

The Impact of Respiratory Therapy International Education in the United States: Saudi International Students' Perceptions

Hassan Y AbuNurah, Ralph D Zimmerman, Robert B Murray, and Douglas S Gardenhire

BACKGROUND: The purpose of this study was to assess graduate and undergraduate international respiratory therapy students' perceptions of the impact of their international educational experience on their life experience and development. **METHODS:** Data were collected through a validated descriptive survey. Four main dimensions of development were assessed: professional respiratory therapist (RT) role, global understanding, personal development, and intellectual development. **RESULTS:** The sample size was 62. Just over half of the subjects held a graduate degree in respiratory therapy, and 47% held an undergraduate degree in respiratory therapy. Female participants accounted for 13% of participants. The dimensions of development that were the most affected for RT undergraduate students were professional RT role and global understanding, whereas personal development was the most impacted area of development for graduate RT students. The time spent abroad for education had a positive correlation with the students' perceptions of development of their professional RT role ($r_s = 0.43, P = .001$), personal development ($r_s = 0.26, P = .047$), and overall survey development score ($r_s = 0.28, P = .036$). Former graduates had a significantly higher perception of development of their professional practice ($P = .035$) and cultural interaction ($P = .03$) than did current students. **CONCLUSIONS:** International education has a large overall positive impact on students' life experience and development. The study findings support the value of promoting international education in RT programs due to its role in advancing students' development and the internationalization of RT education. *Key words:* international education; study abroad; global health; cultural competency; health care; respiratory therapy. [Respir Care 2020;65(7):961–965. © 2020 Daedalus Enterprises]

Introduction

Higher education around the world is experiencing an accelerating rise in internationalization to overcome the challenges of educational outcomes.¹ Internationalization of higher education is defined as the process of integrating an international, intercultural, or global dimension into the purpose, functions, or delivery of education and research.² Due to the considerable global variations in managing

health care challenges, expansion in international collaboration is needed to fill the gaps in the knowledge, practices, and competencies required to support the objectives of internationalization.³

Educational institutions have used a variety of approaches (such as study abroad and international education programs) that are believed to reduce health care education

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challenges locally and globally.^{4,5} According to the Association for the Study of Higher Education, international educational experience has become an essential part of higher education for achieving critical learning outcomes.⁶ The common benefits of international education have been described in many different studies. These benefits include, but are not limited to, broadening the scope of practice, cultural and personal development, improvement of communication skills, and enhancement of professional knowledge.^{7,8}

The American Association for Respiratory Care sponsored a series of conferences named “2015 and Beyond” and reached a majority consensus on the need to emphasize respiratory therapy education to meet expanding health care needs and demands.⁹ Despite the increasing recognition of respiratory therapy (RT) in many countries around the world, the outcomes of international RT education have not been previously studied.

The main goal of this study was to explore Saudi RT students’ perceptions of their international education in the United States. The study examined the most impacted areas of development during international education, from the perspective of Saudi international graduate and undergraduate RT students. The study also investigated associated factors that might influence perceptions of international education and whether these perceptions differ between current and former students.

Methods

Design

This study used a nonexperimental exploratory design with a self-reporting electronic survey. This study was performed in the Department of Respiratory Therapy at the Lewis School of Nursing and Health Professions, Georgia State University, in Atlanta, Georgia. The university’s Institutional Review Board approved the study. A cover letter explaining the study and the survey instrument was provided to all participants.

Sample and Instrument

A modified version of the International Education Survey was used.^{10,11} This survey has a reliability coefficient of .97. Content validity was applied by a panel of respiratory therapy education experts. An email was sent 3 times over 3 weeks by the Saudi Society of Respiratory Care to all its active members ($N = 534$) to encourage respiratory therapists who obtained their RT education in the United States to complete an online questionnaire. Therapists who identified the United States as the country where they received their RT education were included in the study. Non-Saudi therapists and Saudi therapists with international experience

QUICK LOOK

Current knowledge

The growing demand to advance the respiratory therapy profession has emphasized the need to expand international education collaborations to transfer knowledge, experiences, and practices required to overcome challenges in the profession around the world. Previous research has demonstrated the effectiveness of international education in achieving critical developmental outcomes for health care students by seeking education in countries with different health care and education systems.

What this paper contributes to our knowledge

International respiratory therapy education had a positive impact on students’ professional, cultural, personal, and intellectual development. Longer durations of international education were linked to greater perceptions of development. We also noted that former graduates had a significantly higher perception of enhanced professional practice and cultural interaction than current international students.

who did not receive their respiratory therapy education in the United States were excluded.

The demographic section of the survey consisted of fill-in-the-blank and multiple-choice questions regarding age, gender, age at the time of international education, length of international education, and educational level. The survey consisted of 27 questions scored on a Likert-type scale ranging from 1 to 7 (1 being the lowest and 7 being the highest). The survey focused on measuring the perceived impact of international education on 4 areas of development: professional RT role, global understanding, personal development, and intellectual development.

Data Analysis

Data collected were analyzed with SPSS 22 (IBM Armonk, New York). Descriptive statistics, Spearman’s rho correlation coefficients, and nonparametric Mann Whitney U tests were used to address the objectives of the study.

Results

The total number of participants was 62, which reflects a response rate of 15.2%. Survey respondents consisted of 53% graduate students and 47% undergraduate students. Males accounted for 87% of the respondents. The average current age (mean \pm SD) for graduate students was 30.0 \pm 5.2 y and 32.2 \pm 7.0 y for undergraduate students. The

average age when students started their international education was 25.7 ± 2.8 y for graduate students and 25.1 ± 3.7 y for undergraduate students (Table 1). Current students accounted for 48.4% of the participants, and former graduates accounted for 46.8%. Missing responses for student status comprised 4.8%.

According to the undergraduate RT students, the highest-ranked areas of development were professional RT role

Table 1. Demographics of the Sample Population

Demographics	Undergraduates	Graduates
Current age, y	32.20 ± 7.00	30.00 ± 5.20
Age when started international education, y	25.10 ± 3.70	25.70 ± 2.80
Duration of international education, y	3.20 ± 1.20	3.00 ± 1.60
Male	25 (86%)	29 (88%)
Education level	29 (47%)	33 (53%)
Current student	11 (37%)	19 (57%)
Former student	15 (52%)	14 (42%)

n = 62 students. Data are shown as mean \pm SD or *n* (%).

Table 2. Graduate and Undergraduate Students' Perceptions of the Impact of International Education on Their Development

Area of Development	Undergraduates	Graduates
Professional respiratory therapy role	6 (4–7)	5 (4–6)
Global understanding	6 (4–7)	5 (5–6)
Personal development	5 (4–7)	6 (5–6)
Intellectual development	5 (4–7)	5 (4–6)
Overall development score	5 (4–7)	5 (5–6)

Data are shown as median (interquartile range).

Table 3. Characteristic Differences Between Current Students and Former Graduates and Their Perceptions of International Education Impact on Their Development

Variable	Current Students	Former Students	<i>P</i>
Current age, y	28 (25–30)	34 (31–39)	< .001
Age when started international education, y	25 (24–27)	25 (24–28)	.98
Length of international education, y	2 (2–3)	4 (3–4)	.001
Area of development			
Professional role	5 (4–6)	6 (5–6)	.36
International education enhanced your practice as a professional respiratory therapist?	5 (3–6)	6 (5–7)	.035
Global understanding	5 (4–6)	6 (5–6)	.23
International education enhanced your interaction with people from other cultures?	5 (4–6)	6 (5–7)	.03
Personal development	5 (4–6)	5 (5–7)	.51
Intellectual development	5 (4–6)	5 (4–6)	.47
Overall score	5 (4–6)	5 (5–7)	.40

Data are shown as median (interquartile range).

and global understanding. According to the graduate RT students, the highest-ranked area of international education impact was personal development. By contrast, intellectual development had the lowest impact score for both groups (Table 2) (see the supplementary materials at <http://www.rcjournal.com>). No significant differences were found between undergraduate and graduate students' perceptions.

Former students perceived a greater impact on their professional RT role, global understanding, and intellectual development than did current students. Under the professional RT role development area, former students significantly believed that their international education had enhanced their practice as professional RTs ($P = .035$) and their cultural interaction ($P = .03$) under global understanding (Table 3).

The duration of international education had a positive association with the students' perception of professional RT role ($r_s = 0.43$, $P = .001$), personal development ($r_s = 0.26$, $P = .047$), and overall survey development scores ($r_s = 0.28$, $P = .036$) (Table 4). The current age and length of education were found to be significantly higher for former students ($P < .001$ and $P = .001$, respectively) (Table 3). No other factors were associated with the perception of development during international education.

Discussion

To our knowledge, this is the first study to examine the perceptions of international education in the United States among a sample of graduate and undergraduate RT students. The findings indicate that international education influenced undergraduate students' perception of their professional RT role and global understanding the most, whereas graduate students believed that

Table 4. Associations Between the Duration of International Education and All Areas of Development

Area of Development	Length of Education, y	P
Professional role	0.43	.001
Global understanding	0.08	.53
Personal development	0.26	.047
Intellectual development	0.17	.19
Overall score	0.28	.036

the greatest impact was on their personal development. In addition, a greater perception of impact is linked to length of time spent abroad. Furthermore, former students had significantly higher perception of enhanced professional practice and cultural interaction during their international education.

Development of Students During International Education

The perception of the positive impact of international education on undergraduate RT students' professional RT role may be due to a couple of reasons. First, the high demand for RT practitioners in the Kingdom of Saudi Arabia^{12,13} means that therapists' clinical roles are highly appreciated in their workplace in terms of their contribution to the quality of health care provided. Second, Saudi graduates of international RT programs are often assumed to have a broad experience and high-quality education which may increase their chance of competing for jobs in the job market.¹⁴ Perception of the respiratory therapist's professional role was the greatest area of development according to U.S. international students in Ecuador.⁸ However, others found that professional role was the area least affected by international education in European countries.^{10,15} These differences in perceptions are natural due to variations in students' experiences, cultural backgrounds, and host countries.

Globalization of health care decreases health care disparities around the world, which is an important aim of international education.^{1,16} Undergraduate students' high perception of global understanding is consistent with the mission of the globalization of health care by providing students with the cultural competency to ensure the effectiveness of health care delivery in a multicultural environment.^{1,16} Thus, exposing students to various health care systems in countries with different cultural, economic, and sociopolitical backgrounds can play an important role in the globalization of health care.^{17,18}

According to the graduate students in this study, their personal development was enhanced by their experiences in international education. Although international students may encounter adjustment difficulties during their time abroad, these difficulties may turn out to be a positive

learning outcome as they adapt to their educational environment.^{7,16} In addition, when students move out of their comfort zones, they are able to build new social relationships.¹⁹ Thus, students can gain more self-confidence and personal growth.²⁰

Learning a new language is a primary motivation for Saudi students to study abroad because English is a primary international language in many local Saudi institutions.²¹ However, language has been highlighted as one of the main facilitators or barriers of social adjustment and acculturation.²¹ Hence, the common low perception of the impact in this study on the students' intellectual development may be explained by their language difficulty. On the other hand, others have reported that students who have participated in international education have better communication skills as a result of learning a second language compared to peers who have not had any international educational experience.²²

Age of International Education Experience

Longer durations of international education were associated with higher perceptions of impact on development. In contrast to our results, previous studies have shown that recent graduates are more influenced by international education than are former graduates.¹⁵ This difference in perceptions in our study could be related to the longer time spent in international education by former graduates than by current students.

Former graduates were significantly older than current students, which may have made former graduates appreciate their educational experience abroad more due to more work experience. Similarly, Zorn et al¹¹ found that the older the age of the participants, the higher their perceptions of their personal development. Moreover, longer durations of international education are associated with higher scores in all 4 survey areas of development. This outcome emphasizes that the duration of international education is a common factor for development among international students.

Limitations

This study is limited by 3 factors that restrict the generalizability of the results to international respiratory therapy education: the use of only 1 destination of educational experience (ie, the United States) and only 1 cultural background (ie, the Kingdom of Saudi Arabia); the small sample size drawn from a large population of respiratory therapists; and the lack of previous research on international RT education.

Future Directions

Given the positive outcomes of international education in this study, and despite its limited generalizability to

international respiratory therapy education overall, we assume that the outcomes of international RT education constitute positive learning experiences for students of different cultural backgrounds and have the potential to advance the RT profession by exposing students to different health care systems, enhancing and broadening their professional roles, fostering their cultural competence, improving their communication skills, and augmenting their personal and intellectual development. However, we recommend the continued evaluation of international RT education with further studies that utilize larger sample sizes, students of multicultural backgrounds, and different international educational destinations.

Conclusions

International education yielded positive perceptions overall among Saudi undergraduate and graduate RT students of their professional, cultural, personal, and intellectual development. Given the importance of international education as an effective element of professional and personal development, as well as for advancing RT education and the profession overall, the value of international experience in RT education should be taken into consideration by RT programs.

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