Assessing whether the Ottawa-Shanghai Joint School of Medicine Diabetes Curriculum reflects the Chinese population that graduates will serve; Is there a match?

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BACKGROUND

The Ottawa Shanghai Joint School of Medicine (OSJSM) is a campus of the University of Ottawa Medical School in Shanghai, China. The school mirrors the University of Ottawa curriculum to teach Chinese students. This collaboration allowed us to study whether the Canadian curriculum remains relevant in the context of the Chinese population. Diabetes is an equally prevalent disease in both Canada and China and therefore a good curriculum topic to evaluate.

OBJECTIVES

The aim of this study is two-fold:

1) To compare the Diabetes Curriculum content of the OSJSM to that of the University of Ottawa Undergraduate Medicine Education (UGME) program
2) To assess how well the content of the OSJSM program represents the societal needs of the Chinese population.

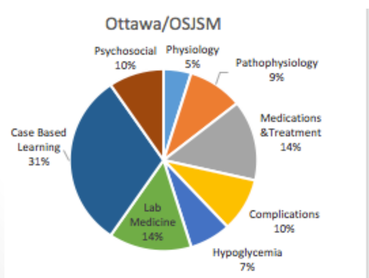
METHODS

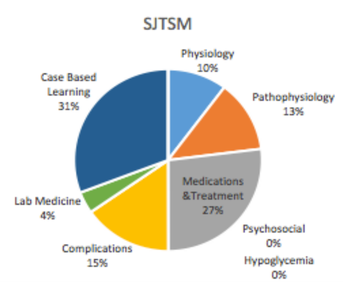
- A direct comparison was made between the University of Ottawa UGME diabetes curriculum and the OSJSM curriculum to assess for modifications
- To assess how well the content of the OSJSM program represents the Chinese population:
  - A literature search was performed to compare the characteristics of diabetes populations in Canada and China
  - A curriculum comparison between the University of Ottawa UGME, OSJSM and the traditional Shanghai Jiao Tong University School of Medicine (SJTUSM) evaluated key content including diabetes diagnostic criteria, treatments available, and management guidelines
  - Surveys were used to determine how Chinese medical students, allied health professional and physicians approach diabetes assessment and management. Patients were surveyed to assess knowledge of their disease and adherence to recommended guidelines.
- Survey participants were: 10 Students from the SJTSM from all years of medical training, 5 Diabetes Nurses with 10+ years of experience, 5 Endocrinologists, 10 patients with diabetes. All participants were randomly selected from Renji Hospital in Shanghai, China.

RESULTS

- The content of the diabetes curriculum at the OSJSM remained unchanged from the University of Ottawa

Comparing Ottawa/OSJSM to SJTUSM: Hours Dedicated to Topics in Diabetes in the Curricula





Diabetes in Canada vs. China

	Canada	China
Total Population	35 940 000	1 376 000 000
Prevalence of:		
Diabetes	9.3%	11.6%
Pre-diabetes	22.1%	50.1%
Overweight (BMI 25-30)	67.7%	35.4%
Obesity (BMI > 30)	30.1%	7.3%
Physical Inactivity	25.9%	23.8%
Screening and diagnosis of Diabetes	Canadian guidelines	Chinese guidelines
Screening for complications	Canadian guidelines	Chinese guidelines
National Diabetes Strategies:		
Diabetes Registry	No	Yes
Standard criteria for referral from primary care to higher level of care	Available and fully implemented	Available and partially implemented

Availability of Diabetes Treatment in the Public Health Sector

	Canada	China
Medications		
Insulin		
Intermediate acting	Available	Available
Peakless Basal	Commonly used	Commonly Used
Short Acting	Available	Available
Rapid Acting	Commonly used	Commonly Used
Premixed insulin	Available	Commonly Used
Oral Medication		
Acarbose	Rarely used	Commonly Used
Metformin	Commonly used	Commonly Used
Thiazolidinediones	Rarely used	Rarely Used
Sulfonylureas	Available	Commonly Used
Meglitinides	Available	Commonly Used
GLP-1 agonists	Available	Available
DPP-IV Inhibitors	Commonly used	Available
SGLT-2 Inhibitors	Commonly used	Rarely Used
Traditional Chinese Medicine		
Tangmaikang	Not used	Rarely Used
Lifestyle Modifications		
Diet	Commonly used	Commonly Used
Exercise	Commonly used	Available
Procedures		
Retinal photocoagulation	Yes	Yes
Dialysis	Yes	Yes
Renal transplantation	Yes	Yes

Comparing the Ottawa/OSJSM and SJTUSM Curriculum

- **Guidelines taught**
  - Canadian and Chinese guidelines for diabetes classification are based on the World Health Organization (WHO) criteria
  - Canadian and Chinese guidelines for screening tests and targets are based on the International Diabetes Federation
  - Therefore, similar guidelines are taught in both curricula; however, with a different focus. In Canada, the physician will be responsible for organizing these tests for patients whereas in China, the physician will only educate patients on what tests to do and when
- In Canada there is teaching on the **psychological impact** of diabetes, whereas this is not in the Chinese curriculum
- **Both curricula teach the same diabetic complications**: acute, chronic microvascular, chronic macrovascular

Differences between Diabetes Care in Canada and China

- **Infrastructure of primary care:** In Canada patients enter the circle of care through their family physician who can manage their diabetes or refer them to an Endocrinologist as needed. The managing physician organizes all follow-up screening according to well accepted national guidelines. In China there is no referral system and patients set up all appointments on their own accord. As a result, fewer adhere to recommended screening and follow-up guidelines
- T**here is no clear data on rates of complications of diabetes** in China and a theoretical increased rate of complications due to lack of standardized follow up

Accessing the Care of Other Health Care Professionals

	Canada	China
Diabetes Nurse	• Provide one on one education with patient	• Run patient classes at Renji Hospital: diet, exercise, psychology, insulin injections
Dietician	• Can be involved through referral from physician	• Medical specialty in China • Patients can attend on their own accord
Social Worker	• Can be involved through referral from physician	• Not a service
Foot Care specialist	• Can be involved through referral from physician	• Most foot care done by family members • Severe complications cared for by surgery

CONCLUSION

This study suggests that the content of the University of Ottawa UGME curriculum reflects diabetes in China. A greater emphasis on the importance of screening for the disease and complications in the OSJSM curriculum may encourage future Chinese physicians to make this a priority for their patients. Further, they may work to improve the infrastructure of the health care system in China to ensure this follow-up for patients is delivered.

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