March 2015

Department of Pediatrics Research Report

University of Saskatchewan

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Newcomer children participated in a Healthy Eating workshop developed by the Health Immigrant Children program in collaboration with Saskatchewan Intercultural Association.

The Healthy Immigrant Children Program:

Healthy communities for immigrant and refugee children

Dr. Hassan Vatanparast

Canada's newcomer population from diverse ethnic groups is growing faster than any other segment of the Canadian population. Projections indicate that approximately one in three Canadians will be a member of a visible minority group by 2031, and that the visible minority population will be over-represented in the younger age groups. Saskatchewan has one of the fastest growing populations in Canada, mainly due to the influx of newcomers from diverse ethnocultural backgrounds. The large majority of the 280,000+ newcomers who arrive annually in Canada are in fairly good health, somewhat better than the average Canadian, but subsequently experience declining health shortly after their arrival. Selective immigration policies, access to healthcare in Canada, and/or changing lifestyle patterns may account for the decline in immigrant health status over the first few years. There is an emerging body of research related to the health status of newcomers, but in its infancy it raises more questions than answers. It is vitally important to understand the health and nutrition issues of newcomer children, as dietary patterns are established early in childhood, the development of chronic disease often starts in childhood, and more importantly, lifestyle interventions have been shown to have positive results among children. Further, positive lifestyle changes effected through childhood interventions persist into adulthood.

Understanding the need for research and intervention, we initiated the Healthy Immigrant Children (HIC) program in 2009 with the overarching goal of improving new Canadian children's nutrition and health status. In 2010, we started the first Canadian comprehensive cross-sectional study to characterize the health and nutritional status of immigrant and refugee children aged 3-13 y (n=299) who have been living in Regina or Saskatoon, Saskatchewan, Canada for less than five years. Results indicate immigrant and refugee children are at considerably higher risk of household food insecurity (32.6%) compared to Canadians (7.7%). Over 80% of children had inadequate consumption of milk products that may not support age appropriate bone growth and development. Approximately 30% of newcomer children have not achieved the desirable bone mineral content for their age, sex and ethnicity. In addition, immigrant and refugee children commonly do not consume sufficient fruits and vegetables, which may indicate that they are filling that gap with too many foods that offer little nutritional value.

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Image of Interest

Dr. Tanya Holt (Pediatric Intensivist) operates the the RP7i Robot (InTouch Technologies) in Pelican Narrows, from Royal University Hospital in Saskatoon. Dr. Holt is planning to evaluate the feasibility of using the robot to assess, manage, and triage pediatric acute care patients in remote locations, prior to pediatric specialized inter-facility transport.

This issue of The Pediatric Research Report is sponsored by The Children's Health Research Trust Fund (P4 for more info.)

Visiting Lecturer: Dr. Ross Petty

Dr. Ross Petty is among the world's most eminent pediatric rheumatologists. He is recognized for exquisitely blending expert patient care with scholarly and productive research and inspiring and exemplary teaching. Dr. Petty was among the first pediatricians to be formally trained as a rheumatologist and has been vitally important in developing the specialty of pediatric rheumatology worldwide.

After graduating from the University of Saskatchewan's medical school and completing his internship Dr. Petty trained in pediatrics and pediatric rheumatology at the University of Michigan. He then completed his doctorate in immunology in London, England. In 1976 he returned to Canada to establish the country's first formal pediatric rheumatology program at the University of Manitoba. In 1979 he relocated to the University of British Columbia.

Dr. Petty is internationally renowned and respected for his insight and clinical acumen, his highly relevant and prolific research and writings, and his extraordinary gift as a teacher. He has trained many of the world's pediatric rheumatologists and has been an invited lecturer on every continent. His research contributions have had huge impacts worldwide on enhancing the care of children afflicted with rheumatic diseases.

Dr. Petty chaired the International League of Associations for Rheumatology Working Group to define a new, international classification system and nomenclature for chronic childhood

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Featured Child Health Researcher

Dr. Richard Huntsman

Dr. Richard Huntsman is a pediatric neurologist with several areas of clinical and research interest. He completed his medical school at Memorial University of Newfoundland (class of 1998) followed by a residency in general pediatrics, once again at Memorial University of Newfoundland. Following completion of his fellowship in pediatric neurology at the University of Alberta, he took up a position as a pediatric neurologist at the University of Saskatchewan.

His main area of clinical interest lies in neurodegenerative and neurometabolic disorders of childhood, in particular those affecting children of first nations ancestry in Saskatchewan. Dr. Huntsman along with his colleagues published the first description of a child with Coenzyme Q10 deficiency presenting with infantile spasms, as well as several papers on Cree Leukodystrophy. They have also published several papers on neonatal seizures and non-epileptic spells in the newborn. His most recent paper was an academic review on the Differential Diagnosis of Spastic Diplegia and was published in Archives of Disease in Childhood.

Currently Dr. Huntsman along with colleagues from the University of Saskatchewan and 4 other academic centers, in partnership with Cannimed, a subsidary of Prairie Plant Systems in Saskatoon, are in the process of developing a pilot study which will assess the safety and tolerability of a high cannabidiol concentrate cannabis oil as a treatment for children with refractory epilepsy.

Recent reports in medical and social media have emerged regarding the use of medical marijuana products for the treatment of seizures in children. Significant media interest has resulted in parents asking physicians to prescribe these products for their children. However, a lack of research has led to reluctance by physicians to prescribe these products. The intense desire of many parents to provide what is seen as a potentially beneficial therapy for their children, coupled with a lack of clinical data has resulted in an urgent need to advance research on this potential treatment option.

Dr. Huntsman's research team was recently awarded funding from the Saskatchewan Health Research Foundation (SHRF) Collaborative Innovation Development Grant competition. With this funding, the team will be able to begin to determine safety and the pharmacokinetic profile of this potential treatment. With the data obtained from this study, the team will be in a position to perform a larger clinical trial which can then be used to enable Health Canada approval for this treatment option in children with refractory epilepsy.

Dr. Richard Huntsman is an Associate Professor in the Department of Pediatrics, College of Medicine, University of Saskatchewan

Our Partners: The Richardson Research Fund

The Richardson Research Fund was established by Larry and Lucille Richardson in 1991 to promote research that would lead to new therapies and cures for neurological disorders such as spinocerebellar ataxia and other forms of cerebellar ataxia. The intent of the Richardson Fund is to provide treatments for this condition once treatments are discovered or to support research that will lead to new treatments and cures for this condition.

The availability of the Richardson Research Fund has been a powerful impetus to promoting opportunities for University of Saskatchewan faculty to collaborate with leaders in cerebellar ataxia research. With the support of the Richardson Research Fund Dr. Richard Huntsman attended an international conference relating to spinocerebellar ataxias and was able to explore potential research collaborative opportunities.

Clinical Investigator Program (CIP) for Residents

The CIP at the University of Saskatchewan is available to residents enrolled in a Royal College accredited residency program who have interest and potential for a career as a clinician investigator or clinician scientist. CIP offers two streams: A Graduate stream for participants enrolled in a graduate (M.Sc. or Ph.D.) program, and a Postdoctoral Stream for residents who already hold a Ph.D. and are interested in undertaking a structured research program. For further information about CIP, please contact Dr. Alan Rosenberg, alan.rosenberg@usask.ca

HIC Program

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Both groups also appear to be at risk for too much sedentary activity.

Health concerns for refugee children include food security, poor diet, low height for age, and high blood cholesterol levels. Refugee children are at significantly higher risk of being food insecure than immigrant children. In general, refugee children consume a lower quality diet than immigrant children, and are more likely to have an inadequate intake of a variety of macro and micronutrients. A considerably high risk of vitamin D deficiency and insufficiency was observed (64%), particularly in refugees (72%). Refugee children are significantly shorter for age than immigrant children, which may be related to food insecurity and dietary concerns. They are also at significantly higher risk for high blood cholesterol that may reflect unhealthy dietary choices. Compared to refugee children, immigrant children are more at risk for overweight, obesity and at-risk waist circumference. Older immigrant children aged eleven 11-13 y are at significantly increased risk of having a waist circumference > 90th percentile (53%) as compared to refugees (22%). These findings are alarming and indicate the need for immediate intervention to improve the nutrition and health of newcomer children.

In the HIC program, currently, we are evaluating the barriers and facilitators toward access to healthcare among newcomer families. We have initiated interventions such as Voices in Vision, aimed to build self-confidence in children, as well as the LINK project with the goal of improving cultural competency skills in future healthcare professionals. We understand the need for a collaborative multidisciplinary approach including policy makers and healthcare providers, particularly physicians and nurses, as well as settlement agencies to improve the health status of newcomer children. We look forward to close partnership with other stakeholders. For more information about our program and potential collaboration, please vist http://www.healthyimmigrant.ca/.

Dr. Hassan Vatanparast is an Assistant Professor in the College of Pharmacy and Nutrition, University of Saskatchewan

Recent Child Health Publications from U of S Faculty

- Ajamian F, Wu Y, Ebeling C, Ilarraza R, Odemuyiwa SO, Moqbel R, **Adamko DJ**. Respiratory syncytial virus induces indoleamine 2,3-dioxygenase activity: a potential novel role in the development of allergic disease. Clin Exp Allergy. 2015;45:644-59.
- Ballendine SA, Greba Q, Dawicki W, Zhang X, Gordon JR, **Howland JG**. Behavioral alterations in rat offspring following maternal immune activation and ELR-CXC chemokine receptor antagonism during pregnancy: implications for neurodevelopmental psychiatric disorders. Prog Neuropsychopharmacol Biol Psychiatry. 201;57:155-65.
- **Bowen A**, Baetz M, Schwartz L, Balbuena L, **Muhajarine N**. Antenatal group therapy improves worry and depression symptoms. Isr J Psychiatry Relat Sci. 2014;51:226-31.
- Cada M, Segbefia CI, Klaassen R, Fernandez CV, Yanofsky RA, Wu J, Pastore Y, Silva M, Lipton JH, Brossard J, Michon B, Abish S, Steele M, **Sinha R**, et al. The impact of category, cytopathology and cytogenetics on development and progression of clonal and malignant myeloid transformation in inherited bone marrow failure syndromes. Haematologica. 2015 Epub ahead of print.
- **Engler-Stringer R**, Shah T, Bell S, **Muhajarine N**. Geographic access to healthy and unhealthy food sources for children in neighbourhoods and from elementary schools in a mid-sized Canadian city. Spat Spatiotemporal Epidemiol. 2014;11:23-32.
- Henry C, Whiting SJ, Phillips T, Finch SL, Zello GA, **Vatanparast H**. Impact of the removal of chocolate milk from school milk programs for children in Saskatoon, Canada. Appl Physiol Nutr Metab. 2015;40:245-50.
- **Huntsman R, Lemire E, Norton J,** Dzus A, **Blakley P, Hasal S**. The differential diagnosis of spastic diplegia. Arch Dis Child. 2014 Epub ahead of print. Review.
- Jackowski SA, **Baxter-Jones AD**, Gruodyte-Raciene R, **Kontulainen SA, Erlandson MC**. A longitudinal study of bone area, content, density, and strength development at the radius and tibia in children 4-12 years of age exposed to recreational gymnastics. Osteoporos Int. 2015 Epub ahead of print.
- Kerpan S, **Humbert L**. Playing Together: The Physical Activity Beliefs and Behaviors of Urban Aboriginal Youth. J Phys Act Health. 2015 Epub ahead of print.
- Patrick SK, **Musselman KE**, Tajino J, Ou HC, Bastian AJ, Yang JF. Prior experience but not size of error improves motor learning on the split-belt treadmill in young children. PLoS One. 2014;9:e93349.

Coming Events

MAR THU **26**

Dr. Ross E. Petty, B.C. Children's Hospital
Pediatric Grand Rounds 11:00am-12:00pm, East Lecture Theatre, RUH, Title: Pediatric Rheumatology: Past, Present, and Future.
Pediatric Admission Rounds 12-1pm, RUH 6751 Title TBA;
Pediatric Rheumatology Seminar 1-2pm, Location and Title TBA

APR WED **29**

Writing Winning Grants
Communicate your Research Excellence for Maximum Impact: Using Structure, Language, and Perspectice to Write a Winning Research Grant. Presenter: Martin Butler, Principal Consultant, The Butlers and Associates. Location: Neatby-Timlin Theatre (241 Arts Buidling). Please RSVP to grants.workshop@usask.ca, by April 22nd.

APR THU **16**

Child Health Trainee Research Day
11:00am-2:30 pm
Location: Graduate Student Commons, in the Emmanuel and St. Chad Building. 1337 College Drive.
(see p4 for further details)

MAY MON **11**

Canadian Child Health Clinician Scientist Prairie Region Videoconference: "Translating Research Discoveries into Action"
11:30am- 12:30pm
Presenter TBA, Location: TBA

Dr. Ross Petty

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arthritis, now the standard worldwide. He is editor of the Textbook of Pediatric Rheumatology, the premier pediatric rheumatology reference book, now in its seventh edition.

Dr. Petty has received many accolades and awards for his contributions. He has been the recipient of Distinguished Rheumatologist Awards of the Canadian Rheumatology Association, and the American College of Rheumatology, the Ross Award of the Canadian Pediatric Society, and the James T Cassidy Award of the American Academy of Pediatrics. He is a Master of the American College of Rheumatology and in 2008 was appointed a Member of the Order of Canada. He is a recipient of the Queen Elizabeth II Diamond Jubilee medal.

Currently, Dr. Petty is Professor Emeritus and an active member of the Division of Rheumatology at British Columbia's Children's Hospital.

Dr. Petty will be presenting **Pediatric Grand Rounds, March 26th, 2015, 11:00 a.m. – 12:00 p.m., East Lecture Theatre, Room G763, Royal University Hospital.** In his Grand Rounds Lecture Dr. Petty will present astonishing new information about impending expectations for pediatric rheumatology in the context of the discipline's historical origins and present practices.

Research Project Opportunities

SUPERVISORS LOOKING FOR TRAINEES

- **"Relationship between vitamin D levels and inflammation"**
Study format: Database analysis. Contact: Dr. Alan Rosenberg, alan.rosenberg@usask.ca
- **"Usability and utility of a pediatric discharge pain management chart"**
Study format: Semi-structured interview and questionnaire. Contact: Dr. Susan Tupper, Coordinator Integrated Pain Strategy and Research, SHR, 306-715-8315, susan.tupper@usask.ca
- **"Survey of Kawasaki Disease awareness among Saskatchewan physicians"**
Study format: Survey. Contact: Dr. Alan Rosenberg, alan.rosenberg@usask.ca

TRAINEES LOOKING FOR SUPERVISORS

- A Pediatric R2 resident is interested in examining the prevalence of e-cigarette use among youth in Saskatchewan.
- A number of medical students are looking for summer research opportunities.
- If you are a faculty member interested and willing to supervise, please contact erin.loose@usask.ca.

Child Health Research Trainee Day

April 16th, 2015, 11am-2:30pm
Graduate Student Commons
(Emmanuel and St. Chad Building- see map)

Who May Present

- Residents engaged in child health related research.
- Trainees pursing graduate studies or Clinical Sub-specialty Fellows, who are engaged in child health related research.
- Undergraduate students who have engaged in research projects relating to child health.

Abstract Submission

- Request an abstract submission form from Dr. Erin Prosser-Loose at erin.loose@usask.ca
- Email abstract to erin.loose@usask.ca by 12:00pm on Wednesday April 1, 2015

YOUR OPINION PLEASE!

We would appreciate your opinion about the Department of Pediatrics Research Report and suggestions for future editions.
Please complete a brief survey at:
https://www.surveymonkey.com/s/NQVV6SB.
Thank you!

contact us

For more information about The Department of Pediatrics Research, SPRING, or to contribute content to The Department of Pediatrics Research Report, please contact:

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Online version of newsletter:
www.medicine.usask.ca/pediatrics/research/newsletter

Deadline for submissions for the next Research Report is May 8, 2015!

spring
SASKATCHEWAN PEDIATRIC RESEARCH AND INNOVATION GROUP

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Children's Health Research TRUST FUND

The Children's Health Research Trust Fund (**CHRTF**) was established in 1983 to help raise funds to support child health research at the University of Saskatchewan. As all donated funds are endowed, the CHRTF has continued to grow to become an important partner in helping advance research in the Department of Pediatrics.

For further information about the CHRTF:
http://www.medicine.usask.ca/pediatrics/research/CHRTF

To Donate to the CHRTF:
http://give.usask.ca/online/chrtf.php