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Factors that Impact Patient Satisfaction and Perceptions in Patient-Physician Interactions in Canada: A Literature Review

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Abstract

Introduction: With a publicly funded health care system, the drivers and practices to measure quality of care and patient satisfaction in Canada are unique. This study attempts to investigate the current factors influencing patient satisfaction and perceptions of patient-physician interactions, specifically in Canada.

Methods: A literature review of the existing studies was conducted by searching through five databases including Scopus, Pubmed, Web of Science, JSTOR, and ProQuest. After the input of a consistent list of keywords into each database, records were screened and assessed for eligibility. The final chosen articles were analyzed for trends and inconsistencies.

Results: Twelve articles were eligible and selected for the final analysis. The factors covered in these articles covered themes such as the digitalization of healthcare, time constraints, patient attributes, and physician attributes. Most studies were qualitative in nature, providing little to no correlational quantitative findings.

Discussion: A physician's attitude towards computer use has been positively correlated with the patient's preference of physicians using computers in the office. Time constraints were not correlated with patient perceptions of quality of care and interactions with their emergency physicians in a statistically significant manner. Physician general communication behaviors such as answering questions and a caring attitude have been positively correlated with patient perceptions of their physician's end-of-life communication skills. All other factors mentioned in the results were only described in qualitative interviews.

Conclusion: Overall, future studies should focus on replicating the existing quantitative studies in different Canadian provinces and across different medical specialties. In addition, qualitatively gathered potential factors should be examined in a more structured and statistically supported manner. The existing factors and those explored in future studies can offer an opportunity for the improvement of quality of care and health outcomes in Canada.

Keywords: patient; satisfaction; experience; perception; clinician; physician; Canada; patient-physician; doctor-patient; interaction; communication; healthcare

Introduction

Across Canada, citizens and permanent residents can receive medically necessary services through a publicly funded health care system called Medicare, with each of the 13 provinces and territories having their own health care insurance plan and definitions for "medically necessary services" [1,2]. While profit and competition between institutions does not drive quality of patient experience, there are distinct provincial agencies and initiatives that monitor and gather reports to ensure quality of care [3,4].The main standardized tool to gather and report on patient experiences in acute care across the country was developed by the Canadian Institute for Health Information (CIHI), a not-for-profit and independent organization funded by federal, provincial, and territorial governments [3,5]. CIHI developed a standardized questionnaire, the Canadian Patient Experiences Survey – Inpatient Care (CPES-IC) and collaborated with several jurisdictions, community researchers, and stakeholders across Canada to then develop the Canadian Patient Experiences Reporting System (CPERS) [5,6].

Research studies over the years display a positive association between patient satisfaction and treatment adherence, compliance, preventative care behaviors, and health outcomes [7-13]. According to the most recent data collected through the CIHI system, 76% of patients across Canada, specifically in the provinces of Ontario, Manitoba, Alberta, New Brunswick, and Nova Scotia, expressed that their communication with doctors was very good on a scale that ranged from poor to very good [14]. This measure of communication with doctors was based on the answers to questions 5-7 in the CPES-IC: Q5. During this hospital stay, how often did doctors treat you with courtesy and respect? Q6. During this hospital stay, how often did doctors listen carefully to you? Q7. During this hospital stay, how often did doctors explain things in a way you could understand? [15]. However, according to a study published in 2019, Canada

ranked 20th out of 33 selected OECD countries in patient satisfaction with healthcare based on data collected in 2018 that addressed 8 variables [16]. According to Ipsos, a market research company that focuses on public opinion, Canadians expressed high satisfaction with their healthcare system; 90% of Canadians agree that their healthcare system needs improvement [17]. A primary research study published in 2013 used data collected between 2006-2008 from Ontario, Canada, and described several characteristics at the individual and organizational level that contributed to variations in patient satisfaction, with most variation being attributable to individual factors [18]. The analysis of the mentioned data via a multilevel regression served as an important starting point to this study's search. Moving beyond this study in the literature, attention was shifted to more recent Canada-wide data and to patient-physician interactions specifically. Overall, the aim of this review is to determine which factors influence patient satisfaction or perceptions in patient-physician interactions within Canada.

Methods

A preliminary search was conducted before officially starting the study selection process for the literature review in order to determine which keywords generated results relevant to the topic of interest. The keywords were narrowed down, and the input into the databases was as follows: "patient satisfaction" AND (clinician OR physician) AND Canada AND "patient-physician" AND interaction. The five databases used were Scopus, Pubmed, Web of Science, JSTOR, and ProQuest. The majority of the databases were accessed through the University of Toronto. The results were filtered to include only studies published between the years 2010-2022. When possible, the search was restricted to peer-reviewed primary research articles, otherwise, the search results were manually screened based on these criteria. Finally, only studies conducted in Canada with the dependent variable directly relevant to patient satisfaction or perception were selected. Details of the study screening process and selection criteria are outlined in Figure 1. A total of 12 distinct studies satisfied the above criteria across all five databases and were selected for analysis. Studies were compared through a thematic approach by highlighting recurrent variables or results.

Results

Out of the final 12 studies included in this review, 4 were conducted in Ontario only, four in Nova Scotia only, one in Alberta only, and one in both Alberta and Ontario. The two remaining studies did not specify the province within Canada in which they were conducted, with one of them being conducted across nine additional countries. All the studies were observational in nature, seven (58.3%) involved face-to-face or over the phone interviews, four (33.3%) involved surveys or questionnaires, and one (8.3%) was a mixed-methods study involving both a questionnaire and an interview portion. The studies explored patient-physician relationships across several medical specialties including nephrology, family medicine, gastroenterology, obstetrics, and palliative care. Twenty-five percent of the studies, all of which involved a survey/questionnaire portion, reported on statistical significance using descriptive and correlational statistical analyses. The rest of the studies either only used descriptive statistics or no statistical analysis at all. Three out of twelve of the studies (25%) explored patient satisfaction in the context of digital healthcare (refer to studies 1,2, and 3 in Table 1). In 50% of the studies, time spent with the physician in appointments was a factor explored directly or brought up in participant discussions (studies 4,5,6,7,8,11). Similarly, 50% of the twelve studies covered aspects of patient attributes such as their gender, age, assertiveness, decision-making preferences, and health status (studies 6,7,9,10,11,12). Finally, 41.7% of the studies explored the effects of physician attributes, such as gender, age, thoroughness, and interpersonal skills, to varying degrees (studies 6,7,8,11,12). For details on the findings from each study, please refer to Table 1. A final note to consider is that two of the papers among the twelve are suspected to be reports on the same study published in different journals and emphasizing different patient quotes and themes (refer to the note at the bottom of Table 1 for details).

Discussion

The majority of the articles finalized for analysis in this review did not present any statistical analysis leading to causational or correlational findings. Despite the lack of variety in study designs, recurring themes were found when comparing the 12 papers across different Canadian provinces and medical specialties. For instance, the digitalization of healthcare through telephone consultations or the use of computers in the office, was mostly perceived positively by patients participating in studies 1, 2 and 3 (please refer to Table 1) [19-21]. The majority of patient participants expressed that telephone consultations were convenient in various aspects [19,21]. Similarly, computer use in the office as a tool to access and record patient information was perceived to have positive effects on various aspects of patient-physician interactions by most patients in study 2 [20]. However, studies 1 and 3 were contradictory with regards to patient perceptions on the effects that telephone consultations had on patient-physician interactions. Both studies 1 and 3 were conducted during the COVID-19 pandemic, hence the need for telephone consultations. However, nephrology patients from study 1 expressed a negative effect on the development of an interpersonal connection with their physicians, while new mothers in study 3 expressed more accessibility and increased emotional support from their physician [19,21]. This suggests that patient satisfaction and perceptions with telephone consultations can vary across health departments and individual patient needs. Nephrology patient responses in study 1 also suggest that the severity of a patient's symptoms and condition contribute to their perceived need for more

hands-on-care. In addition, these results demonstrate the importance of open-ended questions and in-depth discussions with patients to better understand the underlying reasons behind surface level quantitative data and inconsistencies. Interestingly, the only statistically significant finding with regards to the digitalization of healthcare theme was the positive correlation found between a patient's preference for computer use in the office and the physician's "attitude towards computer use" [20]. This suggests an important role for physician attitudes towards new innovations and care strategies on patient perceptions that should be explored further in different contexts.

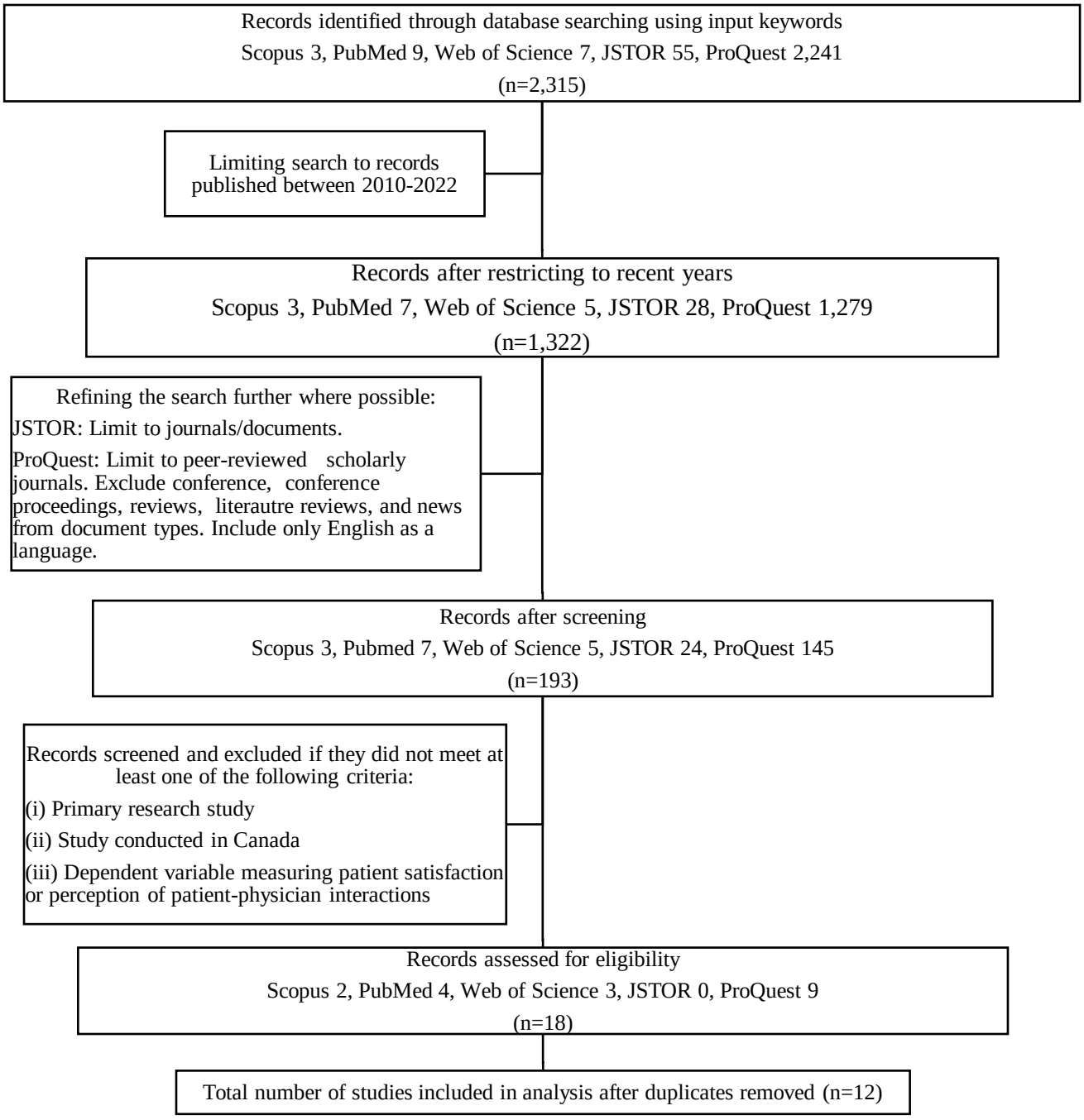

Figure 1. A flowchart demonstrating the process used to select and screen the studies for this review. Figure created with Microsoft Word.

Table 1. A summary of each research study used in the final analysis of this review

No. [ref]	Authors (year)	Title of Paper	Location of study	Medical Specialty	Methodology and Outcome Measured	Main findings [reference]
1	Seung Heyck Lee, Sonya Ramondino, Kerri Gallo, and Louise M. Moist (2022)	A Quantitative and Qualitative Study on Patient and Physician Perceptions of Nephrology Telephone Consultation During COVID-19	London, Ontario, Canada	Nephrology Department	A cross-sectional observational survey study conducted during the COVID-19 pandemic. Patient experiences were measured through self-reported measures regarding five domains of satisfaction including user experience, technical quality, perceived effectiveness on well-being, perceived usefulness, and effect on interaction. Responses were scored on a 5-point Likert scale with the addition of two open ended responses. (n=235)	The majority of patient participants felt that physicians were able to address questions and concerns and participated in decision-making equally well compared with in-person visits. A majority (55%) of participants felt the information given by the nephrologist was as clear and understandable as compared with the in-person clinics. While responses to open ended questions about the advantages to the telephone consultations included more logistical and technical themes such as safety and convenience the reported disadvantages included themes regarding communication and interaction with their physicians such as clarity of information and developing interpersonal connection. [19]
2	Sarah Lelievre, and Karen Schultz (2010)	Does computer use in patient-physician encounters influence patient satisfaction?	Kingston, Ontario, Canada	Family Medicine	Patient participants (n=300) responded to a mailed survey in which the main outcome measured was whether patients preferred computer use by the physician or not and the effect it has on aspects of patient-physician interaction. Fisher exact and χ^2 tests were used to analyze the results.	Most respondents had no preference of whether the computer was or was not used in the office and the majority (88%) were satisfied or very satisfied with their visit. A positive correlation was found between the "doctor's attitude toward computer use" and patient preference ($p = .0012$). The majority of respondents indicated that computer use had positive effects on aspects of patient-physician interaction. The exception to the previous statement was that the majority of participants indicated that "level of distraction of the doctor" and "time spent chatting about nonmedical matters," were unaffected by computer use rather than positively affected. [20]
3	Megan Saad , Sophy Chan, Lisa Nguyen, Siddhartha Srivastava and Ramana Appireddy (2021)	Patient perceptions of the benefits and barriers of virtual postnatal care: a qualitative study	Kingston, Ontario, Canada	Obstetric Medicine	A case study approach in which new mothers were recruited as participants (n=15) and semi-structured interviews were conducted over the telephone (due to the COVID-19 pandemic). Participants were asked about their experiences with postnatal virtual care. Responses were analyzed based on recurring themes.	Along with the technical aspects of convenience in terms of time, scheduling, and costs, participants perceived that virtual care enabled easier access to emotional support from their physician. While the majority of participants did not experience technical difficulties, some stated that these difficulties could serve as a barrier for other patients especially those living in rural areas. [21]
4	Kasia Lenz, Andrew McRae, Dongmei Wang, Benjamin Higgins, Grant Innes, Timothy Cook, and Eddy Lang (2017)	Slow or swift, your patients' experience won't drift: absence of correlation between physician productivity and the patient experience	Calgary, Alberta, Canada	Emergency Department	A retrospective observational study that determines the relation between patient experience and emergency physician (EP) productivity by administering the HQCA ED Patient Experience Survey. The outcome measured of EP productivity refers to the average number of patients seen per hour. Following data collection, several statistical analysis methods were used including a post-hoc and multivariable linear regression. (n=3,794)	No statistically significant correlation was found between patient satisfaction and emergency physician productivity, suggesting that the amount of time patients spend with the EP does not solely determine or change how patients perceive the quality of the interaction. [22]
5	David T Rubin, Ailsa Hart, Remo Panaccione, Alessandro Armuzzi, Ulla Suvanto, J Jasper Deuring, John Woolcott, Joseph C Cappelleri, Kathy Steinberg, Laura Wingate, and Stefan Schreiber (2021)	Ulcerative Colitis Narrative Global Survey Findings: Communication Gaps and Agreements Between Patients and Physicians	Across 10 countries: Australia, Canada, Finland, France, Germany, Italy, Japan, Spain, the United Kingdom, and the United States	Gastroenterology	Eligible patients diagnosed with ulcerative colitis were recruited from across 10 countries to conduct a survey. Questions varied in nature (numeric, level of agreement, option selection etc.) and responses to the survey were analyzed by country and globally.	In Canada, 87% of patients were very or somewhat satisfied with patient-physician communication regarding their ulcerative colitis (UC), yet 60% of patients wished they knew where to find information and support when first diagnosed. 69% of Canadian respondents agreed that they work with their physicians to set goals for managing their condition. 53% of Canadian respondents wish for greater discussion about goals for managing UC and 52% wished they had more time at appointments. [23]
6	Laura Hurd Clarke , Erica V. Bennett ,and Alexandra Korotchenko (2014)	Negotiating Vulnerabilities: How Older Adults with Multiple Chronic Conditions Interact with Physicians	Canada	Family medicine	Individuals older than 70 years with multiple chronic conditions were recruited as participants. Researchers conducted in-person semi-structured interviews with the participants (n=35, 16 men and 19 women). Participants were asked about their perceptions and experiences with their family physicians in relation to their multiple health issues. A thematic analysis was conducted following the interview transcription.	Over 50% of participants stressed the importance of thoroughness from their family physician (GP) and valued interpersonal skills. Participants were divided on decision-making preferences, with some patients preferring to defer decisions to their GP while others preferred a more collaborative approach, the men in the study tending to favor the former while the women, the latter. This study also reveals that having multiple chronic conditions raises concerns about the time constraints and affects what they choose to communicate to their GP. Almost half the women in the study felt that ageism was a factor affecting their interaction with their GP. [24]
7*	Hazel MacRae (2016)	"It's my body, my future": Older women's views of their interactions with physicians	Nova Scotia, Canada	Not explicitly specified	A qualitative study in which participants (n=30) were women ranging in age from 55-85 years. The researcher conducted face-to-face interviews with each of the participants. While there was an interview guide to help focus the conversation when necessary, most questions were open ended.	Participants in the study reported overall high satisfaction with the quality of interaction with their physician. Satisfaction with women physicians was slightly higher. Despite the overall high satisfaction, when given the opportunity to reflect, participants expressed physician shortcomings. Shortcomings were related to time, accessibility, and empathy. Reflections indicate that stories about other doctors, rationalizations and justifications, and assertiveness can influence patient satisfaction. [25]
8	Anna R Gagliardi, Claire Kim, and Bismah Jameel (2020)	Physician behaviours that optimize patient-centred care: Focus groups with migrant women	Toronto, Ontario, Canada	Not explicitly specified	A qualitative study in which researchers recruited 23 migrant women aged 25-78 and conducted interviews through in-person focus groups. The main outcome measured was whether the participants experienced patient-centered care (PCC) and which PCC domains were met or not met.	In their responses, participants emphasized the "exchange information" domain (one of the six PCC domains). The women in the study expressed that their physicians lacked behaviours under this domain and complained about physicians rushing through discussions, not asking enough questions, dismissing concerns, and not communicating clearly at times. Many of the comments circled back to a recurring theme of not enough time spent to thoroughly communicate and understand the patients. Participants identified implications to these behaviors including poor patient experience, and a decreased likelihood of articulating further concerns and seeking care in the future. [26]
9	Hazel MacRae (2018)	'My opinion is that doctors prefer younger people': older women, physicians and ageism	Nova Scotia, Canada	Not explicitly specified	36 women aged 55 years and older were recruited to participate in face-to-face interviews. Interview questions were open-ended for the most part, but an interview guide ensured that certain topics were covered. Participants were asked about ageism, sexism, and how they perceived these issues could affect patient-physician interactions. Interview transcripts were then analyzed for connectedness and contradictions.	80% of participants in the study believed that a patient's age influences patient-physician interaction. Many women in the study also believed that older people are likely to be patronized or dismissed by their physician. However, despite these perspectives, 78% of participants did not think ageism influenced their own interactions with their physician. A minority of women even expressed positive physician behaviors during their interactions due to their age such as increased patience. Less participants were aware about sexism and only 16.6% of women in the study thought that patient gender influences physician treatment of a patient. [27]
10	Hazel MacRae (2022)	'I've never given it a thought': older men's experiences with and perceptions of ageism during interactions with physicians	Nova Scotia, Canada	Not explicitly specified	Face-to-face interviews were conducted with 21 men ranging in age from 55 to 96 years. Questions were mostly open-ended giving the participants a chance to respond in their own words, however, there was an interview guide used to focus the conversation when necessary to cover certain topics including awareness, experiences, and concerns about ageism.	The vast majority of participants did not believe that their older age influenced their interactions with their physician and were not concerned about it. However, two patients explained that when describing their symptoms, it was followed by reminders from their physician about their old age or dismissal of their concerns because of their age. [28]
11*	Hazel MacRae (2015)	Not Too Old, Not Too Young: Older Women's Perceptions of Physicians	Nova Scotia, Canada	Not explicitly specified	The researcher recruited 30 older women aged 55 years and older and conducted face-to-face in-depth interviews. Most of the interview questions were open-ended to enable personal expression of what they found significant. However, an interview guide was used when necessary to ensure the conversation was focused on experiences and perceptions about patient-physician interactions. The author then analyzed, compared, and categorized the date.	A prominent theme the women revealed in describing an ideal patient-physician relationship was the physician's personal attributes and behaviours including how caring, friendly, and empathetic they were. 43.3% of participants indicated that they preferred a female physician, some explaining that they were comfortable conversing about certain health issues while others expressed that they perceived female physicians as more caring and better listeners. All but one woman were assertive in wanting to be involved in their medical care, with some suggesting it affected patient satisfaction. Comments were also made on the physician's age, demonstrating a slight preference for younger physicians. [29]
12	Amane Abdul-Razzak, Diana Sherifali, John You, Jessica Simon, and Kevin Brazil (2015)	'Talk to me': a mixed methods study on preferred physician behaviours during end-of-life communication from the patient perspective	Hamilton, Ontario, Canada and Calgary, Alberta, Canada	Palliative care	A mixed methods study in which seriously ill inpatients 55 years and older were recruited (n=132) to complete a quality of communication questionnaire (QOC) and willing participants (n=16) also participated in semi-structured interviews. The QOC tool allows participants to self-report on physician behaviors and overall end-of-life (EOL) communication skill. Interviews were used to explore more in-depth patient perspectives.	Physician behaviors of using words patients understand, eye contact, answering questions, listening, caring, and being attentive were positively correlated with the patient perception of overall physician EOL communication skill level (GRS) ($p<0.001$). In the qualitative portion of the study, patient emphasized themes similar to items 3 and 5 in the QOC (answering questions and caring respectively). The patients perceived that a sense of connectedness with their physician, and a caring attitude influence patient satisfaction with EOL communication. Patient and physician readiness to discuss EOL-related issues was also perceived as an influential factor of physician behaviors and patient-physician communication. [30]

*Note: While unconfirmed, these papers are likely different versions of the same study. The papers are published in different journals; however, the participants are likely the same. The two papers highlight slightly different aspects of the results and interviews. Study 7 was published in the Journal of Women & Aging in 2016, whereas study 11 was published in the Canadian Journal of Aging in 2015.

Another common concern that emerged across the responses in the studies was the appointment time constraints [22-26, 29]. According to study 4 by Kasia Lenz et al., the lack of statistical significance in the correlation between patient satisfaction and the number of patients seen by emergency physicians (Eps) per work hour (productivity) suggests that productivity is not a sole influencer of patients' perception on patient-EP interactions [22]. While not statistically analyzed, many patients participating in studies 5, 6, 7, and 8 across other medical departments such as family medicine and gastroenterology either wished they had more time during appointments or were concerned about time constraints affecting what they shared with their physician [23-26]. Older patients with multiple morbidities in study 6 elaborated that they had to choose between different symptoms to focus on and strategize before patient-physician interactions [24]. On the other hand, some migrant women recruited in study 8 described the insufficient amount of time given during their interactions with their physicians as potentially influential of how much they were able to express to their physician, how likely they were to visit again, and overall patient experience [26]. The perception of insufficient time in study 8 was sometimes linked to language barriers and on other occasions linked to the physician's general rushed behavior according to in-depth participant responses [26]. These findings combined can demonstrate that while time constraints can be of concern to patients in Canada across medical specialities as described in the qualitative data, there is a lack of quantitative data that supports this statement. In addition, the in-depth qualitative investigations of time constraint concerns suggest that it plays a more significant role in a patient's satisfaction based on individual patient attributes rather than being a societal or overarching preference.

As presented in the results, patient attributes such as gender, age, assertiveness, and decision-making preferences were indeed perceived as topics of concern or influence on patient-physician interactions [24-25,27-30]. Respondents in the 12 studies were less likely to comment on the effect of their own gender compared to the effect of the physician gender. Hazel MacRae reports in study 9 that only 16.6% of women participating in the study perceived that patient gender was influential of how a physician treated them [27]. This was the only study that mentioned patient gender and sexism as a factor within the context of patient-physician interactions. The main limitations of this study was the lack of diversity in participants who were all older women of European descent residing in Nova Scotia, as well as the lack of statistical analysis. Therefore, sexism and patient gender are not strongly supported as factors influencing patient-physician interactions and patient perceptions in Canada. Findings on the effects of other patient attributes on patient satisfaction and perceptions demonstrated inconsistencies. While the majority of men and women in studies 9 and 10 conducted by Hazel MacRae felt that ageism was not a concern in their personal interactions with their physicians, 80% of women in study 9 perceived patient age as a factor of influence in general patient-physician interactions [27,28]. Adding to this inconsistency, study 6 by Laura Clarke et al. report that almost half of the women participants felt that ageism affected their patient-physician interactions [24]. Interestingly, participants in Clarke et al.'s study were all older than 70 years old, compared to those in MacRae's study who were over 55 years old, the majority of whom were in the range between 55-74 years old. This suggests that younger, older individuals (55-74 years old) may perceive their physician's behaviors differently than older, older individuals (75+ years old) do. As some younger, older patients stated in MacRae's studies, while they did not currently experience different interactions with their physicians due to their older age, they expressed fear that it may occur when they were even older or described dismissive or ageist physician behaviours towards their own parents [27]. Across all three studies that covered patient age mentioned above, the number of participants *n* (older men and women) ranged between 21-36, and while participants were diverse in educational and socio-economic backgrounds, the vast majority were of European descent, demonstrating the need to replicate and expand these studies. In addition, these findings suggest the sensitivity and importance of specifying patient participant age categories. Future studies must explore different quantitative and statistically significant data collection methods to offer conclusive evidence on the effects of patient gender and age on patient-physician interactions and patient perceptions.

Aside from patient gender and age, older participants expressed varying levels of how involved they preferred to be in their health care decisions, with older men leaning towards a more traditional approach of deferring decisions to their family physicians, and women preferring to be more involved [24,29]. Comments were made on how these decision-making preferences can play a role in patient perceptions of their own interactions with their physicians [24,29]. For instance, some women in Hazel MacRae's study indicated that having a say and being able to negotiate during their patient-physician interactions was a reason for their satisfaction and choice of physician [29]. On the other hand, there were participants across both studies 6 and 11 who were more satisfied with little input and deferring medical decisions to their physicians [24,29]. The above comments and findings on decision-making preferences are limited in source and type to suggestions made in open-ended interviews from two studies focused on older individuals. However, these comments suggest that rather than individual patient preferences, the more important factor potentially influencing patient satisfaction is whether the patient's decision-making preference aligns with the physician's style of decision-making and approach to treatment plans. Other factors attributed to the patient participants themselves included the level of assertiveness patients presented, language barriers, and individual patient readiness to discuss certain topics such as end-of-life related issues [25-26,30].

These factors were mentioned briefly, hence, must be further investigated in a more structured manner to determine their level of influence on patient satisfaction or perception trends.

Finally, physician attributes were also covered in several studies and explored as potential factors impacting patient-physician interactions [24-26,29,30]. In the mixed-methods study conducted by Amane Abdul-Razzak et al., higher patient perceptions of the presence of general communication behaviors exhibited by physicians (understandable words, eye contact, answering questions, listening, caring, and being attentive) were positively correlated with how skilled patients thought their physicians were at overall end-of-life communication in a statistically significant manner [30]. Qualitative data from patient interviews in the same study support and emphasize two of these behaviors: answering questions, and caring [3]. Despite the qualitative designs and lack of causational or correlational findings, patients in studies 6, 7, and 11 also suggested that a physician's thoroughness, empathy, interpersonal skills, and caring attitude could positively influence the patient-physician relationship [24-25,29]. There were other factors expressed in patient interviews such as physician gender and physician age. For instance, 43.3% of older women in study 11 expressed that they preferred female physicians due to either their increased comfort discussing certain health concerns or perceiving female doctors as more attentive [29]. In the same study, 46.7% of participating women agreed that the age of their doctor mattered to them, the majority of whom preferred "more up to date" younger physicians that were "not too old". However, these factors appeared briefly in a single study and their effects on patient-physician interactions or patient perceptions were not clearly stated or strongly supported.

Despite the attempt to analyze a comprehensive list of relevant studies by applying a structured methodology to the study selection process, there are potential limitations to the conclusions of this review. While this study was initially designed as a systematic review, due to time constraints as well as the nature and quantity of the studies found, a literature review classification was deemed more suitable. As such, this study lacks independent reviewers and a specific quality assessment tool. This presents a decreased capacity to eliminate bias and random errors. While this study is partially replicable, future reviews can provide more accuracy by securing multiple perspectives, screenings, and data extractions by ensuring the application of all components of a systematic review.

Conclusions

After searching five databases to answer the question on factors affecting patient satisfaction and perceptions of patient-physician interactions in Canada, this review assessed 12 relevant journal articles which were mostly qualitative in nature. From the studies which were quantitative in nature and provided statistically significant results, it is suggested that a physician's attitude towards computer use in the office influences patient preference of physician's use of computers as a technological tool [20]. Specifically, the more positive of an attitude patient perceived their doctors to have towards computer use, the more likely they were to prefer computer use in the office during their interactions [20]. In addition, findings suggest that a physician's caring and attentive attitude is positively correlated with patients' perceptions of how skilled they believe their physicians are at end-of-life communication [30]. While other findings conducted in different medical departments qualitatively suggest a similar trend between a physician's caring, thorough, and empathetic attitude, it is recommended that future studies utilize the quantitative study design and investigate this correlation in a structured and more conclusive manner [24-25,29]. Time constraints were also a common theme among the 12 studies, with the only quantitative data suggesting that time constraints do not solely impact patient satisfaction and perceptions of their interactions with emergency physicians [22]. Once again, future studies should focus on replicating this study across different health specialties to enable either a generalization of this trend or a distinction in the implications in different medical departments. The alternative of virtual consultations over the phone was a factor explored due to recent COVID-19 safety measures. Interestingly, patient perceptions of the benefits and disadvantages of telephone consultations on patient-physician interactions differed depending on which medical department patients were admitted in [19,21]. As these results were not statistically analyzed and were mostly self-reported and qualitative in nature, further investigation is recommended. Other qualitative patient responses suggest that patient attributes (gender, age, assertiveness, readiness to discuss) and physician attributes (gender, age, readiness to discuss) are other potential factors impacting patient perceptions of patient-physician interactions that require more investigation in future studies. For instance, some older women expressed that they preferred communicating with female physicians [29]. Additionally, elderly women were more likely than older male and female adults to perceive ageism during their own patient-physician interactions [24,27-28]. However, these were mostly verbal responses expressed in open-ended discussions that did not offer specific trends or statistically supported correlations to patient satisfaction. In addition to focusing on individual patient or physician attributes, it would be interesting to investigate the effect of alignment or compatibility between patient and physician preferences on patient satisfaction with their quality of care and health outcomes. Solidifying the effect of the factors mentioned above and others not covered in Canadian studies yet will contribute to the knowledge in the health care field and present an opportunity and guide to the improvement of patient satisfaction which can ultimately benefit health outcomes. This literature review offers a valuable summary of the current data specific to the Canadian health environment and a starting point for future investigations on patient satisfaction and perceptions of quality of care.

List of Abbreviations Used
CIHI: Canadian Institute for Health Information
CPES-IC: Canadian Patient Experiences Survey – Inpatient Care
CPERS: Canadian Patient Experiences Reporting System
OECD: Organization for Economic Co-operation and Development
EP: emergency physician
HQCA: Health Quality Council of Alberta
ED: emergency department
UC: ulcerative colitis
GP: general practitioner
PCC: patient-centered care
EOL: end-of-life
QOC: quality of communication questionnaire/tool

Conflicts of Interest
The author declares that they have no conflict of interests.

Ethics Approval and/or Participant Consent
This study did not require ethics approval or participant consent because it was designed as a literature review that relied solely on existing research publications.

Authors' Contributions
MA: contributed to the design of the study, collection of the research articles, extraction of the results, analysis of the results, drafting and revision of the paper, and gave final approval of the version to be published.

Acknowledgements
I would like to acknowledge my mentor Jala Rizq and express my deep appreciation for her valuable feedback, guidance, and support throughout the entire process of producing this paper.

Funding
This study was not funded.

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Article Information
Managing Editor: Jeremy Y. Ng
Peer Reviewers: Jala Rizq, Katelyn Sushko
Article Dates: Received Aug 25 22; Accepted Jan 10 23; Published Feb 20 23

Citation
Please cite this article as follows:
Aoude M. Factors That impact patient satisfaction and perceptions in patient-physician interactions in Canada: A literature review. URNCST Journal. 2023 Feb 20: 7(2). https://urncst.com/index.php/urncst/article/view/430
DOI Link: https://doi.org/10.26685/urncst.430