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ORIGINAL ARTICLE

Organizational culture, authentic leadership and quality improvement in Canadian healthcare facilities

Cultura organizacional, liderança autêntica e melhoria da qualidade em instituições de saúde canadenses

Cultura organizacional, liderazgo auténtico y mejorías en la calidade de instituciones de salud canadienses

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ABSTRACT

Objective: To investigate relationships among flexible and hierarchical organizational cultures, quality improvement domains, and authentic leadership competencies in Canadian healthcare facilities. **Method:** Observational cross-sectional study conducted in Alberta, Canada. Nurse managers (n=226) completed a survey including validated measures of organizational culture, quality improvement and authentic leadership. Data were analyzed using descriptive statistics, Spearman's correlation coefficient and Chi-squared test ($p<0.05$). **Results:** Quality improvement through accreditation is related to organizational culture and authentic leadership. We saw a propensity for participants who reported working in a more flexible culture also reported greater quality improvement implementation and authentic leadership practices. **Conclusion:** This study assessed and reported the relationships between flexible organizational cultures, quality improvement through the accreditation process, and authentic leadership practices of healthcare managers. Flexible organizational cultures influence the adoption of authentic leadership, participatory management model and also improves quality.

Descriptors: Healthcare Quality Assessment; Leadership; Accreditation; Organizational Culture; Nursing.

RESUMO

Objetivo: Investigar as relações entre culturas organizacionais flexíveis e hierárquicas, domínios de melhoria da qualidade e competências da liderança autêntica em instituições de saúde canadenses. **Método:** Estudo observacional transversal realizado em Alberta, Canadá. Os gerentes de enfermagem (n=226) responderam a um questionário validado sobre cultura organizacional, melhoria da qualidade e liderança autêntica. Os dados foram analisados por estatística descritiva, coeficiente de correlação de Spearman e teste Qui-quadrado ($p<0,05$). **Resultados:** A melhoria da qualidade alcançada por meio da acreditação está relacionada à cultura organizacional adotada e à liderança autêntica. Participantes que relataram trabalhar em uma cultura flexível, também relataram maior investimento na melhoria da qualidade e práticas de liderança autênticas. **Conclusão:** Este estudo avaliou as relações entre culturas organizacionais flexíveis, melhoria da qualidade por meio da acreditação e práticas autênticas de liderança dos gerentes de enfermagem. Culturas organizacionais flexíveis influenciam a adoção da liderança autêntica, modelo de gestão participativo e melhoria da qualidade.

Descritores: Garantia da Qualidade dos Cuidados de Saúde; Liderança; Acreditação; Cultura Organizacional; Enfermagem.

RESUMEN

Objetivo: investigar las relaciones entre culturas organizacionales flexibles y jerárquicas, los dominios de mejoría de calidad, y las competencias del liderazgo auténtico en las instituciones canadienses de cuidado a la salud. **Método:** estudio observacional trasversal conducido en Alberta, Canadá. Enfermeras administradoras (n=226) respondieron a una encuesta incluyendo medidas validadas de cultura organizacional, mejoría de calidad, y liderazgo auténtico. Se analizó a los datos por medio de estadística descriptiva, de la correlación de Spearman, y de la prueba de ji-cuadrado ($p<0,05$). **Resultados:** la mejoría de la calidad por medio de acreditación está relacionada a la cultura organizacional y al liderazgo auténtico. Hemos visto una tendencia según la cual los participantes que dijeron trabajar en una cultura más flexible también expresaron que hubo una implantación mayor de mejorías y de prácticas de liderazgo auténtico. **Conclusión:** ese estudio verificó y relató las relaciones entre culturas organizacionales flexibles, mejorías de calidad por medio de procesos de acreditación y prácticas de liderazgo auténtico de administradoras de atención a la salud. Culturas organizacionales flexibles influencian en la adopción de un liderazgo auténtico, de un modelo de administración participativo, además de mejoraren la calidad.

Descriptores: Garantía de la Calidad de Atención de Salud; Liderazgo; Acreditación; Cultura Organizacional; Enfermería.

INTRODUCTION

The improvement of hospital quality has been widely emphasized by healthcare systems, which seek to offer quality care to patients. Therefore, the implementation of management mechanisms aimed at improving quality are essential for the health sector future.

Worldwide, health services have adopted the accreditation system as a tool for quality improvement because the goals of the program include assessment of safety, lower mortality rates, systematic use of quality tools, development of a culture of quality through the participation of professionals in the process, patient satisfaction, attainment of external recognition[1](Falstie-Jensen et al., 2015; Grepperud, 2015). Despite the significant growth of accreditation programs, knowing whether and how these programs have affected the quality of healthcare services has been a challenge for certification agencies, governments, society, and healthcare services[2](Alkhenizan & Shaw, 2011). Effective organizational capabilities, such as leadership, management model and culture, are essential components of quality improvement in healthcare facilities and work as the catalysts for accreditation programs[3].

The existing organizational culture and management systems that emphasize formal and vertical structures no longer respond to the expectations of managers, workers, and especially patients[4]. Thus, the emergence of contemporary structures and management models have brought about a radical change in health work organizations. The consolidation of participative and democratic processes that stimulate team integration refers to a more cooperative and integrated work space, highlighting communication, trust, participation and autonomy in the process of choosing their leaders, demonstrating a greater investment in social capital of organizations[5].

More participatory management methods that stimulate discussion environment and diagnosis of the organizational situation are needed[6], so research on participatory models is carried out in the development of leadership. Studies have shown that leadership programs such as learning, mentoring, and coaching enhance individuals in developing leadership skills[7-8]. Thus, participatory models can help leaders to socially construct a new shared vision within health institutions[9].

Therefore, organizational culture and the management model adopted by the institution are strongly related, which means that more traditional management models lead to hierarchical control and organizational values of control, stiff competition and individualism[10].

OBJECTIVE

To investigate relationships among flexible and hierarchical organizational cultures, quality improvement domains, and authentic leadership competencies in Canadian healthcare facilities.

METHOD

Ethical aspects

The recruitment of nurse managers was done through the College and Association of Registered Nurses of Alberta (CARNA). To preserve the participants' anonymity, CARNA sent a recruitment letter explaining the details of the study, the Consent Form and the questionnaire. Ethical approval was provided by the Health Research Ethics Board of the University of Alberta (Study ID Pro00038738).

Design, location and period

This is a cross-sectional observational study with a quantitative data approach, which measures authentic leadership, perceived implementation of quality improvement (decision-making, safety, human resources, strategic quality planning, quality results, and customer satisfaction), and organizational culture in Canadian healthcare facilities, from the perspective of nurse managers from Alberta, Canada. Data collection was performed between July and September 2015.

Population and sample; inclusion and exclusion criteria

All nurses occupying manager positions (such as directors, patient care managers, unit managers, coordinators) working in healthcare facilities in Alberta who had consented to be contacted for research by CARNA (n=1606) were invited to participate in this study. These nurse managers worked at Alberta Health Services (AHS), which is the first and largest province-wide, fully-integrated health system that delivers health services to over four million people living in Alberta[11].Those in temporary positions or who worked for less than year were excluded.

Study protocol

To test the theoretical assumptions, a questionnaire measuring organizational culture, leadership, quality improvement programs, and management model was used. To measure quality improvement and organizational culture, instrument "Quality Improvement Implementation Survey II" (QIIS)[12](Shortell et al., 1995) was used; and to measure authentic leadership, both versions (Self-assessed and Observer-assessed) of the "Authentic Leadership Questionnaire" (ALQ) were used[13]were used (Walumbwa et al., 2007).

Quality Improvement Implementation Survey II (QIIS) is composed of 78 items divided into two parts. The first part refers to the organizational culture, consisting of 20 items in which the respondents must distribute 100 points among four organizational cultures (constant sum scale), depending on the relevance of the definitions. This led to four types of organizational culture - group culture (type A), developmental culture (type B), rational culture (type C), and hierarchical culture (type D); of these, type A is the most flexible and type D the least flexibility. The second part of the QIIS is related to measurement of the perception of quality improvement implementation processes, being constituted by 58 items and analyzed by a Likert scale. The QIIS subscales are: information and analysis, strategic quality planning, human resource utilization, quality management, quality results, customer satisfaction, and leadership for quality improvement. Cronbach Alpha for these subscales ranged between 0.93 to 0.79 in the original study[12].

Authentic Leadership Questionnaire (ALQ) is designed to measure components that comprise Authentic Leadership, using a 5-point frequency scale where 1=Not at all, to 5=Frequently, if not always. The ALQ subscales address the following questions: Self-Awareness: (how a person gives meaning to the world and how that process affects how she/he sees herself/himself over time); Transparency (the degree to which the leader reinforces a level of openness with others that provides them the opportunity to be forthcoming with their ideas, challenges, and opinions); Ethical/Moral (the degree to which the leader sets a high standard for moral and ethical conduct); and Balanced processing (the degree to which the leader solicits sufficient opinions and viewpoints prior to making important decisions)(Walumbwa et al., 2007). Cronbach Alpha for these scales ranged between 0.92 to 0.72 in the original study[13]. Both versions of the ALQ described were answered by nurse managers: self-assessed version, where they evaluated themselves as authentic leaders, and observer-assessed version, where they evaluated their leaders.

Last, several questions, including demographic ones, were included in the instrument and tested for face and content validity[14], in order to verify the management model. These questions were related to the adoption of a participatory/decentralized management model; the level of satisfaction with the current management model; involvement in the participatory management model; implementation of an accreditation program; participant involvement in the accreditation program; respondent's membership in quality council; and the level of satisfaction with the facility's accreditation processes. Participatory management models focus on decentralization of power and achievement of consensus, sharing decisions among staff, patients and other stakeholders of the organization, so that leadership is flexible and autonomy is shared by all involved[4].

The ALQ used a Likert-type scale between 0 and 4 (five levels); while the QIIS used a Likert-type scale from 1=Strongly Disagree to 5=Strongly Agree and missing data were indicated with blank or 9. The five levels scale from ALQ was adjusted from the range of 0-4 to the range of 1-5, similarly to the scale of QIIS. All data were cleaned and reviewed for missing data. Some participants chose 9, which means "don't know", or were left blank. As a result, an exclusion criterion was added. Cases with more than 10% missing data were identified and the amount of missing data per respondent were noted. Cases where respondents had five or more missing data (9 or blank) in these QIIS questions were excluded from the sample.

Analysis of results and statistics

Data analysis was performed based on descriptive and inferential statistics. The seven dimensions of the QIIS and the eight dimensions of ALQ were calculated by the aggregation of their respective questions by means of medians' calculation. These aggregated values were used to calculate their correlations with demographic data such as: participatory management model, involvement in the participatory management model, level of satisfaction with current management model, and level of satisfaction with accreditation process, using Spearman's correlation coefficient with significance of $p<0.05$. Internal consistency reliability was measured using Cronbach's alpha.

To examine whether differences in leadership and quality improvement scores varied by flexible or rigid organizational cultures, we divided the sample into two groups. We grouped data from participants according to their assessment of culture as more flexible (A and B) and more rigid (C and D). We calculated the frequency for each level of the five level scales of both QIIS and ALQ dimensions and checked the independence among the two groups using Chi-squared test for independence with significance of $p<0.05$.

RESULTS

All participants were nurses occupying various managerial positions in the AHS, in Alberta, Canada. Of 1.606 invited participants, 255 (15.9%) agreed to participate of the study. Twenty-four questionnaires were excluded from the sample because respondents had five or more missing data (9 or blank) in the QIIS, and 226 (14.1%) usable questionnaires constituted the final sample. Most of the 226 participants worked in hospitals (58.8%), in medium or large facilities (67.7%), with more than 150 beds. Only 31.5% of respondents had some kind of post-graduate education, mostly (24.8%) Master degrees. The sample was largely (91.6%) composed of females (Table 1).

Table 1 – Characteristics of the sample (n = 226), Alberta, Canada, 2015

Variables	n	%
Gender		
Male	15	6.6
Female	207	91.6
Missing	4	1.8
Position at the institution		
Patient care manager	86	38.1
Unit manager	68	30.1
Director	47	20.8
Coordinator	12	5.3
Other	11	4.8
Missing	2	0.9
Education degree		
Undergraduate Nursing	148	65.4
MBA	11	4.9
Master	56	24.8
PhD	2	0.9
Other	2	0.9
Missing	7	3.1
Type of institution		
Public	195	86.3
Private	29	12.8
Missing	2	0.9
Bed size		
49 beds or less	37	16.4
50-149 beds	30	13.3
150-499 beds	79	35.0
49 beds or less and 50-149 beds	1	0.4
More than 500 beds	62	27.4
Missing	17	7.5
Type of facility		
General Hospital	75	33.2
Specialized Hospital	17	7.5
Teaching Hospital	41	18.1
Long Term Care	44	19.5
Community health center/primary care/home care	26	11.5
Administrative healthcare institutions	5	2.2
More than one facility	14	6.2
Other types of facilities	3	1.4
Missing	1	0.4

The mean age of respondents was 52.5 years (± 8.0), ranging from 30 to 71 years, and the average professional experience was 28.2 years (± 10.7), with an average time in their respective institutions of 15.6 years (± 10.3), including 8.4 (± 6.7) years in a management position.

The majority (91.6%) of healthcare facilities were accredited, usually with Accreditation Canada (89.8%) and 60.2% of the respondents were satisfied or very satisfied with the program. Although 39.8% of them were members of the quality council, just 31.0% were totally involved with the accreditation process. Half of the respondents worked in institutions that had adopted or were in the process of adopting participatory management, and 36.3% of the respondents were partially or totally involved in the process, with more than 50% satisfied or very satisfied with the model. Respondents from health facilities with a group culture were most frequent (45.5%), followed by those in rational culture facilities (37.2%). Based on the categorization of rigid or flexible cultures: 49.5% of participants worked in flexible cultures (A and B), and 50.5% of participants worked in rigid cultures (C and D) (Table 2).

In the preliminary descriptive, the medians of all quality improvement domains (QIIS) were "neither disagree or agree". However, analysis of the authentic leadership (ALQ) showed that the self-assessed scores were higher (fairly often) when compared to observer assessed (sometimes to fairly often). People who work in institutions with more flexible cultures scored higher on all dimensions of quality. Contrary, in self-assessed leadership, people evaluate themselves in a positive way, regardless of the quality domain. But they evaluate their leaders (observer-assessed version) better when they belong to an organization with a more flexible culture.

We selected the quality improvement domain subscales that presented distinct differences between the culture groups based on the significance of the Chi-squared test for independence (Table 3). Participants working in healthcare facilities with a more flexible culture (A and B) reported greater participation in strategic quality planning, human resource utilization, quality results, customer satisfaction, and leadership for quality improvement.

Managers who worked at health facilities with a more flexible culture perceived that there was more transparency, morality and ethics, and self-awareness related to leadership in the Observer-assessed version of the ALQ (evaluating my leader), with a high concentration of the answers "fairly often" followed by "frequently, if not always". In the ALQ Self-assessed, the same domain was selected for comparison in both versions. This comparison revealed no significant differences between different cultures (Table 3), showing that participants evaluate themselves as good leaders independent of the culture group.

As shown in Table 4, only the variable "level of satisfaction with current management model" showed significant correlation with authentic leadership or QIIS subscales, specifically: human resource utilization, quality management, quality results, customer satisfaction, and leadership for quality improvement, all from QIIS; and transparency, moral/ethical, balanced processing, and self-awareness, all from ALQ (Observer-assessed). All Cronbach's alphas ranged from 0.70 to 0.95, except for the ALQ Self-assessed, domain "Transparency," which was 0.57.

Table 2 – Distribution of nurse managers according to accreditation, participatory management model and organizational culture characteristics, Alberta, Canada, 2015

Variables	n	%
Institutional accreditation		
No	5	2.2
In process	11	4.9
Yes	207	91.6
Missing	3	1.3
Accreditation program		
Accreditation Canada	203	89.8
Other	9	4.0
Missing	14	6.2
Participant Involvement in the accreditation program		
Not involved	17	7.5
Rarely	18	8.0
Partially	114	50.4
Totally	70	31.0
Missing	7	3.1
Respondent's Membership in quality council		
Yes	90	39.8
No	134	59.3
Missing	2	0.9
Adoption of a participatory management model		
No	102	45.1
In process	22	9.7
Yes	90	39.8
Missing	12	5.3
Involvement in the participatory management model		
Not involved	16	7.1
Rarely	12	5.3
Partially	50	22.1
Totally	32	14.2
Missing	116	51.3
Level of satisfaction with the current management model		
Very dissatisfied	11	4.9
Dissatisfied	35	15.5
Satisfied	91	40.3
Very satisfied	27	11.9
Missing	62	27.4
Level of satisfaction with accreditation process		
Very dissatisfied	2	0.9
Dissatisfied	23	10.2
Satisfied	105	46.5
Very satisfied	31	13.7
Missing	65	28.8
Organizational culture		
Group (culture A)	103	45.5
Developmental (culture B)	9	4.0
Rational (culture C)	84	37.2
Hierarchical (culture D)	30	13.3

Table 3 – Chi-squared test (χ^2) for independence of the instrument scores (Authentic Leadership Questionnaire and Quality Improvement Implementation Survey II), Alberta, Canada, 2015

Variables	χ^2
QIIS	
Information and analysis	15.896*
Strategic quality planning	31.175*
Human resource utilization	51.142*
Quality management	19.553*
Quality results	35.251*
Custumer satisfaction	33.549*
Leadership for quality improvement	37.508*
ALQ - As a leader I (Self-assessed)	
As leader_Transparency	1.642
As leader_Moral/Ethical	0.538
As leader_Balanced processing	0.632
As leader_Self-awareness	6.691

Variables	χ^2
ALQ - My leader (Observer-assessed)	
My leader_Transparency	22.210*
My leader_Moral/Ethical	25.062*
My leader_Balanced processing	11.961*
My leader_Self-awareness	23.416*

*Nota: *Independent at p<0.05. QIIS - Quality Improvement Implementation Survey II; ALQ - Authentic Leadership Questionnaire.*

Table 4 – Spearman correlations (ρ) between instrument scores (Authentic Leadership Questionnaire and Quality Improvement Implementation Survey II) and study variables, Alberta, Canada, 2015

Variables	Participatory management model	Involvement in the participatory management model	Level of satisfaction with current management model	Level of satisfaction with accreditation process	Cronbach's alpha
QIIS	ρ	ρ	ρ	ρ	
Information and analysis	0.15*	0.17	0.40*	0.34*	0.851
Strategic quality planning	0.25*	0.17	0.40*	0.28*	0.798
Human resource utilization	0.26*	0.17	0.52*	0.34*	0.857
Quality management	0.17*	0.18	0.52*	0.37*	0.854
Quality results	0.18*	0.20*	0.48*	0.41*	0.840
Customer satisfaction	0.19*	0.14	0.46*	0.26*	0.890
Leadership for quality improvement	0.27*	0.20*	0.57*	0.36*	0.954
ALQ - As a leader I (Self-assessed)					
Transparency	0.16*	0.07	0.18*	0.17*	0.572
Moral / Ethical	0.12	0.07	0.11	0.18*	0.711
Balanced processing	0.20*	0.08	0.09	0.10	0.603
Self-awareness	0.22*	0.05	0.14	0.11	0.726
ALQ - My leader (Observer-assessed)					
Transparency	0.25*	0.12	0.55*	0.28*	0.853
Moral / Ethical	0.19*	0.17	0.57*	0.25*	0.881
Balanced processing	0.23*	0.17	0.53*	0.14	0.833
Self-awareness	0.21*	0.21*	0.56*	0.25*	0.915

*Nota: *Correlation is significant at p<0.05; QIIS - Quality Improvement Implementation Survey II; ALQ - Authentic Leadership Questionnaire.*

DISCUSSION

This study found that quality improvement through the accreditation program can be related to organizational culture and authentic leadership in specific aspects: there is a propensity for participants who are engaged in a more flexible culture to present a more positive vision of some domains of quality improvement implementation. Also, there is a tendency for the leader to self-assess more positively (ALQ – Self-assessed) regardless of the type of culture. Still, in relation to Authentic Leadership (ALQ – Observer-assessed) it was evident that there is a more positive evaluation of the nurse managers inserted in cultures classified as more flexible.

The group of participants in institutions with a more flexible organizational culture (AB) differed from the group that had a predominantly hierarchical organizational culture (CD) in aspects that encompass the processes of implementing quality improvement in accreditation programs, and especially in the human dimension addressed by the QIIS instrument. Human dimensions are important because they increase individuals' engagement with accreditation and other quality activities; they foster the involvement of teams in promoting learning, overcoming organizational limitations, and improving services[15](Greenfield et al., 2011). Brazilian study carried out in the south of Parana State addresses that accreditation mediates better job satisfaction, especially in terms of professional status and organizational norms[16].

On the other hand, the dimensions of structural components and use of institutional information to improve operational performance did not show the same contrast between cultures. This result suggests that congruence between organizational culture and structure may be less relevant to these domains, since structural components are, hypothetically and in the short term, more easily manageable than the values, leadership styles, language, procedures, and routines that define the organizational culture and characterize the institution as unique[17-18](Sasaki et al., 2017; Wagner et al., 2014)(SASAKI et al., 2017; WAGNER et al., 2014).

Assessing organizational culture will provide insights into the perceptions of unit values to improve quality of care[17](Sasaki et al., 2017). A more flexible culture was related to quality improvement[12] (Shortell et al., 1995), being associated with a higher safety performance[19](Profit et al., 2016). Our study examines all of these variables with the addition of authentic leadership.

Comparing QIIS subscales with distinct culture groups also demonstrated that participants engaged in health facilities with a more flexible culture (A and B) had a better evaluation of quality improvement related to strategic quality planning, human resource utilization, quality results, customer satisfaction, and leadership for quality improvement. In contrast, a 2009 study in several European countries found no association between the type of organizational culture and development of quality management in hospitals[18](Wagner et al., 2014). That study adopted a different instrument for measuring quality improvement, but using the same reference for classification of organizational cultures. Additionally, the sample comprised participants from various professions such as highest ranking nurses and physicians who specifically worked in the area of quality of institutions and senior management. In contrast, a large part of the sample of our study included participants occupying middle management positions, such as first line supervisors (68.8%).

Regarding management models, 49.5% of the facilities adopted the participatory model and 45.1% a more traditional and vertical model. However, most participants (40.3%), regardless of model, were satisfied with the current management model, and there was a significant correlation between satisfaction and Human resource utilization, Quality management, Quality results, Customer satisfaction, Leadership for quality improvement (QIIS instrument) and all domains of Observer-assessed version of the Authentic Leadership Questionnaire (ALQ). Thus, the largest portion of the domains that presented a statistically

significant correlation were the human dimension of the process of implementing quality improvement.

With regard to the correlation between QIIS domains and perceived satisfaction with the institutional management model, the strongest association was with the active components of the quality improvement context. This suggests that nurse managers perceive the importance of adopting management practices aimed at optimizing performance and team productivity, valuing patient satisfaction. However, the hospital management system should be focused on the construction of education and culture in the hospital[20]. The positive correlations found between the domains of the ALQ (Observer-assessed) and satisfaction with the management model pointed to the success of health leadership practice, which indicates an increase in managers' capacity for reflection and greater political astuteness. Thus, there is evidence to suggest that satisfaction with the management model, from organizational knowledge, has influence on the advancement of leadership skills and objectives (WEAVER; DY; ROSEN, 2014)

Organizational culture is a reflection of values and dominant leadership theories which provide leaders with freedom to set goals, and to be more creative and innovative, leading to positive changes in the health organization[21](Srivastava, 2016). Authentic Leadership Theory, very desirable and effective for advancing the human factor and for achieving positive and lasting results by organizations[13](Walumbwa et al., 2007), contributes to establishing more flexible cultures, as the current study shows. ALQ - Observer-assessed indicated that evaluation of the leader is better when the health facility adopts a more flexible type of culture (group or developmental). This suggests an influence of the culture on the leadership style, or vice versa, especially regarding moral/ethical, transparency, and self-awareness domains. The moral/ethical domain emphasizes beliefs, values, and ethical decision-making as well as strategic leadership; transparency means to be genuine; and self-awareness is the ability to assess strengths and weaknesses of the team[22-23](Avolio et al., 2009; Hammer et al., 2013). There was no difference in the ALQ self-assessment, notwithstanding the culture, showing that participants evaluated themselves as good leaders in any situation. A similar bias was demonstrated in a study developed in Brazil, using the same leadership instrument, that concluded that when leaders are self-assessing, they consider themselves as participatory and interacting with others to perceive their needs[24](Carvalho et al., 2016).

The results of this study provided a beginning theoretical framing of the relationships among concepts that must be tested in subsequent research. We found that flexible organizational cultures influence the adoption of authentic leadership, participatory management model and also improves quality.

Strengths of this study are its strong theoretical base, and use of validated and reliable instruments. Choosing healthcare in Alberta, Canada, where almost all healthcare has implemented the accreditation program for several years and have now started to deploy new leadership models, provides an opportunity to compare different organizational cultures with representative samples.

Limitations of the study

This study has some limitations including the fact that the reality in Alberta is quite different from other countries where accreditation is still far from reaching all healthcare. Another limitation was that the cross-sectional study design does not permit strong conclusions about causality and also does not allow to assume the directionality of the associations found. To measure the implementation of quality improvement, only nursing managers were surveyed, whereas accessing other healthcare managers, regardless of the profession, may have provided a broad knowledge about quality management in organizations. Finally, the low response rate should be considered as an important limitation of the study.

Contributions to the field of nursing, health or public policy

Nurse managers play an important role in communicating with both nurses and senior executives, providing opportunity to enact authentic leadership and support quality improvement efforts. Our findings may assist nurse managers in implementing quality programs, based on evidence that authentic leadership and flexible organizational culture are the pathways to achieving success.

CONCLUSION

This study assessed and reported the relationships between flexible organizational cultures, quality improvement through the accreditation process, and authentic leadership practices of healthcare managers. We found that flexible organizational cultures influence the adoption of authentic leadership, participatory management model and also improves quality.

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