Ageing in Aboriginal and Torres Strait Island Communities


WA Centre For Health and Ageing, School of Primary, Aboriginal and Rural Health Care, Centre for Aboriginal Medical and Dental Health, University of Western Australia

Royal Perth Hospital

Kimberley Aboriginal Medical Services Council

National Ageing Research Institute, University of Melbourne

Melbourne Health

WESTERN AUSTRALIAN CENTRE FOR HEALTH AGEING

THE UNIVERSITY OF WESTERN AUSTRALIA
Before this work was performed there were two pervasive myths
- “Indigenous people do not live long enough to get dementia”
- “Cause of dementia is nearly all alcohol related”

Initial study reported in 2008 from the Kimberley found dementia prevalence to be 5x the general Australian prevalence

Another study (Radford et al) reported in 2015 from urban and rural NSW found prevalence to be 3x that of non-Indigenous

In both studies clinical AD the predominant form of dementia

Follow-up study of the Kimberley found
- Stability of diagnoses,
- High mortality of people with dementia and cognitive impairment
- High incidence of cognitive impairment and dementia.

Also probably high rates for other geriatric syndromes and major depression
Indigenous Australians

Humans have occupied Australia for ~ 75,000 years. Originally thought that people migrated from Asia but now appears that they may have arrived directly from Africa (Rasmussen 2011).

Number of Indigenous Australians at the time of colonization in 1788 was probably in the order of 750,000 (Aboriginal Heritage Office 2015).

Following 1788, massive devastation to numbers by advent of unfamiliar communicable diseases (such as influenza and smallpox), dispossession of land and water, as well as armed conflicts. By 1900 numbers were estimated to be as low as 20,000.

In the 20th century numbers have increased. By 2011 Australia's Indigenous population is estimated to be 669,900 people, about 3% of the total population of 23 million (AIHW 2014).

Male Indigenous life expectancy is 69.1 years and female life expectancy is 73.7 years. Widest gap in the developed world.
The Kimberley region

- Spans 421,451 sq km
- 65% of the total population of 32,625 live in very remote areas
- 47% of the population are Indigenous
- Contains over 200 remote Indigenous communities and six larger towns
Some members of the team
Initial Study

Aim: to develop and validate a cognitive assessment and informant tool for older Aboriginal people which is as much as possible culturally appropriate.

Funding:

- NHMRC Healthy Ageing Grant - Development of the KICA
- NHMRC Project Grant
- NHMRC Dementia Research Grant
Participating community members, councils and traditional owners of:

Balgo, Beagle Bay, Bidgydanga, Bililuna, Broome, Derby, Djarindjin, Fitzroy Crossing, Jarlmadangah, Junjuwa, Kalumburu, Kununurra, Lombadina, Looma, Mowanjum, Mulan, One Arm Point, Pandanus Park, Wangkatjungka, Warmun and Wyndham.

Assistance from:

Kimberley Aged and Community Services, Kimberley Aboriginal Medical Services Council, North West Mental Health Services, Community Health Clinics, Derby Health Services, Nindilingarri Cultural Health Service, Kimberley Interpreting Service, Kimberley Language Resource Centre, Kimberley residential care facilities and Home and Community Care providers.
Kimberley Indigenous Cognitive Assessment (KICA)

KICA is divided into a number of sections:

- Medical history
- Smoking and alcohol history
- Cognitive assessment
- Emotional well-being
- Family report

The cognitive assessment section has been validated with Indigenous Australians aged 45 yrs and above from the Kimberley and Northern Territory. A score of 33/39 or lower indicates possible dementia.

The KICA can be downloaded from https://www.perkins.org.au/resources/wacha-resources
KICA- Cog
Cognitive Assessment

- **Orientation**  
  eg. season/ pension week

- **Free and cued recall**  
  eg. objects and pictures

- **Language**  
  eg. naming tasks

- **Verbal fluency**  
  eg. animals to hunt

- **Frontal executive fn**  
  eg. xo

- **Praxis**  
  eg. comb use
Communities involved Ardyaloon, Mowanjum, Junjuwa, Warmun, Derby, Balgo, Looma.
Prevalence study: Methods

- Cross-sectional, point prevalence
- Target number: n = 400
- Semi-purposeful sampling. Selection of participants (town (1/3), language families, coastal/desert, small versus large communities).
- Approval of communities.
- Community provides list with all community members 45 years or older.
- Selection and training of indigenous health workers

- Assessment with KICA.
- Feedback on results to the community clinics.
- Within 3 months: clinical assessment of selected participants (100% with scores <37, 50% of 37 and 5% of subjects with 38-40) by geriatrician or psychogeriatrician not using the KICA. Looks up records.
- Consensus diagnosis by 2 independent experts using info from clinical assessment.
- Feedback on results to the community clinics.
Out in the field
# Dementia Prevalence

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>Dementia numbers (n)</th>
<th>Dementia prevalence rates</th>
<th>Dementia prevalence ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kimberley</td>
<td>Australia</td>
<td>Kimberley</td>
</tr>
<tr>
<td>45-59</td>
<td>4</td>
<td>3539</td>
<td>0.021</td>
</tr>
<tr>
<td>60-69</td>
<td>12</td>
<td>12322</td>
<td>0.169</td>
</tr>
<tr>
<td>70-79</td>
<td>12</td>
<td>49804</td>
<td>0.176</td>
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<tr>
<td>80+</td>
<td>17</td>
<td>108713</td>
<td>0.567</td>
</tr>
<tr>
<td>total</td>
<td>45</td>
<td>174377</td>
<td>0.124</td>
</tr>
</tbody>
</table>
The prevalence of dementia in this sample was 12.4%
The prevalence of cognitive impairment not fulfilling criteria for dementia was 7.4%
Prevalence was higher in males
‘Dementia not otherwise specified’ at 53% of all dementia diagnoses
Dementia of the Alzheimer’s type 24%
Vascular dementia 13%
Alcohol induced persisting dementia 4%
Dementia due to multiple aetiology 4%.
Risk Factors for Dementia and Cognitive Impairment (OR)

- Besides age other risk factors identified:
  - Male: 5.9 [2.3, 15.3]
  - Stroke: 6.7 [2.2, 20.4]
  - Epilepsy: 9.5 [1.8, 49.7]
  - Head Injury: 4.4 [1.4, 13.6]
    (males only)

Other associated variables were:
- Falls: 3.2 [1.4, 7.6]
- Poor mobility: 5.5 [2.4, 12.7]
Radford et al (Alz and Dem 2015)
n = 336 Response fraction 62%

Fig. 2. Dementia prevalence by age group: compares the current urban/regional Aboriginal Australian population with a remote Aboriginal population (Smith et al. [3]) and the general Australian population (population projections based on data from Australia, Europe, and the United States, published by the Australian Institute of Health and Welfare, 2012 [18]).
Fig. 3. Frequency of dementia types diagnosed, by clinical consensus according to formal dementia criteria [12–15], of 41 cases in the current urban/regional Aboriginal Australian population.
Follow-up Study

1. To determine the incidence and predictors of dementia in a cohort of Aboriginal Australians over 5 years

2. To determine the stability of dementia diagnoses

3. To describe outcomes including death rates
Kimberley Healthy Adults Project  n= 289  (Wave 2)

HT (38%);  Diabetes (45%), Stroke (13%), BMI> 30 (30%) , Heart (25%)
Stability of diagnoses from W1 to W2
ICD -10

<table>
<thead>
<tr>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Normal</th>
<th>CIND</th>
<th>Dementia</th>
<th>Died</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (n=230)</td>
<td>Normal</td>
<td>131 (57)</td>
<td>25 (11)</td>
<td>9 (4)</td>
<td>66 (29)</td>
</tr>
<tr>
<td>CIND (n= 28)</td>
<td>CIND</td>
<td>3 (11)</td>
<td>3 (11)</td>
<td>10 (35)</td>
<td>12 (43)</td>
</tr>
<tr>
<td>Dementia (n=40)</td>
<td>Dementia</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>9 (23)</td>
<td>31 (77)</td>
</tr>
</tbody>
</table>

Those with dementia: 20% had AD, most unable to be classified
Incidence rate

- Overall Incidence rate of dementia was 7.3 per 1,000 person-years (1089.3 person years in total)
- Incidence rate of dementia was 21.0 per 1,000 person-years (380.3 person years in total) > 60 yrs

- Incidence rate of cognitive impairment or dementia was 52.6 per 1,000 person-years > 60 years

- This is similar to NT estimates using 4 data sources

Qin Li et al MJA
Preliminary evaluation of the prevalence of falls, pain and urinary incontinence in remote living Indigenous Australians over the age of 45 years

D. C. LoGiudice,¹,² K. Smith,¹,³ D. Atkinson,⁴,⁵ A. Dwyer,¹,³ N. Lautenschlager,⁶,⁷ O. A. Almeida⁶ and L. Flicker¹,³

Abstract

Aims: To report on the prevalence of falls, urinary incontinence, pain and associated factors in remote living Indigenous Australians over the age of 45 years.

Methods: A cross-sectional, semi-purposeful sample of 363 indigenous men and women aged over 45 years living in six remote communities and one town in Kimberley, Australia. Participants were assessed for self- or informant-reported rates of falls, urinary incontinence and pain.

Results: The prevalence of self- or informant-reported falls was 31% (95% CI 25.3, 36.7), pain 55% (95% CI 47.4, 62.6) and urinary incontinence 9% (95% CI 5.9, 12.1%). Associations with falls after adjustment for age, sex and education included alcohol use (OR 2.4, 95% CI 1.4, 4.2), stroke (OR 2.4, 95% CI 1.1, 5.0), epilepsy (OR 3.5, 95% CI 1.1, 11.6), head injury (OR 2.1, 95% CI 1.3, 3.3) and poor hearing (OR 2.5, 95% CI 1.4, 4.1); for urinary incontinence epilepsy (OR 6.0, 95% CI 1.7, 21.2) and stroke (OR 16.7, 95% CI 6.0, 46.3); and for pain, poor hearing (OR 1.9, 95% CI 1.0, 3.3) and female sex (OR 1.8, 95% CI 1.2, 2.7).

Conclusions: Falls, urinary incontinence and pain are common and reported for the first time in older indigenous people living in remote regions. The presence of these syndromes in ages over 45 may be due to accumulation of health insults during the life course.
Depression screening in older Aboriginal people in the Kimberley

15 with KICA-dep scores ≥ 9 were excluded from analysis because they declined psychiatric interview.

144 were assessed by the psychiatrist.

Of the 235 participants who were both screened and clinically diagnosed, 18 fulfilled criteria for a depressive disorder. 10 met DSMIV-TR criteria for major depression, 4 depressive disorder not otherwise specified and 4 adjustment disorder.

Point-Prevalence was therefore

- 7.7% (95%CI=4.3%, 11.1%) total
  - 4.0% (95%CI = 0.1%, 7.8%) for men
  - 10.4% (95%CI = 5.2%, 15.6%) for women.
What is contributing to this marked discrepancy in cognitive health and other conditions in setting of evidence of decreasing incidence of dementia in Western communities.

Arkles R et al. Koori Growing Well Older Study
To us, health is about so much more than simply not being sick. It's about getting a balance between physical, mental, emotional, cultural and spiritual health. Health and healing are interwoven, which means that one can't be separated from the other.—

Dr Tamara Mackean, Australian Indigenous Doctors' Association
Memory Problems (Dementia) ARE CAUSED BY DAMAGE TO THE BRAIN

- Walking Away & Getting Lost Saying The Names Of People Who Have Died
- Forget Payday or Where Things Are
- Trouble Cooking, Repeating Themselves Over & Over
- Growling More

Signs of Dementia Things to Look For
- Loss Of Memory
- Acting Differently
- Trouble Looking After Themselves

What Causes Dementia
- Smoking
- Epilepsy Fits
- Head Injury Fighting, Car/Horse Accident
- Stroke Weak On One Side

Need to look after Blood Pressure, Diabetes, Exercise and Eat Healthy & NOT DRINK TOO MUCH GROG

If you are Worried For Someone Or Yourself, Ask At Your Clinic....
Or Call Carelink 1800 052 222
Indigenous Dementia Services Study
Broome Ph: 08 9194 2657 | Perth Ph: 08 9224 1063

* Men Are More At Risk
* People Show Signs Of Dementia As They Get Older
Lena Nyadbi.
Photo: Angela Wylie