To Be or Not to Be a Cardiorespiratory Physiotherapist: Factors That Influence Career Choice in a Sample of Canadian Physiotherapists

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ABSTRACT

Purpose: This study explored the factors that influence choosing or not choosing a career in cardiorespiratory physiotherapy (CRP) from the perspective of a group of currently practising, experienced physiotherapists in Canada. **Methods:** A modified Dillman approach was used to distribute a cross-sectional, self-administered, online questionnaire to all eligible members of the cardiorespiratory and orthopaedic divisions of the Canadian Physiotherapy Association. A total of 438 participants—21 CRP and 417 non-CRP therapists—completed the survey. The survey response rate was 9.4%. **Results:** A narrow scope of practice (61.9%) and a lack of interest in CRP subject matter (50.1%) were the most influential factors deterring the respondents from making CRP their career choice. Interest in CRP (81.0%), mentorship (76.2%), access to physical resources (76.2%), and inter-professional practice (71.4%) were the most influential factors in pursuing a career in CRP. **Conclusion:** Increasing the awareness of the scope of practice for CRP, exposure to positive mentors, and rich practice settings are key factors in promoting physiotherapists' specialisation in CRP.

Key Words: cardiorespiratory therapy; career choice; mentors; rehabilitation; survey.

RÉSUMÉ

Objectif: explorer les facteurs qui influent sur le choix ou le rejet d'une carrière en physiothérapie cardiorespiratoire (PCR) d'après le point de vue d'un groupe de physiothérapeutes expérimentés qui exercent déjà au Canada. **Méthodologie :** les chercheurs ont utilisé la méthode Dillman modifiée pour distribuer un questionnaire virtuel autoadministré transversal à tous les membres admissibles de la division cardiorespiratoire et de la division orthopédique de l'Association canadienne de physiothérapie. Au total, 438 participants, soit 21 PCR et 417 non-PCR, ont participé au sondage. Le taux de réponse s'élevait à 9,4 %. **Résultats :** un champ de pratique étroit (61,9 %) et le manque d'intérêt pour la PCR (50,1 %) étaient les facteurs qui dissuadent le plus les répondants à opter pour une carrière en PCR. L'intérêt pour la PCR (81 %), le mentorat (76,2 %), l'accès aux ressources physiques (76,2 %) et la pratique interprofessionnelle (71,4 %) étaient les facteurs qui favorisaient le plus la poursuite d'une carrière en PCR. **Conclusion :** une plus grande sensibilisation au champ de pratique de la PCR, l'exposition à des mentors positifs et des milieux de pratique enrichissants sont des facteurs clés pour inciter les physiothérapeutes à se spécialiser en PCR.

Cardiorespiratory physiotherapy (CRP) has a role in preventing and managing cardiac and pulmonary disease as well as treating the individuals who live with it.^{1–4} Despite the need for CRP care, however, a recent audit of Canadian physiotherapists revealed that only 2.1% of currently practising physiotherapists worked with individuals with cardiopulmonary disease, whereas 40.9% were employed in musculoskeletal practice.⁵ Studies involving physiotherapy students have revealed some of the reasons for a lack of interest in CRP, but the opinions of currently practising physiotherapists have yet to be

explored.⁶ Furthermore, the majority of the research has been performed outside Canada. It is important to investigate currently practising physiotherapists in a Canadian context to understand the factors that influence career choice during their professional development. The objectives of this study were to (1) determine the factors that encourage cardiorespiratory physiotherapists to choose a career in CRP and (2) determine the factors that deter non-cardiorespiratory physiotherapists from pursuing a career in CRP.

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METHODS

Participants and recruitment

We conducted a cross-sectional, online survey with a sample of practising physiotherapists who were members of the Canadian Physiotherapy Association (CPA), in either the cardiorespiratory or the orthopaedic division. Once the study had gained approval from the Research Ethics Board at the University of Toronto, a modified Dillman approach⁷ was used to recruit participants. Invitations to participate in the survey were emailed to division members in February 2014, reminder emails were sent in March 2014, and second reminder emails were sent in April 2014. The survey remained open for 14 weeks, closing in June 2014.

Questionnaire

We adapted a previous questionnaire to investigate the factors that influenced student physiotherapists to pursue a career in CRP.⁶ The questionnaire was divided into three sections: section A requested demographic and clinical information, section B explored the factors that encourage physiotherapists to choose a career in CRP, and section C explored the factors that deter physiotherapists from pursuing a career in CRP. After completing section A, participants were directed to either section B (if they identified as a CRP therapist) or section C (if they identified as anything other than a CRP therapist). (The questionnaire is reproduced in the Appendix.)

Data analysis

Data were collected from the questionnaires using FluidSurveys (Fluidware, Ottawa, ON) and analyzed using IBM SPSS Statistics, version 21.0 (IBM Corporation, Armonk, NY). Descriptive statistics (frequency, percentage, and mean) were used to describe the sample and factors that influenced career choice toward or away from CRP practice. All Likert-scale data (5-point scale) for CRP and non-CRP participants were presented as means and percentages.

RESULTS

Participant characteristics

A total of 4,658 individuals were contacted to participate in this survey. The survey response rate was 9.4% ($n = 438$). In the sample, 21 participants identified as CRP therapists, and 417 identified as non-CRP therapists. Table 1 summarizes the demographic data for the CRP physiotherapists, the non-CRP physiotherapists, and the total sample population.

Factors that encourage physiotherapists to pursue a career in CRP

Interest in CRP practice (42.9% very much, 38.1% somewhat) and mentorship (33.3% very much, 42.9% somewhat) were the most influential personal factors for pursuing a career in CRP. Access to physical resources

(38.1% very much, 38.1% somewhat) and opportunities for inter-professional practice (IPP; 38.1% very much, 33.3% somewhat) were the most influential professional factors for pursuing a career in CRP (see Figure 1a).

Factors that deter physiotherapists from pursuing a career in CRP

Lack of interest in the field (21.3% very much, 28.8% somewhat) was the most influential personal factor that deterred respondents from pursuing a career in CRP. A narrow scope of practice was the most influential professional factor (21.8% very much, 40.1% somewhat) that deterred physiotherapists from pursuing a career in CRP (see Figure 1b).

DISCUSSION

Current survey findings support the results of a previous study of physiotherapy students, which found that a lack of interest in CRP subject matter was a result of a narrow scope of practice.⁶ Although this perception is consistent between students and practising therapists, it may not reflect actual practice. In fact, current CRP practice has a relatively broad scope. With the paradigm shift in priorities that is occurring in health care—to incorporate managing lifestyle-related disorders into health care practice—the role of CRP has extended beyond managing acute and chronic cardiorespiratory disorders to managing additional lifestyle disorders such as type 2 diabetes, hypertension, and obesity.^{6,8} Furthermore, CRP plays an important secondary role in the private practice setting, in which therapists are managing individuals with orthopaedic conditions who have underlying CRP dysfunction (e.g., asthma), prescribing aerobic exercise, or both.⁹ Exposing students to the breadth of this scope in CRP early in their schooling may help to alleviate this misperception.

It was found that the top factors that influenced pursuing a career in CRP were interest in CRP subject matter, mentorship, access to physical resources, and IPP. When asked to indicate what made CRP subject matter interesting, a group of Australian students indicated that it was the opportunity to be a positive role model or mentor.⁶ Positive mentorship experiences have been shown to be highly influential in the professional development of students and their respective career paths.^{10,11}

As for IPP and career satisfaction, a study looking at currently practising occupational therapists in Sweden found that therapists who were members of a team reported higher job satisfaction.¹² Opportunities for inter-professional education and collaboration are essential throughout one's health care career for continuing professional development.¹³

Future directions

Research has suggested that developing advanced-practice roles in CRP might be one way to enhance the attractiveness of this specialty for new graduates.¹⁴ New

Table 1 Participant Characteristics (*n* = 438)

Characteristic	No. (%)		
	CRP physiotherapists (<i>n</i> = 21)	Non-CRP physiotherapists (<i>n</i> = 417)	All physiotherapists (<i>n</i> = 438)
Gender			
Female	18 (85.7)	328 (78.7)	346 (79.0)
Male	3 (14.3)	89 (21.3)	92 (21.0)
Highest level of physiotherapy education			
Bachelor's	8 (38.1)	251 (60.2)	259 (59.1)
Master's	13 (61.9)	166 (39.8)	179 (40.9)
Additional CRP certifications	19 (90.5)	39 (9.4)	58 (13.2)
Years practising			
2–4	4 (19.0)	74 (17.7)	78 (17.8)
5–7	3 (14.3)	50 (12.0)	53 (12.1)
8–10	5 (23.8)	35 (8.4)	40 (9.1)
>10	9 (42.9)	258 (61.9)	267 (61.0)
Geographical area of practice*			
Rural centre	0 (0.0)	40 (9.6)	40 (9.1)
Small centre	0 (0.0)	35 (8.4)	35 (8.0)
Medium centre	1 (4.8)	87 (20.9)	88 (20.1)
Large urban centre	20 (95.2)	255 (61.2)	275 (62.8)
Practice setting			
Acute	17 (81.0)	31 (7.4)	48 (11.0)
Inpatient rehab	0 (0.0)	5 (1.2)	5 (1.1)
Outpatient rehab	3 (14.3)	254 (60.9)	257 (58.7)
Private practice	0 (0.0)	83 (19.9)	83 (18.9)
Other	1 (4.8)	44 (10.6)	45 (10.3)
Area of PT identification			
Cardiorespiratory	21 (100.0)	0 (0.0)	21 (4.8)
Orthopaedic	0 (0.0)	369 (88.5)	369 (84.2)
Neuroscience	0 (0.0)	11 (2.6)	11 (2.5)
Generalist	0 (0.0)	30 (7.2)	30 (6.8)
Other	0 (0.0)	7 (1.7)	7 (1.6)
Majority of caseload			
Cardiorespiratory	18 (85.7)	3 (0.7)	21 (4.8)
Orthopaedic	0 (0.0)	364 (87.3)	364 (83.1)
Neuroscience	0 (0.0)	6 (1.4)	6 (1.4)
Generalist	2 (9.5)	35 (8.4)	37 (8.4)
Other	1 (4.8)	9 (2.2)	10 (2.3)

Note: Percentages may not total 100 because of rounding.

*As identified by population: rural centre, <1,000; small centre, 1,000–29,999; medium centre, 30,000–99,999; large urban centre, >100,000. Some totals are slightly less or more than 100 due to rounding.

CRP = cardiorespiratory physiotherapy; PT = physiotherapy.

legislation requiring physiotherapists to roster for tracheal suctioning and administering a substance by inhalation—two roles predominantly carried out by CRP therapists—may be the first step in this process.¹⁵ Developing recognized continuing education programmes in CRP could also attract therapists to this area of specialization, enabling them to pursue a more structured career path, gain access to influential mentors, and collaborate with peers for ongoing learning.

This study had some limitations that need to be mentioned. First, the sampling pool was limited to CPA members of the orthopaedic and cardiorespiratory divisions, which did not provide an accurate representation of the entire Canadian physiotherapist population. Second, the response rate of CRP therapists (10%) was lower

than anticipated, based on previous literature,^{16–22} and it limited our ability to generalize the findings and opinions of the sample. Although the Dillman method was expected to improve recruitment rates,⁷ it is evident that this approach did not allow us to reach as many respondents from this specialty area as we had anticipated.

Given that CRP is largely hospital based, sampling members only from the cardiorespiratory division of CPA was another limitation of this study. Investigators speculate that because hospital-based therapists have access to peer support and literature through hospital networks, they are often not members of CPA in the same proportion as are community-based therapists, and thus they were not captured in this survey. Finally, choosing a modified Dillman method may have limited

Figure 1 Personal and professional factors that (a) encourage physiotherapists to specialize in CRP ($n = 21$) and (b) deter physiotherapists from pursuing a career in CRP ($n = 417$).

Note: The x-axis denotes the overall percentage of total data in response to Likert data distribution; the y-axis denotes factors that deter specializing in CRP. "Other" indicates additional factors that were not part of the survey but were identified by respondents. "Not applicable" denotes participants who did not indicate or rank any factors beyond those asked in the questionnaire.

CRP = cardiorespiratory therapy.

the number of participants to those who use and regularly respond to the email accounts connected to their CPA membership. Using a postal mail or telephone survey may have provided response rates closer to those described in previous studies.⁷

CONCLUSIONS

Increasing the CRP scope of practice, as well as physiotherapists' knowledge of the available scope, may help to promote greater interest in this subject matter and thus encourage physiotherapists to specialize in CRP. Furthermore, identifying mentorship and practice setting

as key factors in promoting specialisation in CRP would give employers and governing bodies insight into how to better recruit and retain their employees and members. Developing continuing education programmes in the field would better define the CRP career path and outline opportunities for continued professional development.

KEY MESSAGES

What is already known on this topic

Physiotherapists play a role in preventing and managing acute and chronic cardiorespiratory conditions. In

2011, however, only 2.1% of practising physiotherapists in Canada worked in cardiorespiratory settings, whereas 40.9% were employed in orthopaedics. The perceptions of physiotherapy students of careers in cardiorespiratory physiotherapy (CRP) have been investigated; however, the opinions of currently practising physiotherapists have yet to be explored.⁵

What this study adds

This study found that the perceptions of practising physiotherapists match those of physiotherapy students because the main deterring factor was a lack of interest in CRP subject matter and its perceived narrow scope.¹⁵ The main promoting factor for both students and practising physiotherapists was a positive mentorship experience.¹⁶ Future directions include continuing to increase the scope of CRP, and the perception of its scope, as well as ensuring positive mentorship opportunities in resource-rich practice settings to promote specializing in CRP.

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APPENDIX

Questionnaire

Section A: General Information

1. Which gender do you identify with?
  - a) Male
  - b) Female
2. At which post-secondary institution did you complete your **physiotherapy** degree?
  - a) Dalhousie University
  - b) McGill University
  - c) McMaster University
  - d) Queen's University
  - e) University of Alberta
  - f) University of British Columbia
  - g) Université Laval
  - h) University of Manitoba
  - i) Université de Montreal
  - j) University of Ottawa
  - k) University of Saskatchewan
  - l) Université de Sherbrooke
  - m) University of Toronto
  - n) University of Western Ontario
  - o) Other
3. Have you completed any additional certification courses in cardiorespiratory physiotherapy [CRP] post-graduation?
  - a) Yes
  - b) No
 If yes, please list.
4. How many years have you been practising as a physiotherapist?
  - a) Open field to input years practising
5. What is the population of your current location of practice?
  - a) <1,000 (rural centre)
  - b) 1,000–29,999 (small centre)
  - c) 30,000–99,999 (medium centre)
  - d) >100,000 (large urban centre)
6. Level of **physiotherapy** education?
  - a) BScPT
  - b) MScPT
  - c) DPT
  - d) Other, please specify
7. Which of the following areas of practice **best** describes the majority of your caseload over the past 2 years?
  - a) Cardiorespiratory
  - b) Orthopaedic
  - c) Neuroscience
  - d) Generalist
  - e) Other, please specify

8. What area of physiotherapy practice do you identify with **most**?
  - a) Cardiorespiratory
  - b) Orthopaedic
  - c) Neuroscience
  - d) Generalist
  - e) Other, please specify

Section B: Clinicians Working in CRP

The intent of this section is to capture your opinions as a licensed, practising physiotherapist. When answering the following questions, please reflect from the time you became a licensed physiotherapist until present.

9. To what extent did the following factors influence your decision to pursue a career in cardiorespiratory physiotherapy?

Not at all	Not really	Neutral	Somewhat	Very much
1	2	3	4	5

Personal factors

- a) Mentorship/role model
- b) Interest in cardiorespiratory practice
- c) Knowledge of cardiorespiratory physiotherapy practice before entering the physiotherapy programme

Professional factors

- d) Availability of weekend, casual, or flexible employment
- e) Opportunity to work with patients in an acute setting
- f) Job availability
- g) Inter-professional practice
- h) Access to physical resources (e.g., diagnostics)
- i) Other, please specify

10. Rank the 3 most influential factors that contributed to your decision to pursue a career in cardiorespiratory physiotherapy (1 being the most influential).
  - 1.
  - 2.
  - 3.

Section C: Clinicians not Working in CRP

The intent of this section is to capture your opinions as a licensed, practising physiotherapist. When answering the following questions, please reflect from the time you became a licensed physiotherapist until present.

11. To what extent did the following factors influence your decision **not** to pursue a career in cardiorespiratory physiotherapy?

Not at all	Not really	Neutral	Somewhat	Very much
1	2	3	4	5

Personal factors

- a) Negative clinical experiences
- b) Perceived competence in cardiorespiratory settings

- c) Lack of knowledge regarding scope of cardio-respiratory physiotherapy practice

Professional factors

- d) Lack of postgraduate opportunities to specialize, refine, research
- e) Narrow scope: Lack of variation/routine/not interesting
- f) Lack of opportunity for advancement
- g) Lack of control of caseload management

- h) Attitudes of professional colleagues regarding cardiorespiratory physiotherapy
- i) Possibility of working weekend shifts

12. Rank the 3 most influential factors that contributed to your decision not to pursue a career in cardiorespiratory physiotherapy (1 being the most influential).
- 1.
  - 2.
  - 3.