Cancer Council WA proudly presents
Population Health Postgraduate Society Research Symposium

28th November 2016

Symposium Programme

The Art of Research
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Details</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:20 - 9:50</td>
<td>Registration and Arrival</td>
<td>Perkins Seminar Room G24, The Harry Perkins Institute, 6 Verdun Street, Nedlands</td>
<td></td>
</tr>
<tr>
<td>9:50 - 10:00</td>
<td>Welcome + Welcome to Country</td>
<td>Introduction to the symposium</td>
<td>Paul Knight</td>
</tr>
<tr>
<td>10:00 - 10:20</td>
<td>Opening Speech</td>
<td>Transitioning into research - the early years</td>
<td>Professor Andrew Whitehouse</td>
</tr>
<tr>
<td>10:20 - 10:40</td>
<td>Session 1</td>
<td>Girls and social media: A school psychologists view</td>
<td>Alana Papageorgiou</td>
</tr>
<tr>
<td>10:40 - 11:00</td>
<td>Incidence of sudden cardiac death and clinical determinants following first myocardial infarction</td>
<td>Jia-Li Feng</td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:20</td>
<td>Parents’ barriers and motivators to pre-schoolers home yard play</td>
<td>Amaarah Samnakay</td>
<td></td>
</tr>
<tr>
<td>11:20 - 11:40</td>
<td>Cardiometabolic risk factor levels in Busselton, a rural region of Western Australia</td>
<td>Deborah Kruger</td>
<td></td>
</tr>
<tr>
<td>11:40 - 12:00</td>
<td>Guest Speaker</td>
<td>Working with WHO</td>
<td>Dr Bill Kean</td>
</tr>
<tr>
<td>12:00 - 1:00</td>
<td>Lunch</td>
<td>Lunch and Poster Presentation</td>
<td></td>
</tr>
<tr>
<td>1:00 - 1:20</td>
<td>Key Note Speech</td>
<td>Journey through Public Health career - significance of research</td>
<td>Professor Bruce Armstrong</td>
</tr>
<tr>
<td>1:20 - 1:40</td>
<td>Session 2</td>
<td>Risk of stillbirth among the migrant ethnicities of Western Australia</td>
<td>Maryam Mozooni</td>
</tr>
<tr>
<td>1:40 - 2:00</td>
<td>Insulin therapy preferences among adolescent patients with Type 1 diabetes in WA using a Discrete Choice Experiment</td>
<td>Natrisha Barnett</td>
<td></td>
</tr>
<tr>
<td>2:00 - 2:20</td>
<td>Energy drink consumption and mental health problems in young adults: A prospective investigation</td>
<td>Simmi Kaur</td>
<td></td>
</tr>
<tr>
<td>2:20 - 2:50</td>
<td>Afternoon Tea</td>
<td>Poster Presentations</td>
<td></td>
</tr>
<tr>
<td>2:50-3:10</td>
<td>Session 3</td>
<td>Parental wellbeing for families with a child living with a genetically caused developmental disability</td>
<td>Yuka Mori</td>
</tr>
<tr>
<td>3:10-3:30</td>
<td>Development of land use regression models for predicting exposure to particulate matters and nitrogen oxides in a low air pollutant concentrations airshed</td>
<td>Mila Dirgawati</td>
<td></td>
</tr>
<tr>
<td>3:30 - 3:50</td>
<td>Closing Speech</td>
<td>Research Translation into Practice - Social Work perspective</td>
<td>Professor Maria Harries</td>
</tr>
<tr>
<td>3:50 - 4:00</td>
<td>Awards Ceremony</td>
<td>Presentation of awards</td>
<td>Emily Moore, PHPS President</td>
</tr>
</tbody>
</table>
AWARDS

All Awards thanks to Co-op bookshop gift vouchers

Oral Presentations
First Place Oral Presentation
$100
Second Place Oral Presentation
$50

Poster Presentations
First Place Poster Presentation
$50
Second Place Poster Presentation
$25

All Categories
Peoples Choice
$50
Consumer Engagement
$50
Professor Andrew Whitehouse directs the Autism Research Team at the Telethon Kids Institute (University of Western Australia) and is a Program Director of the Autism Cooperative Research Centre. His research team investigates the genetic and neurodevelopmental causes of autism, and conducts a range of clinical intervention trials. Professor Whitehouse has published over 120 peer-reviewed journal articles, as well as two books and two internationally-used clinical assessments, and attracted over $35 million in competitive research funding. He currently writes a popular column on child development for the news website The Conversation, which has attracted more than 1 million unique hits. Professor Whitehouse has been a Fellow at the University of Oxford, and is currently the Winthrop Professor of Child Development at the Telethon Kids Institute, University of Western Australia.
Bruce Armstrong is an epidemiologist and public health physician whose career has encompassed research, academia and public service. The last included periods as Commissioner for Health for WA, Director of the Australian Institute of Health and Welfare, Director of Research and Registers at Cancer Council NSW, founding Chairman of the Sax Institute Sydney and Chairman of the NSW Bureau of Health Information from its inception in 2009 until late 2015, when he returned to his “roots” in WA. Bruce is recognised internationally for his research into the causes and prevention of cancer, having published over 600 papers in scientific books and journals. He has retired from full-time employment but continues to actively pursue his interests as an Emeritus Professor at the University of Sydney and an Adjunct Professor at the University of WA. Bruce was made a Member of the Order of Australia in 1998 for his work in cancer epidemiology and a Fellow of the Australian Academy of Science in 2000. He received the inaugural New South Wales Premier’s award for Outstanding Cancer Researcher of the Year in 2006 and has been listed by Thomson Reuters in both 2015 and 2016 as among the ~3,000 most highly cited researchers based on their number of highly cited papers published over recent 11-year periods.
Maria Harries has straddled the worlds of academia and professional practice since 1981. She is a Senior Honorary Research Fellow in the School of Population Health at The University of Western Australia and an Adjunct Professor at the Curtin University School of Occupational Therapy and Social Work. Maria has worked within health, mental health and child and family services in both the government and non-government sectors in Western Australia, nationally and internationally and has a long association with the addictions field and in child protection. Her research interests now focus on children and families. She continues her work as a researcher and research supervisor and holds governance roles with a number of state and national organizations involved with governance, service delivery, health, mental health, violence, adult survivors of abuse and child, adult and family welfare.
ORAL PRESENTATIONS

Alana Papageorgiou

Girls and social media: A school psychologist’s view

Aim

The aim of this study was to explore the role school psychologists can play to reduce associated mental health harms experienced by adolescent girls as a result of social media use. Additionally, the study aimed to explore school psychologists’ perceptions of social media use among adolescent girls and the influence social media may have on girls’ mental health and wellbeing.

Method

This formative study utilized a generic qualitative research design underpinned by a postpositivist paradigm. One-on-one semi-structured interviews were held with seven school psychologists in Perth, Western Australia.

Results

A key theme that emerged from the data was ‘gendered vulnerability’. Participants identified adolescent girls as experiencing a gendered vulnerability on social media, where issues related to being female were seen to influence engagement in harmful behaviours such as sexting, dating services, self-harm, cyberbullying, and relational aggression. This vulnerability was also seen to exacerbate mental health difficulties experienced as a result of social media use, including sleep deprivation, anxiety, low self-esteem, poor body and self-image, depressive symptoms and in rare cases, suicidal ideation. This gendered vulnerability was perceived to be an interplay between emotions, a need for attention, taking things personally, in addition to the developmental tasks of adolescence now occurring in the online environment.

Conclusions

These findings provide insight for school psychologists, and other professionals working with adolescent girls, into the behaviours that girls engage in on social media and how this influences their mental health and wellbeing.
Incidence of sudden cardiac death and clinical determinants following first myocardial infarction

Aim
To examine incidence of sudden cardiac death (SCD) and clinical determinants in 28-day survivors of first myocardial infarction (MI) in Western Australia (WA).

Methods
Linked person-based mortality and morbidity data was used to identify patients hospitalised for incident MI in WA from 2000 to 2009, potential determinants, and subsequent SCD. A fixed 15-year lookback period was used to exclude any prior hospitalisation for MI. Comorbidities were identified at time of MI and from prior hospitalisations. Unadjusted cumulative probability of SCD was estimated by Kaplan-Meier survival curve. Determinants for SCD were identified from multivariable Cox regression modelling.

Results
The cohort comprised 19,145 incident MI patients aged 35-84 years, surviving >28-days. Following a median follow-up of 4.9 years, the incidence rate for SCD was 4.3 per 1,000 person-years, which was 8.6 times higher than the general WA population (0.5 per 1,000 person-years). The cumulative incidence rates of SCD for the cohort were 0.7% and 2.1% at one and five years respectively. Heart failure, diabetes, chronic kidney disease, stroke, peripheral artery disease, prior coronary heart disease, and hypertension were independent determinants of SCD after adjustment for age, sex, and Indigenous status. These determinants did not change after adjusting for early or late coronary artery revascularisation procedure.

Conclusions
The prognostic risk for SCD among survivors of a first MI is appreciable compared to the general population. Major cardiovascular events are determinants for SCD, highlighting the need for their aggressive management to prevent such an outcome.
Amaarah Samnakay

Parents' barriers and motivators to pre-schoolers home yard play

Aim
To explore parents’ perceived barriers and motivators to pre-schoolers’ (three to five- year old’s) home yard play

Method
Semi-structured focus groups and group interviews were utilised to explore parent’s views in each socio-economic strata- low, medium and high, in the Perth Metropolitan area (total=32 participants). Using a discussion guide, framed by a socio-ecological framework, child, parental, social environmental and physical environmental factors that affect a parent’s decision to allow their child to play in the home yard were investigated. Data were managed and organised in Nvivo 10, to help facilitate thematic analysis.

Results
Findings indicated that influences on parents allowing their pre-schooler to play in the home yard space are multifaceted in nature. Influences found were pre-schooler factors, parental factors, the attributes of the home yard, and the media. However, findings from this study found that supervision was essential for pre-schooler home yard play, which will be presented here. Previously unexplored factors our study found, was that supervision entailed being able to hear pre-schoolers play.

Conclusions
These findings may guide the development of intervention and policy strategies aimed at promoting physical activity in pre-schoolers. However, further quantitative studies are required to assess these ecological influences in a larger sample.
Deborah Kruger

Cardiometabolic Risk Factor Levels in Busselton, a Rural Region of WA

Aim

People living in rural areas may have worse cardiometabolic risk factor profiles than their urban counterparts. This study aimed to establish the prevalence of cardiometabolic risk factors in the rural population of Busselton and to compare this with other rural areas in Australia, the Perth metropolitan area, and Australia more broadly.

Method

The 2005-2007 Busselton Health Study (BSN) including self-report and measured biomedical data from 2,932 adults was compared to Greater Green Triangle (GGT) Study 2004-2006, WA HWSS 2005-2007, National Health Survey 2004-2005, and Australian Health Survey 2011-2012. Descriptive results included means (±SD) and counts and proportions/percentages. Risk factors were stratified by age-group and differences across age-groups evaluated using Z-tests, t-tests, ANOVA tests, and chi-squared tests. Formal comparisons used estimate and standard error. BSN data was age-standardised for comparison with some WAHWSS data.

Results

There were differences in some of the risk factors in BSN compared to metropolitan areas however similar differences were also evident between BSN and rural areas. Compared to metropolitan and rural areas, BSN generally had a greater prevalence of measured total cholesterol, self-reported diabetes and overweight and obesity; and a lower prevalence of measured low HDL, measured diabetes, mean BMI and measured overweight and obesity.

Conclusions

Some abnormal risk factor levels are high in BSN however the BSN risk factor profile was healthier overall than the GGT region and there was a lower prevalence of some risk factors than metropolitan and other rural areas. This highlights the possible heterogeneity of risk factor profiles across regions.
Maryam Mozooni

Risk of Stillbirth among the Migrant Ethnicities of WA

Aim

Non-Caucasian ethnicity has been associated with risk of stillbirth compared with Caucasian. However, studies to explore type of stillbirth with comparison of migrants to Australia-born women are scarce. Using whole-population linked-data this study aimed to investigate the risk of stillbirth in migrant ethnicities compared with Australia-born women in Western Australia.

Methods

261,313 births to all non-Indigenous women in WA from 2005-2013 were analysed. Multivariable logistic regression was used to determine odds ratios and confidence intervals for all types of stillbirth after adjustment for a range of socio-demographic characteristics and known risk factors. Stratified analysis was restricted to tertiary hospitals.

Results

Odds of all types of stillbirth in births to Caucasian migrants were similar to the Australian-born women while births to Indian, African and Other ethnicities’ mothers had significant increased odds. When adjusted for other factors, only African migrant women had significantly increased odds of overall stillbirth (Adj OR: 1.89, 95% CI: 1.05-1.98), whilst stratified analysis for antepartum stillbirth showed increased odds in births to migrant Indian (AdjOR: 1.95, 95% CI: 1.18-3.22), African (AdjOR: 1.82, 95% CI: 1.08-3.06) and women from Other ethnicities (AdjOR:1.60, 95% CI:1.07-2.38) compared with their Australian-born counterparts. Intrapartum stillbirth was only increased among African women (AdjOR: 2.03, 95% CI: 1.03-3.97).

Conclusion

Migrants are at increased risk of stillbirth. The risk varies according to ethnicity and time of death, before or after onset of labour. Further investigation to identify the most at risk population, time and other influential factors is warranted to inform appropriate preventive strategies accordingly.
**Natrisha Barnett**

**Insulin therapy preferences among adolescent patients with Type 1 diabetes in WA using a Discrete Choice Experiment**

**Aim**
To apply consumer choice theory to quantify lifestyle benefits of insulin therapies to adolescent patients with type 1 diabetes and their parents in Western Australia, generating additional quality-of-life measures to complement standard measures used by policymakers in subsidisation decisions. A Discrete Choice Experiment survey will be developed to determine what factors influence treatment preferences and how important they are in patient decision-making to evaluate whether improved access to the costly gold-standard treatment (continuous glucose monitoring) will result in cost-savings for the Australian Government.

**Method**
Focus groups will be held to identify the appropriate treatment attributes for inclusion in the survey. The experimental survey design will take place in October and a pilot survey focus group will be held to identify comprehension of questions among respondents. A sample of 200 adolescent patients (and parents) with type 1 diabetes in Western Australia will be recruited to complete the survey. A multinomial logit analysis will determine the relative importance of each treatment attribute for male and female adolescent patients and a willingness-to-pay analysis will be conducted with data from the parent survey to determine how financial burden influences final treatment decisions.

**Results**
Focus Group qualitative data will be available in October and final results from the Discrete Choice Experiment are expected by November.

**Conclusion**
This project will generate new health economic data to improve understanding of patient preferences for insulin therapies and providing quantified lifestyle benefits to policymakers in addition to quality-adjusted life year measures.
Simmi Kaur

Energy drink consumption and mental health problems in young adults: A prospective investigation

Aim

Energy drinks are non-alcoholic beverages that contain high levels of caffeine, sugar, taurine, guarana, B-vitamins and herbal extracts. Whilst previous research has reported cross-sectional associations between energy drink consumption and mental health difficulties, few prospective studies exist. The aim of this study was to examine longitudinal associations between energy drink consumption and symptoms of anxiety, depression and stress in young adults.

Methods

This study used data collected from the Western Australia Pregnancy Cohort (Raine). Self-report questionnaires were used to collect data on energy drink consumption and mental health problems (Depression Anxiety Stress Scale-21; DASS-21) at the 20-year (n=1236) and 22-year (n=1115) follow-up. Linear regression analyses examined whether change in energy drink use across the two-year period was associated with change in DASS-21 scores. Results were stratified by gender and adjusted for baseline DASS-21 scores, socio-demographics, lifestyle factors (physical activity, drug and alcohol use, BMI) dietary intake and parental mental health.

Results

After adjustment for potential confounding factors, changing from a non-energy drink user to an energy drink user across the two-year follow-up was associated with an increase in DASS depression, anxiety and stress scores in males (β=6.09; 95% CI=3.36, 8.81, β=3.76; 95% CI=1.82, 5.70, β=3.22; 95% CI=0.47, 5.97, respectively). No significant associations were found for females.

Conclusions

We found longitudinal evidence of an association between energy drink consumption and increased anxiety, depression and stress in young adult males. Further research into the possible contribution of energy drinks to the development of mental health problems in young adults is needed.
Yuka Mori

Parental wellbeing for families with a child living with a genetically caused developmental disability

Aim

This study examined parental wellbeing for families with a child affected by one of three early childhood-onset genetic disorders associated with intellectual disability: Down syndrome, Rett syndrome and the CDKL5 disorder.

Methods

Data were sourced from the Western Australian Down Syndrome Database (n=291), the Australian Rett Syndrome Database (n=187) and the International CDKL5 Disorder Database (n=168), all housed at the Telethon Kids Institute. Either the Short Form 12 Health Survey (SF-12) or the SF-12 Version 2, yielding a Physical Component Summary (PCS) and a Mental Component Summary (MCS) score, was used to measure parental wellbeing. Linear regression was conducted to examine the relationships with covariates including age and diagnosis.

Results

The median age of parents was 43.7 (24.6-75.7) years. Among 578 mothers, the mean (SD) MCS score was 44.5 (10.9), lower than female population norms across age groups, while the mean PCS score at 50.7 (9.4) was close to population norms. Adjusting for covariates, scores varied by diagnosis with the lowest PCS and MCS scores in Rett syndrome and CDKL5 parents, respectively. Increased clinical severity and sleep disturbances of the child, and use of respite care and financial hardship were negatively correlated with the scores irrespective of diagnosis.

Conclusion

Emotional wellbeing was considerably compromised in these parents and poorest in the CDKL5 disorder, a rare but severe epileptic encephalopathy with onset in early infancy and profound developmental impairments. Emotional wellbeing was least negatively affected in parents of children with Down syndrome, a comparatively commoner and milder disorder.
Mila Dirgawati

The associations of long term exposure to low concentrations of air pollution with non-fatal-hospitalized stroke, fatal stroke and all-cause deaths

Aim

We investigated the associations between long term exposure to low concentrations of fine particulates (PM$_{2.5}$) and nitrogen oxides (NO$_2$ and NO$_x$) with all-cause mortality, and both fatal and non-fatal hospitalized stroke among elderly men in Perth.

Methods

Estimates of long term exposure to PM$_{2.5}$, NO$_2$ and NO$_x$ derived from Land Use Regression (LUR) models to the ongoing Health in Men Study of 12,203 men, aged 65 years and above, recruited in 1996 – 1999. Hazard ratios (HR)s and 95% confidence intervals (CI) were estimated using Cox regression models with age as the time scale, and adjusted for individual risk factors.

Results

The annual means of exposure to PM$_{2.5}$, NO$_2$, and NO$_x$ were below international (WHO) and national air quality standard (NEPM). Among the 11,627 men included in the study, 5,827 deaths from all-causes, 401 fatal stroke, and 2,057 non-fatal stroke events were recorded from 1996 to 2011.

Each 5µg/m$^3$ increase in PM$_{2.5}$, and 10µg/m$^3$ of NO$_2$ and NO$_x$ concentrations adjusted for smoking history (never-smokers, long term former-smokers, short-term former smokers, current-smokers), smoking intensity among current smokers (daily tobacco in gram/day), education level, marital status, and BMI were not associated with an increased risk of all-cause mortality: HR (95%CI) of 1.04 (0.96–1.13) for PM$_{2.5}$: 1.05 (0.99–1.12) for NO$_2$: and 1.01(0.99–1.04) for NO$_x$. Non-significant associations were also observed between all air pollutants with both fatal and non-fatal hospitalized stroke.

Conclusions

The mostly nonsignificant though positive associations cannot support the hypothesis that long term exposure to PM$_{2.5}$, NO$_2$, and NO$_x$ at low concentrations are associated with the risk of all-cause mortality, fatal stroke, and non-fatal hospitalized stroke in this cohort of older men.
Consider a career in cancer research

Our scholarships encourage promising students to advance their cancer-related research skills in the fields of laboratory, clinical, epidemiological, psychosocial and behavioural science.

PhD Top Up Scholarships
Honours/Masters Scholarships
Student Vacation Scholarships

Visit us at cancerwa.asn.au/research/funding

Cancer Council Western Australia’s Research Program is funded by donations from the WA community. We thank our donors for their generous support.
POSTER PRESENTATIONS

Sanjeewa Senanayake

Using the LACE index to predict the risk of unplanned hospital readmission and death within 30 days of hospital discharge in Western Australia

Aim

To estimate a patient’s risk of an unplanned readmission or death within 30 days of hospital discharge, using the LACE index.

Methods

A population based, retrospective cohort study, using linked Western Australian state-wide hospital inpatient, emergency department and death data. The LACE Index, standing Length of stay (in days), Acuity of admission (emergency or elective), Comorbidities (Charlson index) and the number of Emergency department visits in the six months prior to admission, was calculated by summing the values for L, A, C and E.

Unadjusted and adjusted logistic regression models were used to estimate the association between the LACE index and the outcomes (unplanned readmission, death, and either unplanned readmission or death). Potential confounding variables included in the adjusted models were age, sex, indigenous status, country of birth, socioeconomic and locational disadvantage.

Results

Results showed a patient’s risk of experiencing a 30-day unplanned readmission or death increases exponentially with increasing LACE score. When we classified patients into high (LACE≥10) and low (LACE<10) risk categories, the odds ratio in the high risk group compared to the low risk group was 4.43 (95% confidence interval, 3.73-5.25), 10.88 (8.93-13.24) and 6.35 (5.59-7.23) respectively.

Conclusions

LACE index is a useful risk assessment tool to quantify the risk of unplanned readmission or death within 30 days of hospital discharge.
Maitha Alkhasaw

The influence of socioeconomic status of the home and childcare centre attended on physical activity levels of preschool children

Aim

One of the important social determinants of health is socioeconomic status (SES), which has a well-documented association with the health of individuals, as children of socially disadvantaged parents tend to be less healthy. We investigated the influence of SES of the home and childcare centre attended on pre-schoolers physical activity (PA).

Methods

This was a sub-study of the Play Spaces and Environments for Children’s Physical Activity (PLAYCE) study. PA was objectively measured using 7-day accelerometry. SES was determined by mother’s reported educational attainment. Childcare centre area-level SES was determined by post-code-level the Socioeconomic Index for Areas (SEIFA), index of relative disadvantage.

Results

Data from 391 pre-schoolers from 25 childcare centres in metropolitan Perth were analysed. Overall, 53% were boys and 82% were 2-3 years. Overall, 20% of parents were categorised as low SES, 29% as medium SES and 51% as high SES. In terms of childcare centres, 39% were categorised as low SES, 34% as medium SES and 27% as high SES. The were no significant differences in pre-schoolers total mins/day of PA by mother’s education level. There were also no significant differences in pre-schoolers total mins/day of PA by childcare centre area-level SES.

Conclusion

These preliminary findings suggest that parental SES and the SES of the childcare centre attended does not influence the PA levels of preschool children attending childcare. Further research looking at the influence of SES on the overweight and/or obesity of preschool aged children in the Australian population is warranted.
Mohamed Al Marzooqi

The Relationship between Pre-schoolers Social-Emotional Development and Physical Activity

Aim

Pre-schooler social-emotional development (SED) involves the experience, expression and management of emotions and the ability to establish positive relationships with others. SED is imperative to long-term psychological and physical health. We investigated the relationship between the intensity of physical activity (PA) and pre-schoolers’ SED.

Methods

This study forms a part of the Play Spaces and Environments for Children’s Physical Activity (PLAYCE) study. PLAYCE is a cross-sectional study of 2,400 2-5 year-olds recruited from 120 randomly selected long day-care centres within Metropolitan Perth. PA was measured using ActiGraph-GT3X accelerometers over seven days. Parent-completed surveys measured SED (Strengths-and-Difficulties Questionnaire-SDQ), child age and gender, parent’s education and marital status. Childcare centre socio-economic status was determined by postcode.

Results

Data from 391 pre-schoolers from 27 childcare centres was analysed. Overall, 63% were aged 3 and 53% were boys. There were significant gender differences across SDQ sub-scales with boys having higher levels of conduct, hyperactivity, and peer-relationship problems (all p<0.01). Multi-level binomial logistic-regression models showed that each additional minute per day of light-intensity PA was associated with a 2% decreased odds of having conduct problems (OR 0.98; 95% CI 0.96-0.99). Similarly, each additional minute-per-day of moderate-intensity PA was associated with a 2% decreased odds of having emotional problems (OR 0.98; 95% CI 0.96-0.99).

Conclusion

These findings suggest that conduct and emotional problems in pre-schoolers may be addressed through a holistic approach including encouragement of light-moderate intensity PA. Further research into young children’s PA and SED and intervention strategies to facilitate optimal SED in the early years is warranted.
Dispensing patterns of evidence-based medications in older patients with heart failure in Western Australia, 2003-2011

Aim

To assess dispensing of renin-angiotensin aldosterone system inhibitors (RASI), beta-blockers (BB), mineralocorticoid receptor antagonists (MRA) and digoxin after heart failure (HF) hospitalisation, and the predictors of dispensing at 1 year.

Methods

Linked hospital and death data in Western Australia were used to identify 30-day survivors, aged 64-85 years, with a discharge diagnosis of HF in 2003-2008. Linked Pharmaceutical Benefits Scheme records were used to identify the proportion of patients dispensed HF drugs at 30 days, 6 months, and 1, 2 and 3 years.

Results

There were 5328 patients, with mean age (SD) 77 (5.5) years, 57% were male, and 65.9% were incident (new) HF cases. The dispensing of any RASI decreased from 77.6% to 73.8% during the study period. In contrast, dispensing of any BB increased (52.9% to 55.8%) whilst dispensing of any MRA and digoxin were stable. Older patients (80-84yr) were less likely to receive all HF drugs at 1 year (p=0.002). The odds of being dispensed any BB at 1 year increased over the period from 2003-2008 (OR 1.08, p<0.0001). As expected, chronic obstructive pulmonary disease and chronic kidney disease were associated with decreased RASI, BB and MRA dispensing at 1 year (p<0.0001).

Conclusions

There is a significant decline in dispensing of RASI, and increase in dispensing BB over 3 years post-hospital discharge for HF. Dispensing of HF drugs at 1 year is determined by age and common comorbidities associated with HF. The impact of dispensing rates on HF morbidity and mortality needs to be assessed.
Penelope Strauss

The mental health of trans young people aged 14-25 years in Australia

Aim

Trans young people are known to experience poor mental health, but this has not been sufficiently explored in the Australian context. This is the largest study ever conducted with trans young people in Australia, and is the first national study that incorporates the parent experience of raising a trans child and their attempts to access mental health and medical services (trans young people n=971, parents/guardians n=234).

Method

Trans* Pathways was an online, mixed-methods survey conducted with trans young people aged 14-25 years and parents of trans young people. Psychological scales were used to measure anxiety, depression, social phobia, social anxiety, fear of negative evaluation, and traits of autism spectrum disorder. Additional topics covered by the survey were self-harm and suicidality, potential drivers of poor mental health, and mental health and medical service accessibility.

Results

Trans young people experience high levels of mental distress and are more likely than their non-trans peers to self-harm, engage in reckless behaviours that risk their lives, have suicidal thoughts, and attempt suicide. Preliminary data analysis reported 79.6% of trans young people have self-harmed, 82.4% have had suicidal thoughts and 49.9% have attempted suicide.

Conclusions

The transphobic experiences that trans young people face in their everyday lives are detrimental to their mental health, with young trans people who experience school, university and TAFE issues being 5.42 times more likely to attempt suicide than those who have not faced those issues. This study reports on many potential drivers of mental health issues, many of which are around discrimination and abuse.
Prevalence and Correlates of Physical Activity among Adolescent Girls in Developing Countries: A Systematic Review

Aim
The aim of the study was to identify and appraise the recent evidence around prevalence and correlates of physical activity (PA) among adolescent girls aged 10 to 18 years in low- and middle-income countries based on the 2016 World Bank classification.

Method
A systematic review was conducted in accordance with the 2014 reviewers’ manual produced by the Joanna Briggs Institute. The search of six electronic databases and grey literature, as well as the references cited by the included articles, was conducted in April 2016, with a limit to the primary descriptive studies published during the period from January 2006 to February 2016. Only the studies with full text in English were reviewed.

Results
A total of 31 studies (13 prevalence studies, 9 prevalence and correlational studies, and 9 correlational studies) were reviewed, with 24 of those from upper-middle-income countries. The prevalence of insufficient PA was high especially in urban areas, ranging from 46% to 98%. It was suggestive that parental PA and support were positive predictors, and screen time was a negative predictor of adolescent girls’ PA in developing countries.

Conclusion
The existing evidence indicated that the prevalence of insufficient PA among urban adolescent girls in developing countries was high and the correlates of adolescent girls’ PA were not clear. Therefore, more research is needed as well as PA-promoting interventions. Additionally, this study highlights the need for the development and use of locally relevant yet internationally comparable PA measurement tools, and standardised variables for potential PA correlates.
Pulan Bai

The Relationship between Physical Activity, Self-regulation and Cognitive School Readiness in Preschool Children- The PASCOL Study

Aim

To date there is limited evidence on how physical activity affects cognitive development during early childhood. The current study tested three key hypotheses in preschool children: 1) Higher levels of physical activity are directly, positively and significantly associated with higher levels of self-regulation; 2) Higher levels of self-regulation are directly, positively and significantly associated with higher levels of cognitive school readiness (CSR), and; 3) Higher levels of physical activity are directly associated with higher levels of CSR.

Method

56 Participants aged 3-5 were recruited between 2015-2016. Physical activity was measured with seven day accelerometry and classified into mean minutes of daily total physical activity (TPA) and moderate-vigorous physical activity (MVPA). Self-regulation was measured using the Head Toes Knees and Shoulders (HTKS) task and cognitive school readiness was assessed using the Bracken School Readiness Assessment (3rd Edition). Correlation analyses and regression analyses were conducted to test the three study hypotheses.

Results

After adjustment for socio-demographic factors, statistically significant association was found between daily TPA and self-regulation (β=0.2, p< 0.05), daily TPA and CSR (β=0.2, p< 0.05), self-regulation and CSR (β=0.2, p< 0.05), daily MVPA and self-regulation (β=0.3, p< 0.05) as well as between daily MVPA and CSR (β=0.2, p< 0.05). Mediation analyses showed that self-regulation may mediate the relationship between daily MVPA and CSR (p=0.1).

Conclusion

Physical activity, especially moderate to vigorous intensity physical activity may be positively associated with self-regulation and cognitive school readiness. The pathway between moderate to vigorous physical activity and school readiness may be mediated by self-regulation.
Alison Roberts

A qualitative exploration of the experiences and needs of parents of a child diagnosed with Type 1 diabetes when one parent has Type 1 diabetes

Aim

The aim of the project is to explore parents’ perspective of their experiences when their child is diagnosed with T1D and to determine if a diagnosis of T1D in a parent has any influence on their coping, adaption, and management of their own child, when newly diagnosed with T1D.

Method

This is a qualitative design embedded in the philosophical framework of constructivism. Purposive sampling will be used to include both parents of the child diagnosed with T1D between 2013 and 2015, with one parent having T1D and the other parent without. Parents will be recruited from the Western Australian Children’s Diabetes Database (WACDD), and will be interviewed separately.

Results

To date four pilot interviews have been completed and analysed using inductive thematic analysis. Concepts such as feelings of blame and guilt need further examination as well as issues with education and family dynamics

Conclusion

This analysis has been used to shape the interview schedule for the study participant interviews.
Mila Dirgawati

Development of Land Use Regression Models for predicting exposure to particulate matters and nitrogen oxides in a low air pollutant concentrations airshed.

Aim

Perth, Western Australia represents an area where pollutant concentrations are considered low compared with international locations. Land Use Regression (LUR) models were developed to predict exposure to particulate matter <10µm (PM$_{10}$), <2.5µm (PM$_{2.5}$), PM$_{2.5}$ Absorbance (PM$_{2.5}$A), and nitrogen oxides (NO$_2$ and NO$_x$) across Perth.

Methods

NO$_2$ and NO$_x$ were measured at 43 sites and PM$_{2.5}$ and PM$_{10}$ were measured at 20 of these sites. The air monitoring followed the European Study of Cohorts for Air Pollution Effects (ESCAPE) protocol and was completed in three seasons in 2012. LUR models were developed to estimate air pollutant concentrations using data on land use, population/housing densities and traffic measures within various buffer sizes. Model validity was evaluated using a range of methods including leave-one-out cross validation.

Results

The annual average concentrations of air pollutants were all below the national and WHO guidelines for ambient air quality. Both the NO$_2$ and NO$_x$ LUR models had similar predictors, including traffic intensity on the nearest roads, household density, industrial activities and road length nearby. The models explained 69% of the variance in NO$_2$ and 75% variance of NO$_x$. The PM$_{10}$, PM$_{2.5}$ and PM$_{2.5}$A models explained 35%, 67% and 82% of the variance, respectively. The predictors in these models included traffic measures, industrial land use, population density, water and open green areas.

Conclusion

Despite the relatively low concentrations LUR modelling is possible for such locations. Local traffic sources combined with land use and variables related to urbanization explained the majority of the spatial variability of pollutants in the Perth metropolitan area, Western Australia.