Kimberley indigenous populations at endemic proportions from 2007 (13). Jaross et al found that diabetic retinopathy started becoming an increasing problem in the 1990's (14). The sample population I am reporting on are from very remote communities who have lived a traditional indigenous lifestyle and may not have had the external, Western influences that diet and sedentary lifestyle affected the rise in diabetic disease, including the incidence of diabetic retinopathy.

Comparing the incidence of eye disease, need for ophthalmological referral, level of vision and rate of need of spectacles helps eye health providers to measure the success of previous workforce efforts (15). By streamlining what workforce is needed where, ultimately helps to keep a sustainable service for the benefit of all, including the "legends" of our society, the elderly in ACFs, wherever they live.

METHOD

Travel arrangements, liaising with the ACF staff, checking ophthalmologists visiting schedules, consulting local optometrists and the Eye Health Coordinator(EHC) to organize the circuit was imperative and included emails and phone calls from six months before the visit took place in July 2012.

Map of VOS Circuit 2012 Kimberley ACFs of WA



The VOS circuit consisted of flying Perth-Kununurra, hired a 4WD, and drove to Wyndham to test at the Low Care ACF, Marlgu Village, back to Kununurra to test at the Kununurra ACF located within the local hospital. We drove to Halls Creek Peoples Church ACF, a High Care ACF, then to Fitzroy Crossing to test at the Low Care Facility, Guwardi Ngadu Frail Aged Hostel, then to Derby to test at Numbala Nunga Nursing Home (High Care Facility) and finally Ngamang Bawoona Hostel (Low Care Facility), also in Derby.

Administrative requirements included lists of residents at each ACF, their personal details including medical records and Medicare names and numbers. Access to electronic patient medical records is limited by the local Aboriginal medical body, so the ACFs had to retrieve these in advance. The Clinical Nurse Managers (CNMs) of each ACF were responsible for gathering this data and facilitating the visit.

Equipment suited to mobile optometry was required. This included portable, robust, lightweight instruments and frames. Residents were examined in a consultation room at each ACF on the designated day. Eye examination procedure consisted of visual acuity testing using the Illiterate E Snellen Chart, refraction, direct ophthalmoscopy, biomicroscopy and tonometry. Where indicated, frame fitting for dispensing was conducted and quotes issued if spectacles were required. Results were recorded in a computerized record system. Referrals to visiting ophthalmologists were implemented when necessary with written referrals given to the CNM who organized transport to hospitals and after care of the residents if required. These referrals were also sent to the EHC for the Kimberleys who coordinates all the referrals for the ophthalmologists on their visiting rounds, so that effective triaging results in reduced waiting times for the neediest patients.

Funding for the circuit was provided by the Visiting Optometry Scheme (VOS) which involved detailed paperwork to be submitted to the Department of Health and Ageing before any funding was received, which occurred four months after the circuit was completed.

Using a portable Dell laptop, computerized optometric record system, Sunix, was used to gather data and statistics of ACFs in ASGC-RA 1 (Perth Metropolitan area) and 2 (Northam and Mandurah) where I predominantly practice. The ACFs had a similar demographic age range to those seen in the Kimberley ACFs and were all seen in 2012 and a total of 94 residents at ACFs results were collated and compared. Patients were numbered so that confidentiality was maintained.

Data analysis: results were tabulated in Microsoft Excel.

RESULTS

Six ACFs were visited over eleven days. A total of 94 indigenous residents were examined. The age range was from age 63-101 years of age. The majority had good eye health with nine (9.6%) requiring referral for ophthalmological examination, mainly cataract extraction. Eight (8.5%) required spectacle prescriptions and eleven (11.7%) had Low Vision (VA worse than 6/18). This included 3 (3.2%) residents who were legally blind and one who was totally blind.

List of Kimberley ACF Residents Eye Health Summary

No of residents seen	Referred	Specs	Vision <6/18
Wyndham Marlgu Village Low Care			
11	3	3	4
Kununnurra ACF			
10	0	0	0
Halls Creek People Church ACF			
24	3	0	2
Fitzroy Crossing Guwardi Ngadu			
9	0	2	2
Derby Numbala Nunga			
25	0	1	1
Derby Ngamang Bawoona			
15	3	2	2
Total			
94	**9**	**8**	**11**

List of Eye Diseases Encountered in Kimberleys ACFs Indigenous Residents

Eye Disease	Number Affected	
Cataracts	6	
Diabetic Retinopathy	8	2 had level of legal blindness
Lid Entropian	1	
Active Trachoma	0	though many had old scars
PCO on IOLs	2	
Blindness due to Tribal Law	1	eyes had atrophied but were still present
Conjunctivitis	1	
Dry Eyes	10	

The eye disease that required most ophthalmological referral was cataract (6/94). This was followed by ophthalmological laser referral for diabetic retinopathy (2/94), PCO (2/94) and one requiring lid surgery due to entropian (a consequence of trachoma). Some residents did not want to be referred for their ophthalmological conditions due to mobility problems or palliative reasons caused by their poor general health, so this wish had to be respected and was made in consultation with CNMs and their GPs.

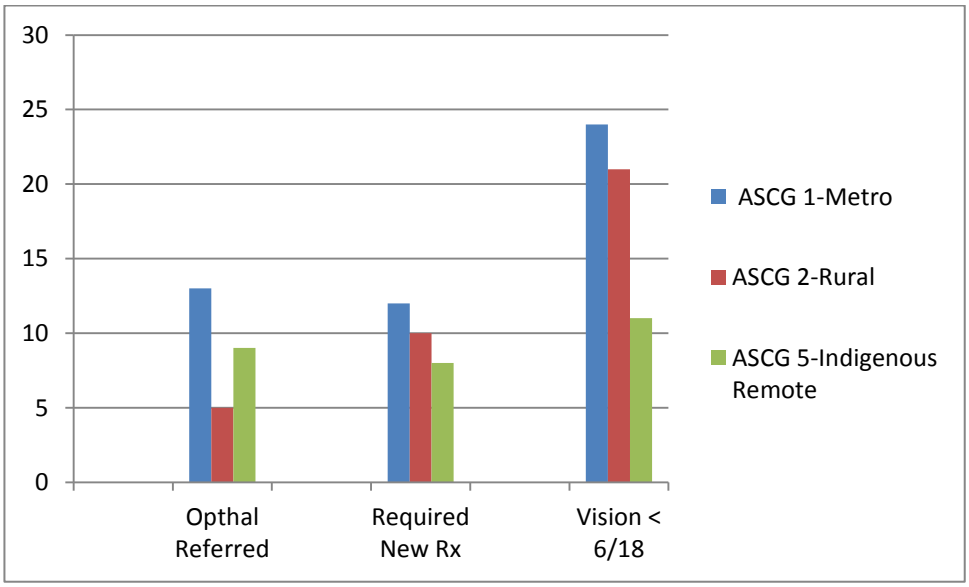
Although some residents exhibited eye disease, not all needed ophthalmological referral. For example, Dry Eye treatment requires the administration of ocular lubricants which general practitioners (GPs) can prescribe in consultation with the CNMs from the PBS list. One ACF had to have residents educated about the role of ocular lubricants because they thought the lubricants were “poison” and did not want the treatment, yet they exhibited signs and symptoms of dry, gritty eyes which are common in the ageing eye. One had conjunctivitis which the GP prescribed treatment from the PBS list of ocular antibiotics, thus avoiding ophthalmological referral.

Though some had old corneal trachoma scarring which limited their vision in one eye only, their remaining eye allowed functional vision, better than 6/18. One had had her eyes punctured long ago through tribal punishment and was subsequently totally blind. Eight exhibited diabetic retinopathy to a level of Low Vision (6) or legal blindness (2). None had macular degeneration (MD) or glaucoma.

Comparative Results between Metropolitan, Rural and Remote ACF Residents

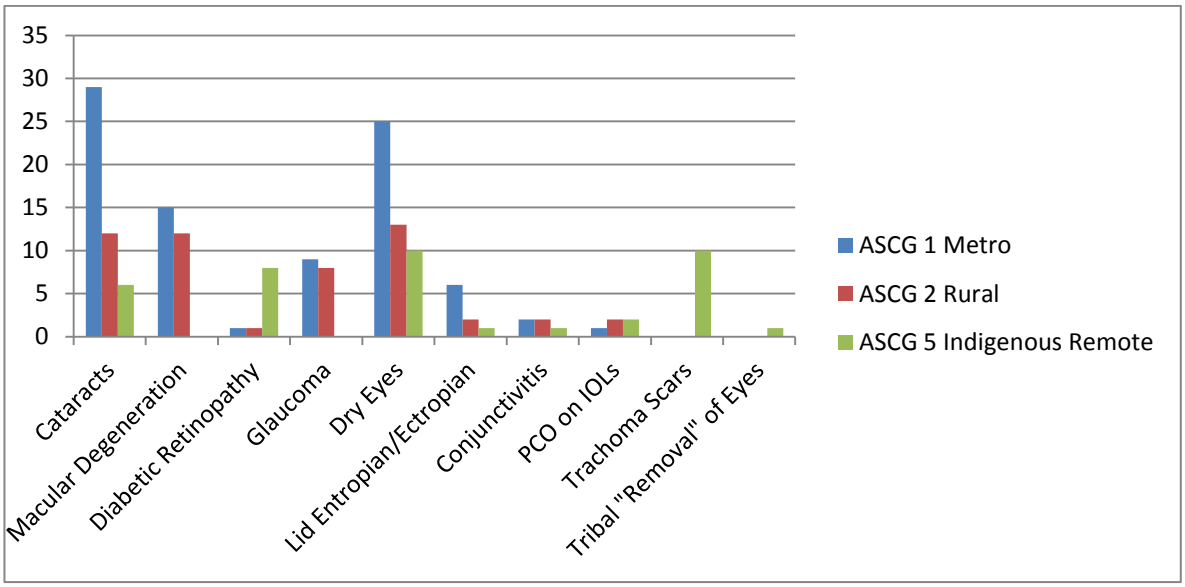
When the above results were compared with results found in metropolitan and rural populations of the same demographic, that is ACF residents' eye health status, the following comparisons could be made, as shown by the graph below. Results were taken over 2012 in samples of 94 ACF residents from Perth (ASCG 1) shaded blue, Northam and Mandurah (ASCG 2) shaded red and the Kimberleys (ASCG 5) shaded green.

Eye Health Comparisons with Metropolitan, Rural and Remote Indigenous ACF Resident Populations



Metropolitan ACF residents had the highest need of ophthalmological referral, spectacle upgrading and had poorer vision than those in rural and the indigenous remote ACFs. Rural ACF residents needed the least ophthalmological referral. Indigenous remote residents had the best vision (lowest rate of vision <6/18) and the least requirement of new spectacle prescriptions.

Eye Diseases Encountered: Comparison between Metropolitan, Rural and Indigenous ACF Residents



Cataracts were the main eye disease in all ACF residents which needed ophthalmological referral. This was noted highly in the metropolitan ACF residents. Cataracts were found least in indigenous ACF residents.

Dry Eye, ranking highly in all ASCGs, is not a blinding eye condition, is remedied by topical ocular lubricants and usually does not need ophthalmological referral.

Macular Degeneration (MD), Australia's leading causes of blindness, and glaucoma were not found in the indigenous ACF resident population.

Trachoma scarring and tribal removal of eyes were only found in the indigenous population.

Diabetic retinopathy was found present in all populations, but highest in the indigenous population.

Lid problems and conjunctivitis were present in low levels in all populations, but more common in metropolitan ACFs.

Post-operative PCO was found in low levels in all populations, but higher in the rural and indigenous ACF residents.

DISCUSSION

The low incidence of ophthalmological referral required and the excellent findings of good vision and eye health in the ACF population of the Kimberleys is a “first” in showing the “gap” is closable. The comparative nature of this study demonstrates this outcome.

The major cause of referral was cataract in the indigenous group, but this was lower than metropolitan populations in ACFs. Though cataract was found as a leading cause of blindness before the 1950’s, teams of eye health workers have targeted the Kimberleys and extracted them at no cost to the indigenous populations, in safe and widespread public health campaigns. The end result has been seen in this study-low incidence of cataract needing referral.

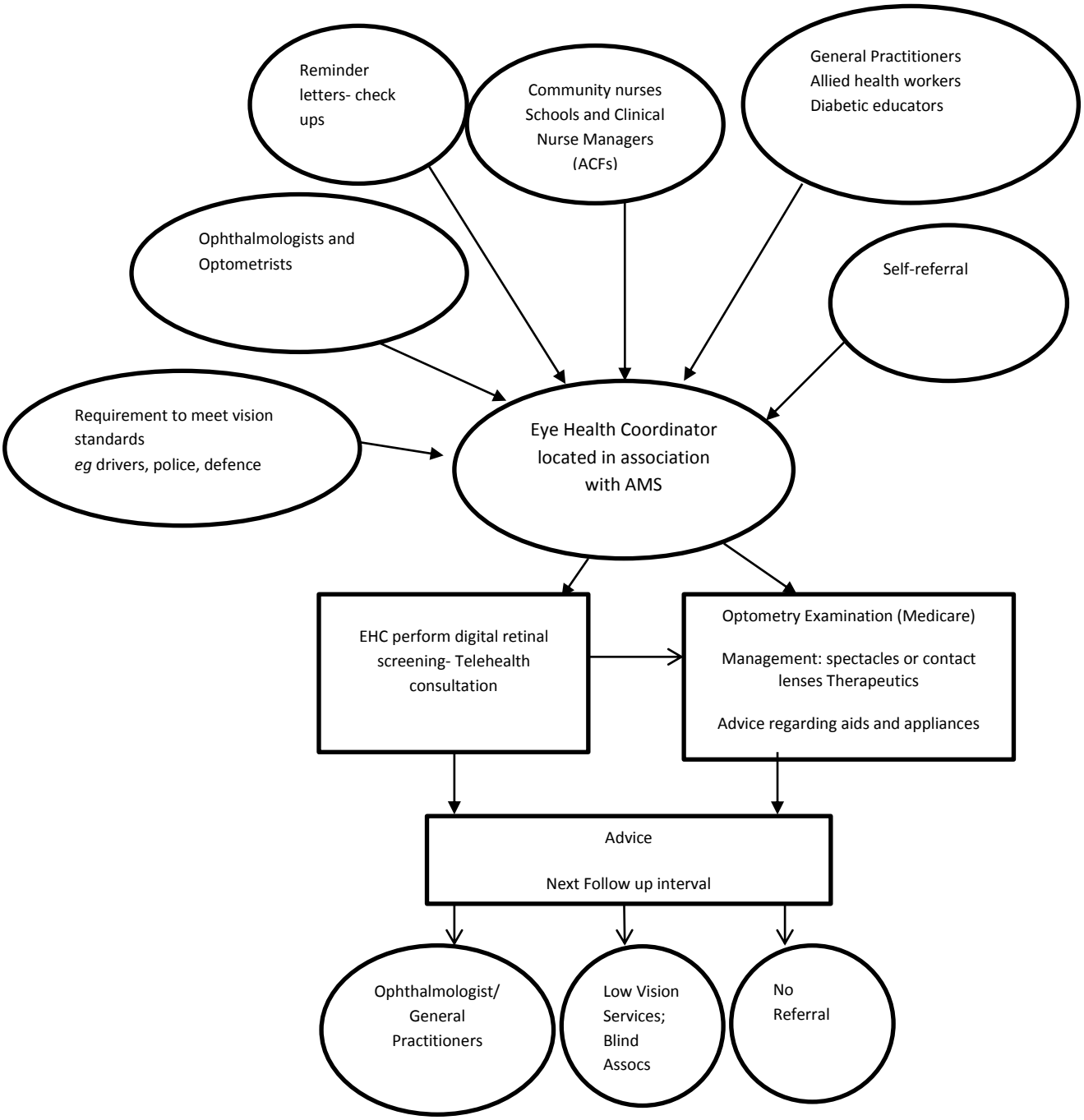
The absence of Australia’s leading cause of blindness, MD and also glaucoma, in this indigenous population indicates a genetic disposition of these diseases. This is definitely an area that requires more investigation as there may be a gene which Aboriginals have which renders them protection from these diseases and can be of value in finding a cure.

The finding of no active trachoma in the Kimberley ACF population strengthens the evidence that the disease is environmental in nature. ACFs are under strict guidelines to provide hygienic living conditions and other health related outcomes (16).

Diabetic retinopathy was found to be highest in the indigenous ACFs (8.5%), but not as high as the general indigenous population, where Yellachich found 30% in a previous Kimberley study(13). The age group I was examining may have spent most of their years on a traditional diet, exercised in traditional ways and generally led a healthier lifestyle than the later generations. Since 2000, EHCs in Aboriginal communities have conducted widespread retinal screening campaigns which have resulted in quick referral to ophthalmological services using telehealth and diabetic laser remedying blindness and low vision(17). Without the EHCs, diabetic retinopathy causing blindness would result. Consequently, earlier admission to ACFs would occur(7) and more low vision and blind services, such as Association for the Blind, would be required in the remote areas if removal of this important eye team worker was not continued.

The referral pathways of eye health care in indigenous communities show the organization in the flowchart below adapted from my previous thesis (15).

Flowchart of Eye Health Referral based on the Fulcrum of the EHC



The staff in the Kimberley ACFs are a credit to their profession, as often they have to deal with complicated health issues in culturally sensitive environments. Several ACFs had to have a bonfire tended in a central location daily for resident contentment in accordance with their cultural ways. Another ACF had nearly all staff leave the week before I arrived, in a mass walk-out. Staff had to be quickly recruited form Queensland to 'fill the gap". The irony was that this area had one of the highest unemployment rates in WA (9.4% 2010) (18).

Many of the residents in the Kimberley ACFs had had their cataracts removed, so their vision was restored to a functional level (better than the 6/18 Low Vision standard). This good result of low referral, low need of spectacles and good vision is an outcome of past Kimberley region EHCs. They have coordinated visits of eye teams consisting of optometrists and ophthalmologists who have identified cataracts and performed necessary surgery to improve the residents' vision to this high level of eye health. They have helped coordinate teams of eye health workers to eradicate trachoma. They are now at the forefront of organizing screening and referring diabetic retinopathy, not just in ACFs but in the wider Aboriginal communities.

RECOMMENDATIONS

1) From this study of Kimberley ACF residents, it can be seen that the importance of the role of Eye Health Coordinators (EHC) is imperative if sustainable, continual eye health is progressively maintained in indigenous communities.
2) The gap is closable as demonstrated by this report of eye health in a Kimberley ACF population.

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