

## RESEARCH ARTICLE / ARTICLE DE RECHERCHE

# Exploring the Information-Seeking Behaviour of Internationally Educated Nurses in Saskatchewan<sup>1</sup>

Maha Kumaran and Mary Chipanshi

**Abstract: Introduction:** To explore the information seeking behavior of Internationally Educated Nurses (IENs) and to investigate their exposure to libraries and library training in both their home countries and after being hired in Saskatchewan. **Methods:** This two-phase multi-method project was carried out in Saskatchewan, Canada. A questionnaire was developed based on survey instruments used in previously conducted studies on the topic. Librarians in two academic institutions assisted with validation of the survey. In Phase 1, data were collected via an online questionnaire from IENs in three health regions: Saskatoon, Regina, and Sunrise. In Phase 2, the study was expanded to IENs in all the health regions in the province. The same questionnaire from Phase 1 was used during telephone interviews with participants. **Results:** A total of 17 IENs responded (Phase 1,  $n = 9$ , Phase 2,  $n = 8$ ). Results show that IENs, although interested in looking for information for their practice, are hindered by a lack of knowledge of how and where to seek relevant clinical information as well as a lack of library training. As a result, their main source of information is the Internet (Google). **Discussion:** Despite barriers such as time to information seeking, results revealed that given the opportunity IENs would like to receive library training to enhance their information seeking skills.

## Introduction

### Internationally educated nurses in Canada and Saskatchewan

Global migration of internationally educated registered nurses (IENs) into western countries is seen as a solution to the nursing shortage. In 2005–2006, the Canadian Government implemented the Internationally Educated Health Professionals Initiative, “to increase the supply of health professionals into the Canadian workforce by expanding the assessment and integration of internationally educated health professionals in seven priority professions: medicine, nursing, pharmacy, physiotherapy, occupational therapy, medical laboratory technology, and medical radiation technology” [1]. This initiative attracted a number of IENs to Canada, including Saskatchewan. In addition, Canada has been actively recruiting health professionals from outside the country. In 2008, the Saskatoon Health Region in Saskatchewan carried out a recruitment mission in the Philippines, where 105 nurses were offered contracts to work in Canada [2].

According to the Canadian Institute for Health Information’s (CIHI) “Regulated Nurses: Canadian Trends, 2006 to 2010,” Saskatchewan employed 649 internationally educated nurses, comprising 8.6% of the registered nurse (RN) workforce in Canada [3]. Additional data

from CIHI [4] reveals that the number of IENs in Canada rose from 247 in 2008 to 674 in 2012, making international nurses “an important and integral part of the nurse workforce” [5].

IENs come from various countries including the Republic of the Philippines, India, Republic of Korea, different parts of Africa and the United Kingdom [4, 6–8]. Because of the diverse educational and English language skills, IENs come to Canada with varied levels of information literacy skills.

### Information-seeking behaviour

There are many definitions of information-seeking behaviour. All focus on different aspects of the behaviour, from recognition of the need for information, willingness to look for information, finding information, and evaluating and using information. Nwagwu and Oshiname [9] cited Pajarillo [10] and stated that “nursing related information behaviour includes all behaviours nurses manifest in relation to identifying, gathering, processing and managing information for optimal work performance.” The broad behavioural spectrum of habits and practices followed while searching for information form the foundation of information-seeking behaviour. Effective information-seeking behaviour is taught via information literacy skills sessions where health professionals

Maha Kumaran<sup>2</sup>, Nursing and Biomedical Sciences, University of Saskatchewan, Saskatoon, SK.

Mary Chipanshi, Nursing/KHS/Psychology, University of Regina, Regina, SK.

<sup>1</sup>This article has been peer reviewed.

<sup>2</sup>Corresponding author (e-mail: [maha.kumaran@usask.ca](mailto:maha.kumaran@usask.ca))

learn efficient search practices for an evidence-based practice environment.

### Information literacy

Information-seeking behaviour focuses on the methods individuals use to find information. Information literacy is “the set of abilities needed to: recognize a health information need; identify likely information sources and use them to retrieve relevant information; assess the quality of the information and its applicability to a specific situation; and analyze, understand, and use the information to make good health decisions” [11]. Dee and Stanley [12] stated that although nurses are expected to obtain health care information for educational reasons, patient care, current awareness, and professional development, evidence shows that most nurses are not sufficiently prepared to find the information. Nurses need to be information literate to know when and where to find information and also how to identify information that meets their need. The Association of College and Research Libraries’ (ACRL) “Information Literacy Competency Standards for Nursing” states that an information-literate nurse accesses “needed information effectively and efficiently” [13]. According to ACRL’s Information Literacy Competency Standards for higher education [14], information literacy is having the skills to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information”. Librarians can train nurses to attain these skills, thereby making them information literates.

### Evidence-based nursing practice

Eizenberg [15] states that evidence-based nursing practice (EBNP) consists of five stages: formulating a question; gathering the most relevant information by searching systematically; evaluating evidence found for validity, relevance, and feasibility; integrating the evidence found with clinical experience and patient values; and assessing treatment outcomes. EBNP is the “application of valid, relevant, research-based information in nurse decision-making” [16]. The emphasis of EBNP requires nurses to make clinical decisions on the basis of the best available current research evidence, his or her own clinical expertise, and the needs and preferences of the patient [17]. A meta-analysis of studies by Heater et al. [18] found that 28% of patients had better outcomes when intervention is based on research evidence rather than “routine, procedural nursing care.” Nurses are the liaisons between patients and physicians or the interdisciplinary health care team. They need to understand the diagnosis, interpret treatments and lab work, and know how to find drug information. If nurses do not understand their patients’ needs, or are unable to articulate their patients’ needs to the rest of the health care team with the best evidential support that health literature can offer, they cannot advocate effectively on behalf of their patient and will not perform their duties to the fullest potential. For nurses, the potential consequences of an unanswered information need are a delay in making a fully informed clinical decision or worse, making a poor decision that may lead to negative outcomes for the patient [19].

Both information literacy and EBNP stress the need for nurses to be able to find and use information effectively. Studies have shown that librarians play a key role in training users, including nurses, to be information literate and to find evidence-based information to inform their clinical practice [12, 20].

The Saskatchewan Registered Nurses’ Association (SRNA) [21], the provincial licensing body of RNs in Saskatchewan, has outlined foundational competencies that expect an RN to be able to “promote(s) current evidence-informed based practices” (p. 9), and to “provide(s) registered nursing care that is based on evidence-informed practice relevant to primary health care, health and healing” (p. 13).

### Saskatchewan setting

Saskatchewan is a prairie province located between Alberta on the west and Manitoba on the east, covering an area of 651,036 square kilometres. Its population as of January 2014 was 1,117,503 [22]. “Saskatchewan’s health care system is made up of many provincial, regional, and local organizations working together” and “most services are delivered through the province’s regional health authorities (health regions), their affiliated organizations, and the Saskatchewan Cancer Agency” [23]. There are 13 health regions in Saskatchewan – Athabasca, Cypress, Five Hills, Heartland, Keewatin Yatthe, Kelsey Trail, Mawatwan Churchill River, Prairie North, Prince Albert Parkland, Regina Qu’Appelle, Saskatoon, Sun Country and Sunrise. Of the 13 health regions, three (Prince Albert Parkland, Saskatoon, and Regina Qu’Appelle) have physical libraries that are staffed with librarians. Those that do not have their own libraries rely on accessing the Saskatchewan Information Resources Program<sup>3</sup> (SHIRP), an online library that is always available. SHIRP came to fruition in 2003 when the Saskatchewan Provincial Ministry of Advanced Education recognized the importance of health professionals having access to health resources and provided funding to establish it. This online library provides access to health resources to all registered health professionals in the province, augments the library collections of the health regions that have physical libraries, and fills the gap for the other health regions that do not have a library [24]. The SHIRP collection contains electronic books; journals and databases in the areas of nursing, dentistry, medicine, pharmacy, nutrition, and psychology; as well as clinical decision support tools such as BMJ Clinical Evidence. These resources are available through the intranet of all health region libraries and through the SHIRP portal at [www.shirp.ca](http://www.shirp.ca). SHIRP offers independent registered health practitioners training in access to and use of SHIRP resources.

### Literature review

To identify pertinent studies about IENs and information literacy, literature searches were conducted in CINAHL, Medline, Embase, and Web of Science.

<sup>3</sup>SHIRP has recently changed its name to Saskatchewan Health Information Resources Program.

Hand-searching of key nursing journals was also carried out. A combination of database appropriate subject headings (where possible) and keywords such as foreign nurses, internationally educated nurses, IEN, immigrant nurs\*, Nurs\* N2 migrat\*, information literacy, and information-seeking behaviour, evidence based or evidence informed practice, transitional programs, social adjustment, acculturation, integrat\*, transition\* were used in search strategy development. Peer-reviewed articles and scholarly research articles in English were considered for the study. No date limitations were applied.

Though not specific to IENs, literature shows that time constraints, lack of awareness of resources [9, 12], lack of collegial interaction regarding nursing practice topics [25], lack of training, lack of availability of resource materials, lack of research support [26], and lack of strategically designed and implemented transition programs [8, 27] all contribute to nurses nonuse of libraries and library resources.

Studies identify the numerous barriers IENs face during their transition into clinical work in their destination countries. These barriers include fear of lawsuits and litigation [8]; unfamiliar technology [28]; clinical differences [29]; cultural differences and competencies [30, 31]; verbal, written, and general language communication challenges [27, 30, 32–34]; marginalization and cultural dissonance [34]; challenges due to differences in local healthcare systems and practices [31]; racism and discrimination [35]; lack of assertiveness and differences in beliefs that influence clinical practice [35]; psychological stress [37]; social isolation and deskilling in low-level jobs [38]; lack of supportive leadership and differences in patient care [8]; and the stress of passing the licensure examination [31, 36].

Xu et al. [39] reported that cultural, racial, and language discrimination has led to stereotyping, marginalization, and lack of professional support from peers and superiors. This, in turn, has led to lack of career improvement [40, 41], lack of leadership opportunities [42, 43], and issues with self-confidence and self-esteem [43, 44].

Xu and He [45] state that countries hiring IENs are focusing on providing nursing education upgrades, practice or on-the-job adaptation, bridging credentials, transition programs, and preparation for qualifying exams. Information literacy training is not included in the transition programs they describe. IENs therefore face challenges with finding and using information efficiently and effectively for evidence-based practice, research, or continuing education.

## Method

The proposal for this two-phase study was approved by the research ethics board at both researchers' institutions. Researchers were awarded a President's Social Sciences Humanities and Research Council Award to fund this research.

Recruitment for both phases was conducted through distribution of flyers to health regions in Saskatchewan. The call was open to all IENs currently in clinical practice in one of the health regions at the time of participation.

Cultural background, age, and gender were not factors in recruitment. The flyer for Phase 1 stated the purpose of the study, requested IENs to participate voluntarily, and provided a link to the survey. The flyer for Phase 2 stated the purpose of the study and asked potentially interested IEN volunteers to contact a staff member at the University of Saskatchewan's Social Sciences Research Laboratory (SSRL) who would schedule and conduct the telephone interviews. Participants were not offered compensation for participating in either phase of the project. Researchers' email addresses and telephone contact information were included in both flyers, so interested participants could contact researchers in case of questions.

In Phase 1, an electronic copy of a questionnaire using Fluid Survey software was created and distributed to three health regions in Saskatchewan: Regina, Saskatoon, and Sunrise. The questionnaire included 47 questions and the survey was open from 22 March to 14 May 2013. (The questionnaire is available as supplementary data<sup>4</sup> to this article.) Questions were designed to capture demographic data, information about library experiences and training in their home countries and Canada, and interest in receiving library training. The researchers pilot tested the survey among library staff and librarians at the University of Saskatchewan and University of Regina. Participants were informed that questions were not mandatory, that they could withdraw at any time by closing their browser, and that by completing the survey their free and informed consent was implied.

Phase 2 of the survey was open to IENs from all 13 health regions in Saskatchewan. The same questionnaire from Phase 1 was used to interview participants who responded to the call to participate. The interviewer read a consent form over the phone and secured oral consent before proceeding. Participants were informed that they could refuse to answer questions, and that they could withdraw from the study at any time by terminating the interview. The interviews provided in-depth information that helped to further explain and describe the nurses' responses to the online questionnaire. To minimize subjectivity or influence on the participants, SSRL staff conducted the in-depth telephone interviews from October 2013 to January 2014 and transcribed the results. SSRL staff also tabulated the results of the survey from Phase 1.

## Results

A total of 17 participants responded to the study (Phase 1 questionnaire,  $n = 9$ ; Phase 2 interviews,  $n = 8$ ). Participating IENs came from Zambia, India, and the Philippines. Ages ranged from 20 to 50 years. Length of time working in Saskatchewan ranged from less than one year to 12 years. All the nurses had obtained their registered nursing degree from their respective countries and all worked as RNs in their health regions (Tables 1 and 2).

<sup>4</sup>Supplementary data are available through the journal Web site at <http://ejournals.library.ualberta.ca/index.php/jchla/rt/suppFiles/24254/0>.

**Table 1.** Demographics of IENs in Phase 1 ( $n = 9$ ).

Sex (M/F)	Age range (y)	Place of origin	Place of training	Length of time working in Saskatchewan (y)	Health region (recruitment from 3 regions only)
M	30–39	Philippines	Philippines	2	Regina Qu’Appelle Health Region
F	40–49	Prefer not to identify	Zambia	10	Regina Qu’Appelle Health Region
F	20–29	India	India	<1	Sunrise Health Region
F	40–49	Philippines	Philippines	15	Regina Qu’Appelle Health Region
F	40–49	Zambia	Zambia	5	Regina Qu’Appelle Health Region
M	30–39	Philippines	Philippines	2	Saskatoon Health Region
F	30–39	India	India	8	Saskatoon Health Region
F	30–39	Philippines	Philippines	2	Saskatoon Health Region
M	20–29	Philippines	Philippines	2	Sunrise Health Region

**Table 2.** Demographics of IENs in Phase 2 ( $n = 8$ ).

Sex (M/F)	Age range (y)	Place of origin	Place of training	Length of time working in Saskatchewan (y)	Health Region (recruitment from all 13 regions)
M	30–39	Philippines	Philippines	5	Kelsey Trail Health Region
F	20–29	India	India	1.25	Regina Qu’Appelle Health Region
F	40–49	Philippines	Philippines	3	Kelsey Trail Health Region
F	20–29	Philippines	Philippines	5	Prince Albert Parkland Health Region
F	20–29	Philippines	Philippines	4.3	Prince Albert Parkland Health Region
F	40–49	Zambia	Zambia	0.6	Sunrise Health Region
F	40–49	Philippines	Philippines	12	Regina Qu’Appelle Health Region
M	20–29	Philippines	Philippines	3	Regina Qu’Appelle Health Region

**IENs exposure to libraries and library training in their home countries**

For nurses to incorporate research into their practice effectively, they need to have acquired information literacy skills that are usually taught by librarians to students at the undergraduate level. The researchers therefore found it relevant to learn about IENs’ access to resources and library training in their country of origin during their nursing studies and practice. The survey and interview questions regarding their library experience also provided a means of assessing their familiarity with libraries and library resources. The researchers hoped to hypothesize a correlation between those who had received training in their home country with greater awareness and use of library resources in Canada, but because of the small sample size no significant differences were found.

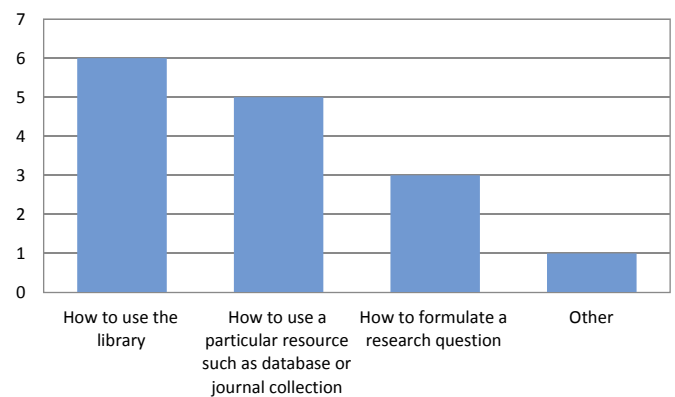
Participants in Phase 1 indicated that as nursing students they had access in their home countries to print books ( $n = 8$ ), print journals ( $n = 6$ ), and websites ( $n = 5$ ). When asked which websites they had access to, Google was the only response. Other accessible resources were databases ( $n = 2$ ), electronic journals ( $n = 2$ ), and personal digital assistants ( $n = 1$ ). As practicing nurses, they had access to websites ( $n = 3$ ), print books ( $n = 6$ ), print journals ( $n = 3$ ), electronic books ( $n = 2$ ), electronic journals ( $n = 1$ ), and personal digital assistants ( $n = 1$ ).

Close to 90% ( $n = 8$ ) of the participants in Phase 1 indicated they received library training in their own home countries (Figure 1). They received library training as

students ( $n = 6$ ), training in using particular resources such as a database or a journal collection ( $n = 5$ ), and (or) training in formulating a research question ( $n = 3$ ). One participant chose other and specified that the training was in finding documentation in support of a research study. In addition, participants stated that during their nursing practice in their home countries, they looked for information to support their work ( $n = 4$ ), continuing education ( $n = 5$ ), research ( $n = 2$ ), and all of the above ( $n = 6$ ).

Researchers found a significant difference in the in-depth interview results for the same question. All the

**Fig. 1.** Type of library training received in home country during nursing studies (Phase 1,  $n = 9$ ).





participants said they had not received any library training. The term “library training” needed to be expounded by the interviewer, and it became apparent that the participants in Phase 1 may not have understood what was meant by that phrase. Some of the responses in Phase 2 were:

*“Well it’s not really like a formal training we’re just told that yeah if you need more resources there’s lots of books in the library.”*

*“There’s like the librarian and we were taught how to use the catalogues. And of course how to access the computer.”*

*“To be honest we had a library but it was all just nothing, like nothing online. We had medical books where we could go to the library just take out books and read and yeah we did.”*

### IENs exposure to libraries and training in using library resources in Saskatchewan: challenges and barriers

IENs in Saskatchewan have access to their Health Region libraries (where applicable) and SHIRP. The researchers wanted to find out if participants were aware of the resources and services offered by these organizations. All participants in Phase 1 indicated they were informed that they had access to library resources when they started working in Saskatchewan. They had received the information from various sources: their supervisor, conferences, orientation week, a nurse educator, friends, or the recruiting team. When asked which libraries they knew about, all participants said they knew about the health region libraries ( $n = 9$ ) and several said they knew about SHIRP ( $n = 4$ ).

In Phase 2, half the participants ( $n = 4$ ) said they did not know that they had access to library resources through their health region, whereas the other half did. Those who knew had learned about the library during their nursing orientation. Only one participant knew about SHIRP<sup>5</sup>.

In Phase 1, when asked if they had received library training when they were hired in Saskatchewan, four said they had and five said they had not. Of those who received library training, the training was provided by: University of Saskatchewan ( $n = 1$ ), Saskatoon Health Region ( $n = 1$ ), Regina Qu’Appelle Health Region ( $n = 2$ ), and Sunrise Health Region ( $n = 1$ ). One person had received training at two sites. The training lasted anywhere between two hours to a week; unfortunately, no detail about the week-long training was provided. Three of the five participants who had not received any library training indicated that they would have benefited from learning about library apps ( $n = 1$ ), accessing various books ( $n = 1$ ), and accessing websites ( $n = 1$ ). The other two participants said they did not need library training because they “knew how to refer (to) the library (for) self-study” and “everything is readily available on the internet.”

In Phase 2, only one ( $n = 1$ ) person indicated they had received library training through a health region. The other participants specified that they did not receive any formal library training ( $n = 6$ ), may have received some

training ( $n = 1$ ), did not understand what library training meant ( $n = 1$ ), or that there had been training about how to use the catalogues or “find books” ( $n = 2$ ). It was apparent in Phase 2 that the participants classified anything to do with clinical instruction or resources in their Health Regions as library training.

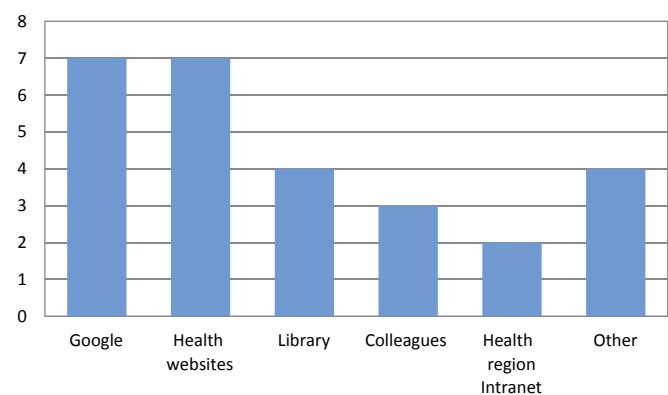
As most of the participants did not have library training, the researchers asked where they looked for information and whether they were able to find supporting information for their practice. The majority of the participants in both Phases indicated that they look for information to inform their practice and are able to find supporting information. Five participants in Phase 1 answered that they always found the information and four answered that they only sometimes found the information. In Phase 1, when asked where they looked for information, from a list of given options the most common responses were Google ( $n = 7$ ), health websites ( $n = 7$ ), the library ( $n = 4$ ), colleagues ( $n = 3$ ) and other ( $n = 4$ ) (Figure 2). The four participants who selected other specified that they used the health region intranet and workplace training sessions.

Phase 2 participants listed their preferred information resources as Google ( $n = 5$ ), NurseOne ( $n = 1$ ), textbooks ( $n = 2$ ), journals ( $n = 3$ ), resources provided on the units ( $n = 12$ ), the public library ( $n = 2$ ), the health sciences library ( $n = 1$ ), ipad and the Registered Nurses Association of Ontario (RNAO) ( $n = 1$ ), Medscape ( $n = 1$ ), and SRNA ( $n = 1$ ). NurseOne is a resource developed by the Canadian Nurses Association and Health Canada to support Canadian nurses in their nursing practice. It is restricted to members only and has in addition to several other resources a collection of electronic books.

Participants were asked how often they looked for information. Phase 1 participants indicated they seek resources to inform their practice either daily ( $n = 3$ ), weekly ( $n = 4$ ), monthly ( $n = 2$ ), or depending on the need ( $n = 1$ ). Phase 2 responses ranged from a couple of times a year to every day.

When asked about their confidence in solving clinical questions, nine Phase 1 participants felt confident ( $n = 6$ ) or very confident ( $n = 3$ ). When asked how confident they are in answering patients’ questions, their responses were

**Fig. 2.** Where do you currently go to look for information? (Phase 1,  $n = 9$ ).



<sup>5</sup>SHIRP is embedded into health region library intranets and users may often not know whether the resource is coming through SHIRP or their own library.

very confident ( $n = 4$ ), confident ( $n = 4$ ), and somewhat confident ( $n = 1$ ).

Most participants in Phase 2 also felt confident ( $n = 4$ ) or very confident ( $n = 4$ ) in answering clinical questions that came up in their day-to-day practice. On the other hand, although participants felt confident ( $n = 5$ ) or very confident ( $n = 3$ ) in answering patient questions, after some follow-up they indicated they sometimes have to consult sources to verify the information. Resources consulted included texts provided on the floors (mostly in print e.g., CPS, practice guidelines, textbooks), colleagues, managers, physicians, and nurse educators. When asked why the library is not utilized as a source of verifying information, one participant responded that it was time consuming:

*“the type of hours we do you need something quick on hand to research or read.. To be honest. I’ll use the library but I’ll take some time...”*

Participants were asked how they determine the relevancy of the information they find to answer patient and clinical questions. In Phase 1 ( $n = 9$ ) some of the answers included:

*“Because I was taught on how to access the accredited information resources.”*

*“By comparing their data presentations as to its relevance to my practice and by conferring with other health care professionals.”*

*“...enquire from the internet and other RNs.”*

*“...by researching more using other search engines and by looking back on my textbooks.”*

To help assess relevance of information, Phase 2 participants cited using colleagues, senior staff, books, practice guidelines located in their units, or reliance on the staff training carried out by the Health Regions. Some of the participants did not answer the question because they said they did not understand it.

The results make it clear that most participants from Phase 1 are aware of the important role evidence-based practice plays in nursing and of the need to acquire up-to-date information. When asked if the information they found changed their practice, participants in Phase 1 answered:

*“Yes, being up to date is needed with evidence-based practice for patient safety.”*

*“Yes, as nursing has been evolving, it has helped me to keep abreast with the current information hence keeping up with the current trends of practice.”*

*“Yes, if I know the proper treatment modalities/trends for my chronic patients, I would be able to deliver a more holistic and comprehensive approach to nursing care.”*

*“Yes, it gave me additional information on how the health care system works in Canada.”*

*“Yes, especially with nursing practice which are evidence base and also the diversity of cultures and the right to approach.”*

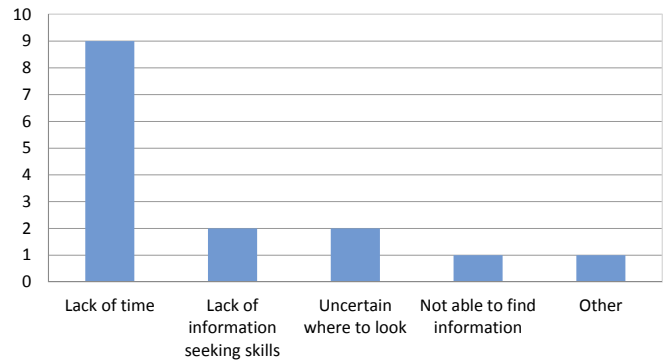
All participants in Phase 1 stated that they have experienced challenges or barriers in finding health information for patient care. As shown in Figure 3, challenges were identified as lack of time for research ( $n = 9$ ), lack of information-seeking skills ( $n = 2$ ), uncertainty about where to look ( $n = 1$ ), and inability to find information ( $n = 1$ ).

In Phase 2, participants echoed lack of time as their main challenge with one participant stating *“sometimes the problem will be you know we will be running short of time most of the time.”*

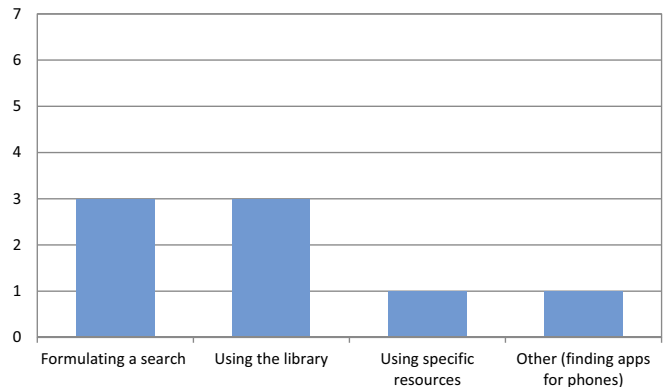
Other responses were that researching (or searching for information) should be taught in small segments ( $n = 1$ ), there is not enough time to do research or read journal articles ( $n = 2$ ), there are too many websites to look through ( $n = 2$ ), it is hard to find reliable information in layman’s terms for patient education ( $n = 2$ ), and that it is challenging to find resources to solve rare cases ( $n = 1$ ).

New technological innovation, EBNP, and research in health care require nurses to participate in continuing education. The researchers therefore wanted to find out if these nurses were currently working on any research or pursuing continuing education. In both phases, participants responded that they were not taking part in research or continuing education and therefore did not look for additional resources outside of their work environment.

**Fig. 3.** Challenges and barriers faced in finding information (Phase 1,  $n = 9$ ).



**Fig. 4.** What kind of library training would you like to receive? (Phase 1,  $n = 9$ ).



In Phase 2, participants referred to regular continuing education sessions offered by the different health regions. These sessions were usually subject specific or clinically oriented and were offered by nurse educators not librarians.

### IENs interest in receiving library training

Participants expressed a strong desire for library training, indicating that this training would make a significant contribution to their nursing practice.

Phase 1 results showed that most participants would like to receive training ( $n = 7$ ). The two participants who responded “no” indicated that when they need information, they “*enquire from the Internet and other RNs*” or “*research more by using other search engines and by looking back on my textbooks.*” They elaborated further by stating that they “*knew how to refer (to) the library (for) self-study*” and “*everything is readily available on the internet.*”

In Phase 2, all participants responded “yes” to this question, but only after some explanation about the phrase “library training” by the interviewer. They were eager to receive training in using the library and specific library resources and in formulating searches.

When asked to specify what kind of library training they would like to receive, seven responses were received in Phase 1. They stated that they wanted training on how to formulate a search ( $n = 3$ ), use the library ( $n = 3$ ), use specific resources to find information ( $n = 1$ ), and find apps for their phones ( $n = 1$ ).

When the same question was asked of Phase 2 participants, all answered that they would like to receive library training. When prompted with options most of the participants said they would like to receive training in formulating a search, using the library, and using specific resources. One participant who wanted training in using the library said:

*“I think this would be a useful tool if you have the training that’s provided by the library like that it would definitely help you go through and pursue your further degree or further studies.”*

One participant responded that training was important for international graduate nurses as everything in Canada is new.

*“It’s a new culture, new system. So the resources would be so beneficial especially trying to know the culture and trying to know how the health system works here in Canada.”*

### Limitations of the study

A limitation of the study is the small sample size in both phases, which makes it impossible to correlate the results. The small sample size is attributed to restrictions imposed on the recruitment of IENs in the health regions. In spite of the ethical approval from the researchers’ respective institutions, each health region required an ethics or operational approval to conduct the study with their nurses. Direct distribution of the recruitment flyer by researchers was not permitted; only the ethics contact personnel could forward the flyers to the nurse managers or nurse educators who, in turn, forwarded it to the nurses.

The dependence on third parties to distribute the call could have led to the low response and small sample size.

Another limitation is that, because of ethical and privacy concerns, the researchers could not access any self-declaration records that identify IENs in Saskatchewan. It is unknown how many IENs currently work in Saskatchewan and where they are from. The only demographic information available in Canada is through the Colleges of Nurses of Ontario, 2014 [6].

The length of the survey could have been a contributing factor to several uncompleted responses. In Phase 1, the 47-question survey took 25–30 minutes to complete. The interviews were at least an hour long. It is possible that nurses who already have busy schedules found this too considerable a time commitment to spend on an interview or a survey.

The survey was not pretested among IENs or other practicing nurses but by library staff and librarians. During Phase 2, the researchers discovered that participants did not understand some of the library language; therefore, some of the answers were subject to the interpretation of the participant. Pretesting the survey with current nursing IENs or practicing nurses may have prevented this confusion about certain terminology.

### Conclusions and recommendations

The results of this study revealed that nurses did not receive much library training in their home countries, or that they did not have the same kinds of resources and formats available to them. They often relied on the Internet during their studies and practice though they do have prior knowledge of libraries and some resources.

Participants were genuinely excited when they were informed of SHIRP and told that it is always available to them and free of cost. The fact that SHIRP offers access to resources such as databases and journals along with customized free training to all registered health care practitioners in the province is good reason to make IENs aware of its presence.

Based on the findings of this study, the researchers propose the following recommendations:

- Health regions, health region librarians, SHIRP, and regulatory agencies should collaborate to integrate library training at each level of the nurses’ employment journey to create awareness of the library and information resources available.
- Library training should be included as a mandatory requirement in the transition programs that all IENs coming to Canada attend to ease them into their new work culture. Librarians should be invited to provide training, because sharing this knowledge early on can assist IENs in self-study when preparing for their licensing exams and later in their nursing practice.
- Health region librarians need to better market their presence and services to nurses. Health sciences librarians are experts in providing training on how to access and use library resources. It is important to teach nurses the difference between using Google and authoritative library resources like CINAHL and Medline.

- Health regions that do not have libraries should generate awareness and promote use of SHIRP resources and services among clinical staff.
- Nurses should be allowed time to search for the evidence-based information needed for their practice as well as be provided with time and incentive to attend library instruction. Hospitals and health regions could arrange for a “day in the library” and offer training on various aspects of the library and its services and resources. Proper library training would prepare them to find information quickly and effectively. The incentive can be in the form of pay or a certificate of completion of a continuing education activity.
- These nurses could be provided with tablets that have mobile versions of the most relevant point-of-care tools downloaded on them, so authoritative resources are the first available to these nurses instead of the Internet.

## Acknowledgements

Researchers would like to thank the President’s Social Sciences Humanities and Research Council Award for financial support; SSRL for their help in tabulating results from Phase 1 and transcribing interviews from Phase 2; Carolyn Pytlyk, Research Facilitator at the University of Saskatchewan, for her help in applying for PSSHRC grant; and all the IENs that participated in this research.

## References

1. Health Canada. *Internationally educated health care professionals 2010* [Internet]. Ottawa, ON: Government of Canada [cited 25 Oct 2014]. Available from: <http://www.hc-sc.gc.ca/hcs-sss/hhr-rhs/strateg/init-prof-educ/index-eng.php>.
2. Jermyn D. *Search abroad pays off for Saskatchewan hospitals. The Globe and Mail* (Ontario Ed.). 2010 Apr 8; 2010: Sect: Business. Available from: <http://www.theglobeandmail.com/report-on-business/careers/search-abroad-pays-off-for-saskatchewan-hospitals/article4188998/>.
3. Canadian Institute for Health Information. *Regulated nurses: Canadian trends, 2006–2010* [Internet]. Ottawa, ON: CIHI [cited 12 Mar 2014]. Available from: [https://secure.cihi.ca/free\\_products/RegulatedNursesCanadianTrends2006-2010\\_EN.pdf](https://secure.cihi.ca/free_products/RegulatedNursesCanadianTrends2006-2010_EN.pdf).
4. Canadian Institute for Health Information. *Canada’s regulated nursing workforce*. [Internet]. Ottawa, ON: CIHI [cited 12 Mar 2014]. Available from: [http://www.cihi.ca/cihi-ext-portal/xlsx/internet/nursing\\_2012\\_profiles\\_en](http://www.cihi.ca/cihi-ext-portal/xlsx/internet/nursing_2012_profiles_en).
5. Zizzo KA, Xu Y. Post-hire transitional programs for international nurses: a systematic review. *J Conti Edu Nur*. 2009;40(2):57–64. quiz 5-6. PMID: 223313000; 19263926.
6. College of Nurses of Ontario. *New members in the general class 2013 Ontario: College of Nurses of Ontario*; 2014 [Internet]. Toronto, ON: College of Nurses of Ontario [cited 15 Oct 2014]. Available from: [http://www.cno.org/Global/docs/general/43011\\_TrendsNewMembers.pdf](http://www.cno.org/Global/docs/general/43011_TrendsNewMembers.pdf).
7. Shaffer FA, Dutka J. Global mobility for internationally educated nurses: challenges and regulatory implications. *J Nurs Regul*. 2013;4(3):11–6. PMID: 2012322603.
8. Sherman RO, Eggenberger T. Transitioning internationally recruited nurses into clinical settings. *J Contin Educ Nurs*. 2008;39(12):535. PMID: 2010128946. doi: 10.3928/00220124-20081201-03.
9. Nwagwu WE, Oshiname R. Information needs and seeking behaviour of nurses at the University College Hospital, Ibadan, Nigeria. *Afr J Libr Arch Inf Sci*. 2009;19(1): 25–38.
10. Pajarillo E. The use and evaluation of search databases by professional nurses: a case study. *Electr Lib*. 2001;19:296–306. doi: 10.1108/EUM0000000006096.
11. Medical Library Association. *What is health information literacy?* [Internet]. Chicago, IL: Medical Library Association; 2015 [cited 4 Jan 2015]. Available from: <https://www.mlanet.org/resources/healthlit/define.html>.
12. Dee CR, Stanley EE. Nurses’ information needs. *J Hosp Librariansh*. 2005;5(2):1–13. doi: 10.1300/J186v05n02\_01.
13. Association of College and Research Libraries. *Information literacy competency standards for nursing* [Internet]. Chicago, IL: American Library Association; 2013 [cited 25 Oct 2014]. Available from: <http://www.ala.org/acrl/standards/nursing>.
14. Association of College and Research Libraries (ACRL). *Information literacy competency standards for higher education* [Internet]. Chicago, IL: ACRL; 2000 [cited 13 Sep 2014]. Available from: <http://www.ala.org/acrl/standards/nursing>.
15. Eizenberg M. Implementation of evidence-based nursing practice: nurses’ personal and professional factors? *J Adv Nurs*. 2011;67(1):33–42. doi: 10.1111/j.1365-2648.2010.05488.x.
16. Cullum N, Ciliska D, Marks S, Haynes B. *Evidence-based nursing: an introduction*. Malden, MA: Blackwell Publishing; 2008. 312 p.
17. Scott K, McSherry R. Evidence-based nursing: clarifying the concepts for nurses in practice. *J Clin Nurs*. 2009;18(8):1085–95. doi: 10.1111/j.1365-2702.2008.02588.x.
18. Heater B, Becker A, Olson R. Nursing interventions and patient outcomes: a meta-analysis of studies. *Nurs Res*. 1988;37(5):303–7.
19. Clarke MA, Belden JL, Koopman RJ, Steege LM, Moore JL, Canfield SM, et al. Information needs and information-seeking behaviour analysis of primary care physicians and nurses: a literature review. *Health Info Librar J*. 2013;30(3): 178–90. doi: <http://dx.doi.org/10.1111/hir.12036>.
20. Kelham C. Health care librarians and information literacy: an investigation. *Health Info Librar J*. 2014;31(3):235–8. doi: 10.1111/hir.12071.
21. Saskatchewan Registered Nurses Association (SRNA). *Standards and Foundation Competencies for the Practice of Registered Nurses* [Internet]. Regina, Saskatchewan, Canada: SRNA; 2013 [cited 25 Oct 2014]. Available from: [http://www.srna.org/images/stories/Nursing\\_Practice/Resources/Standards\\_and\\_Foundation\\_2013\\_06\\_10\\_Web.pdf](http://www.srna.org/images/stories/Nursing_Practice/Resources/Standards_and_Foundation_2013_06_10_Web.pdf).
22. Government of Saskatchewan. *Saskatchewan in Brief* [Internet]. Saskatchewan, Canada: government of Saskatchewan; 2014. [cited 3 Feb 2014]. Available from: <http://www.gov.sk.ca/Default.aspx?DN=f80c0ebb-f1c6-497e-8bc0-30c215a5441f>.



23. Government of Saskatchewan. *Health System 2012* [Internet]. Saskatchewan, Canada: Government of Saskatchewan; 2012 [cited 3 Feb 2014]. Available from: <http://www.gov.sk.ca/Default.aspx?DN=f80c0ebb-f1c6-497e-8bc0-30c215a5441f>.
24. Saskatchewan Health Information Resources Program. *Strategic plan 2011–2014* [Internet]. SHIRP; 2010. [cited 3 Feb 2014]. 2010. Available from: [http://www.shirp.ca/sites/www.shirp.ca/files/web/SHIRP\\_2011-14\\_Strategic\\_Plan.pdf](http://www.shirp.ca/sites/www.shirp.ca/files/web/SHIRP_2011-14_Strategic_Plan.pdf).
25. Newman KM, Doran D. Critical care nurses' information-seeking behaviour during an unfamiliar patient care task. *Dynamics*. 2012;23(1):12–7. PMID: 2011478911.
26. Spenceley SM, O'Leary KA, Chizawsky LLK, Ross AJ, Estabrooks CA. Sources of information used by nurses to inform practice: an integrative review. *Int J Nurs Stud*. 2008;45(6):954–70. doi: 10.1016/j.ijnurstu.2007.06.003.
27. Kawi J, Xu Y. Facilitators and barriers to adjustment of international nurses: an integrative review. *Int Nurs Rev*. 2009;56(2):174–83. doi: 10.1111/j.1466-7657.2008.00705.x.
28. Edwards PA, Davis CR. Internationally educated nurses' perceptions of their clinical competence. *J Cont Educ Nurs*. 2006;37(6):265–9. PMID: 223324616; 17144116.
29. Xu Y PhD RN. Strangers in strange lands: a metasynthesis of lived experiences of immigrant Asian nurses working in western countries. *ANS Adv Nurs Sci*. 2007;30(3):246–65. doi: 10.1097/01.ANS.0000286623.84763.e0.
30. Kolawole B. Ontario's internationally educated nurses and waste in human capital. *Int Nurs Rev*. 2009;56(2):184–90.
31. Neiterman E, Bourgeault IL. Cultural competence of internationally educated nurses: assessing problems and finding solutions. *Can J Nurs Res*. 2013;45(4):88–107. PMID: 24617282.
32. Lum L, Dowedoff P, Bradley P, Kerekes J, Valeo A. Challenges in oral communication for internationally educated nurses. *J Transcult Nurs*. 2015;26(1):83–91. doi: 10.1177/1043659614524792.
33. Thekdi P, Msn RN, Wilson B, PhD RNC, Xu Y, PhD RN, et al. Understanding post-hire transitional challenges of foreign-educated nurses. *Nurs Manage*. 2011;42(9):8–14. PMID: 21873842. doi: 10.1097/01.NUMA.0000403285.34873.c7.
34. Xu Y, Gutierrez A, Kim S. Adaptation and transformation through (un)learning: lived experiences of immigrant Chinese nurses in US healthcare environment. *ANS Adv Nurs Sci*. 2008;31(2):E33–47. PMID: 18497580. doi: 10.1097/01.ANS.0000319570.99254.e5.
35. Calliste A. Antiracism organizing and resistance in nursing: African Canadian women. *Can Rev of Socio*. 1996;33(3):361–90. PMID: 13001628.
36. McGuire M, Murphy S. The internationally educated nurse: well-researched and sustainable programs are needed to introduce internationally educated nurses to the culture of nursing practice in Canada. *Can Nurse*. 2005;101(1):25–9. PMID: 2005050539.
37. Yi M, Jezewski MA. Korean nurses' adjustment to hospitals in the United States of America. *J ANS Adv Nurs*. 2000;32(3):721–9. PMID: 2000076462. doi: 10.1046/j.1365-2648.2000.01533.x.
38. Salami B, Nelson S. The downward occupational mobility of internationally educated nurses to domestic workers. *Nurs Inq*. 2014;21(2):153–61. doi: 10.1111/nin.12029.
39. Xu Y, Gutierrez A, Kim SH. Adaptation and transformation through (un) learning: lived experiences of immigrant Chinese nurses in US healthcare environment. *ANS Adv Nurs Sci*. 2008;31(2):E33–E47. PMID: 18497580. doi: 10.1097/01.ANS.0000319570.99254.e5.
40. Aboderin I. Contexts, motives and experiences of Nigerian overseas nurses: understanding links to globalization. *J Clin Nurs*. 2007;16(12):2237–45. doi: 10.1111/j.1365-2702.2007.01999.x.
41. Larsen JA. Embodiment of discrimination and overseas nurses' career progression. *J Clin Nurs*. 2007;16(12):2187–95. doi: 10.1111/j.1365-2702.2007.02017.x.
42. Adeniran RK, Smith-Glasgow ME, Bhattacharya A, Xu Y. Career advancement and professional development in nursing. *Nurs Outlook*. 2013;61(6):437–46. PMID: 23910927. doi: 10.1016/j.outlook.2013.05.009.
43. Alexis O, Vydellingum V, Robbins I. Engaging with a new reality: experiences of overseas minority ethnic nurses in the NHS. *J Clin Nurs*. 2007;16(12):2221–8. doi: 10.1111/j.1365-2702.2007.02080.x.
44. Gerrish K, Griffith V. Integration of overseas Registered Nurses: evaluation of an adaptation programme. *J Adv Nurs*. 2004;45(6):579–87. doi: 10.1046/j.1365-2648.2003.02949.x.
45. Xu Y, He F. Transition programs for internationally educated nurses: what can the United States learn from the United Kingdom, Australia, and Canada? *Nurs Econ*. 2012;30(4):215–23. PMID: 1037800878; 22970552.