REVIEW ARTICLE

Leadership in Allied Health: A Review of the Literature

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Abstract

Background: **It is well established that effective clinical leadership improves the quality of healthcare service provision and promotes leadership outcomes. [1,2] Leadership capacity and capability of allied health professionals is needed for successful clinical service provision, [3] but less is known about allied health leadership than about other clinical groups.**

Aims: **The literature review aimed to identify research about leadership and leadership development of allied health practitioners in healthcare settings.**

Methods: **A database review was undertaken using SCOPUS, CINAHL, Medline and Business Elite databases from December 2014-September 2015. Three leadership journals were also hand searched. A total of 1665 articles were identified. These were scanned and 129 articles were retrieved with 70 articles shortlisted for in-depth review.**

Results: **After application of inclusion and exclusion criteria, seven journal articles were included in the literature review. Review of the studies identified two areas of primary focus: leadership styles and outcomes and leadership development programs.**

Conclusions: **Findings showed that there are currently a limited number of robust published reports in relation to leadership and allied health practitioners.**

Implications for Practice: **Well-designed research studies to further evaluate leadership skills of allied health practitioners as well as to determine the effectiveness of leadership programs in developing transformational leaders are required.**

Abbreviations: **CASP – Clinical Appraisal Skills Program; NHMRC – National Health and Medical Research Council.**

Key words: **leadership; allied health; framework.**

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Introduction

Allied health practitioners are tertiary educated health professionals who work as core members of the healthcare team to optimise clinical outcomes for patients. [4] In the New South Wales Australian Public Health Sector, allied health professions typically include the disciplines of: Audiology, Art Therapy, Counselling, Dietetics and Nutrition, Diversional Therapy, Exercise Physiology, Genetic Counselling, Music Therapy, Medical Radiation Sciences, Occupational Therapy, Orthoptics, Pharmacy, Physiotherapy, Play/Child Life Therapy, Podiatry, Psychology, Sexual Assault, Social Work, Speech Pathology and Welfare. [5,6]

Leadership has been defined as being able to cultivate an environment where all employees can contribute to their maximum potential in support of the mission of the organisation. [7] Effective clinical leadership at all levels of care is essential to improve the delivery and quality of health care services, [1,8,9] to foster staff engagement [10] and to produce effective leadership outcomes. [1,3,11]

Healthcare services are complex and require ongoing, adaptive change. [12,13] In the health setting, transformational leadership has been associated with facilitating high-quality, person-centred healthcare. [14,15] Transformational leaders are said to display a range of characteristics and behaviours including bringing vision, inspiration and empowerment leading to greater influence, motivation and intellectual stimulation of followers. [11,14,16]

In comparison, transactional leadership is reported to include active and passive management by exception (where there are criteria for compliance and deviations which are monitored) and contingent reward (where a leader provides a reward when an agreed task is completed). [3,17,18] Health leadership competencies include technical and industry capabilities along with interpersonal, analytical and communication skills, emotional intelligence and adaptability. [8]

The requirement for more effective employee performance and productivity within the healthcare setting along with the need to build adaptability to change has led to extensive research on leadership styles and the outcome of leadership within healthcare organisations. [1,9,19-23] Despite this, there are reportedly limited published studies evaluating leadership development programs for clinical leaders, including allied health, nursing and medical professions. [3,8,10,24-26]

Leadership capacity and capability of allied health professionals is considered a crucial component of the successful redesign of healthcare services. [3] As a result, some countries have invested in allied health leadership development. One example is the *Scottish Education and Development Framework for Senior AHPs*, [27] a national initiative that has been implemented within a leadership policy framework. [28] The aim of this paper is to describe the results of a review of the published literature in relation to allied health leadership and allied health leadership development in the healthcare context.

Methods

Data sources and search strategy

A range of electronic databases was accessed across December 2014 to September 2015. The search utilised the SCOPUS, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Medline and Business Elite databases. Manual searches were also undertaken with allied health and health leadership journals, specifically the *Journal of Allied Health, Journal of Healthcare Leadership, Leadership in Health Services and Leadership and Organisational Development*. Keywords and alternatives were leadership and 'allied health'/ 'Health prof*'.

All initial database searches were conducted by Article Title, Abstract, Keywords with combinations of the keywords using the 'AND' Boolean. Searches were limited to English-only citations published after 1980. EndnoteX7, a reference management software package, was used to manage references. This was to enable later analysis and identification of duplicated articles.

Search process

The references identified using search terms described are presented in Tables 1 and 2. Some articles were listed by multiple databases, thus these figures include some duplicate articles.

Table 1: Database search by term

SEARCH TERM	SCOPUS	CINAH L	MEDLINE	BUSINESS ELITE	TOTAL
Leadership AND Health prof* OR 'allied health'	788	46	460	12	1306

Table 2: Journal search by term

SEARCH TERM	JOURNAL OF ALLIED HEALTH	JOURNAL OF HEALTHCARE LEADERSHIP	LEADERSHIP IN HEALTH SERVICES	LEADERSHIP AND ORGANISATIONAL DEVELOPMENT	TOTAL
Leadership	192				192
'Allied health'		83	70	14	167
Leadership AND 'allied health'		[45]			

Inclusion and exclusion criteria

Papers were included in the review if research was published in a peer-reviewed journal; allied health practitioners (as defined in New South Wales) were core study participants; the studies researched methods, processes or theories associated with leadership or leadership development using qualitative, quantitative or mixed approaches; and related to healthcare or clinical service delivery. Publications also were required to be in English and freely retrievable.

Papers that related to allied health professions but which did not involve original research were excluded from the review. This included published commentaries, opinion pieces and some profession-based leadership articles. Several articles researched an allied health profession that was not included in the Australian definition of allied health, for example athletic trainers. These papers were also excluded.

All studies were screened using a quality assessment tool. The Australian National Health and Medical Research Council (NHMRC) Evidence Hierarchy [29] was utilised for quantitative studies and the Clinical Appraisal Skills Programme (CASP) for quantitative studies. [30]

Results

Online database searches by title/abstract/keyword yielded 1665 abstracts/titles relevant to allied health and leadership. All papers were initially screened by title. Where further clarity or information was required, the abstract of the article was reviewed. The abstracts of all articles with 'allied health' in the title were appraised. Of these, 129 articles were screened against the inclusion criteria and 70 studies were retrieved for in-depth review. Of these, 13 duplicates were identified and removed. After applying the inclusion and exclusion criteria, seven studies were retained, including three qualitative and four quantitative studies. Table 3 outlines the totals selected.

Characteristics of included studies

Research was undertaken in a range of contexts and settings. Three of the studies were undertaken in the United States. Of the remainder, two investigations were conducted in the United Kingdom (Scotland and England) and two single studies were from Canada and Australia. Of the papers reviewed, five were published after 2007.

Three of the studies pertained to discrete professional groups within the United States (dietetics, social work and occupational therapy) and three related to multidisciplinary teams. One study pertained to allied health across a national health system.

The characteristics of the included studies are described in Table 4. The quantitative and qualitative studies are described separately.

Summary of quality review

All of the quantitative studies were rated as strong in quality against the NHMRC Evidence Hierarchy. [29] The qualitative studies were rated low in quality when assessed against CASP criteria [30] as they generally did not adequately describe reflexivity and lack detailed information about participants, data collection processes and evaluation tools.

Theoretical frameworks

There was explicit reference to theoretical frameworks in six of the studies. The qualitative studies were predominantly based on local strategic documents rather than empirical theoretical approaches. The Full-Range Leadership Theory and Transformational Leadership Theory were cited in

Table 3: Totals selected for full article review

DATABASE/JOURNAL	TOTAL SELECTED FOR FULL ARTICLE REVIEW [SOME DUPLICATES]	NUMBER SELECTED
SCOPUS	21	1
CINAHL	15	2
MEDLINE	6 (4 duplicates)	0
Business Elite	4	0
Journal Searches: • Journal of Allied Health • Journal of Healthcare Leadership • Leadership in Health Services • Leadership in Organisational Development	 12 (9 duplicates) 9 3 3	 2 0 2 2

Table 4: Characteristics of included studies

Characteristics of included studies – Quantitative

AUTHORS; YEARS; JOURNAL; COUNTRY	THEORETICAL FRAMEWORK	SAMPLE/ SUBJECTS	LEVEL OF EVIDENCE [NHMRC]	VALIDITY	ANALYSIS	VALUE	THEME	CONTEXT	NO. SITES
Wylie and Gallagher (2009) Journal of Allied Health Scotland.	Scottish Leadership Development Framework.	1700 postal questionnaires and MFQ-5 for six allied health disciplines (20.8% proportional representation).	Level III-3.	Validity and reliability of MLQ described.	Descriptive statistics; Kruskal-Wallis and Mann-Whitney U tests. Spearman's analysis.	Allied health professional (AHP) scored higher if in a senior role or had leadership training. Differences found amongst AH disciplines.	Leadership styles.	NHS Scotland.	Multiple.
Arensberg et al (1996) Journal of the American Dietetic Association USA.	Transform-ational Leadership Theory. Conceptual framework provided.	1599 members of Clinical Management dietetics practice group. Of the 59.8% respondents (951) sample received Leadership Behaviour Questionnaire (LBQ0 (n=150), 116 used in analysis.	Level III-3.	Validity and reliability of MLQ described.	Descriptive statistics. Data analysis using Statistical Analysis System.	Clinical dietetics managers showed transformational leadership qualities (lowest - communication; highest - respectful leadership).Self-rating higher than subordinate ratings. Visionary culture building sub score had the strongest predictive effect with demographic variable.	Leadership styles / outcomes.	Dietetics.	Multiple
Snodgrass et al (2008) Journal of Allied Health USA.	Full-Range Leadership Theory.	Demographic questionnaire and MLQ-5. 500 randomly selected occupational therapy (OT) practitioners with 73 responses.	Level III-3.	Validity and reliability of MLQ described.	Descriptive statistics. Data analysis using SPSS, Pearson correlations.	In a rehabilitation setting, OT's perceive trans-formational leadership is associated with positive leadership outcomes. A blend of transform-ational and aspects of transactional leadership lead to positive leadership outcomes.	Leadership styles / outcomes.	Rehabilit-ation.	Multiple.
Gellis (2001) Social Work Research USA.	Transform-ational leadership theory.	Demographic questionnaire and MLQ-5. 234 social workers (SW); 187 responses (80%).	Level III-3.	Validity and reliability of MLQ described.	Descriptive statistics. Mean/SD of MLQ scores. Pearson correlations.	SW leadership outcomes are positively correlated with transformational leadership and transactional contingent reward.	Leadership styles / outcomes	Social work in health	Multiple.

Table 4: Characteristics of included studies *continued*
Characteristics of included studies – Quantitative

AUTHORS; YEARS; JOURNAL; COUNTRY	THEORETICAL FRAMEWORK	SUBJECTS	DATA COLLECTION	RIGOUR (CASP)	ANALYSIS	VALUE	THEME	CONTEXT	NO. SITES
MacPhail, et al (2015) *Leadership in Health Services* Australia.	Not described.	17 participants in 2011 (5 AHP; 5 nursing; 3 medical). 22 participants in 2012 (9 AHP; 10 nursing; 3 medical).	Evaluation survey questionnaire developed by authors (2012 cohort); post program reflective session; 2011 cohort follow-up of leadership roles.	Low	Descriptive statistics. Analysis of responses on Likert scale.	Work-based Clinical Leadership Programs can be feasible and cost effective.	Leadership develop-ment.	Australian health service.	Multiple.

the four quantitative studies, three of which utilised the Multifactor Leadership Questionnaire Form 5 (MLQ-5).

Measures

The studies used a range of tools to evaluate leadership. The MLQ-5 was utilised in three studies and the Leadership Behaviour Questionnaire in another. Other studies developed their own self-assessment, questionnaires and evaluation tools.

Study results

The published literature pertaining to leadership and allied health practitioners focussed on two major areas. These were how leadership styles affect leadership outcomes (two studies) and the results of leadership development programs (three studies). Two papers reported information pertaining to both themes.

Leadership styles and leadership outcomes

One study explored self-reported transformational leadership behaviours in six allied health professions across the National Health Service in Scotland using the MFQ-5 and demographic information. [3] Statistically significant differences in self-reported transformational leadership behaviours across allied health disciplines were found, with radiographers and podiatrists scoring consistently lower transformational scores than other allied health professions. Aggregated transformational leadership scores were higher for occupational therapy, speech and language pathology and physiotherapy than for dietetics, podiatry and radiography. Those in more senior graded positions had significantly higher transformational leadership scores. The researchers concluded that some allied health groups might require more leadership support. [3]

The transformational leadership competencies of hospital-based clinical nutrition managers were evaluated in a 1996 United States study that used the Leadership Behaviour Questionnaire to measure transformational leadership qualities in a study sample of 150 dietitians. [31] This study aimed to determine qualities of leadership in nutrition leaders and whether there were demographic variables associated with these qualities. Results found that transformational leadership qualities as assessed by the Leadership Behaviour Questionnaire were shown by nutrition leaders, however subordinates rated their leaders significantly lower than they rated themselves. Gender, educational status, situational variables and personality factors were identified as possible characteristics impacting transformational leadership status. The study concluded that there was a need for additional research pertaining to dietetic leadership outcomes as well as for leadership training and skill development. [31]

A study involving practising social workers from 26 hospitals assessing their immediate managers using the MLQ-5 was undertaken in 2001. [32] Results suggest that transformational leadership behaviours and the transactional factor of contingent reward were significantly related to leadership outcomes of satisfaction, extra effort and leadership effectiveness with for hospital-based social workers. [32]

In the context of a rehabilitation setting, one study reported that occupational therapists perceive that a transformational leadership style is associated with positive leadership outcomes. The study also found that a blend of transformational and aspects of transactional leadership lead to positive leadership outcomes. [11]

These four studies demonstrate that there is a positive correlation between transformational leadership behaviours and strong leadership outcomes for some allied health disciplines. They also show that a combination of transformational and aspects of transactional leadership behaviour (specifically contingent reward) also leads to sound leadership outcomes.

Leadership Development Programs involving allied health

Three of the studies described the reported outcomes from locally developed and delivered leadership programs, which included allied health practitioners. One study involved 200 nurses and allied health professional leaders. [33] The second involved nurses (n=56), allied health clinicians and support service staff (n=36). [25] The third study involved allied health (n=9), nursing (n=10) and medical (n=3) clinicians. [24] One study described leadership outcomes relating to leadership training. [3]

A locally developed 7 Habits for Healthcare Leadership program was implemented in the United Kingdom with allied health and nursing seniors to build individual leadership capacity. [33] The numbers of allied health clinicians in this program was not specified. This two-day program was reportedly well received by participants; however there was minimal formal evaluation of the program, limiting its applicability.

A Canadian study investigated the impact of a systematic approach to leadership development of 92 frontline leaders, including 36 allied health professionals. [25]

An eight-day program was developed and implemented where participants were required to complete an applied project. Evaluation included focus group feedback and program evaluation. Manager and participant reported leadership outcomes differed significantly. While the authors state that systematic leadership development has potential, [25] applicability of findings was limited due to a lack of robust evidence to support the effectiveness of the program and/or the approach.

A third paper described an interdisciplinary workplace-based Clinical Leadership Program conducted over eight months, which reported an increased willingness of participants to take on leadership roles within a regional centre in Australia. [24]

The authors concluded that Clinical Leadership Programs conducted internally can be feasible and cost-effective, [24] however weak study design and limited evaluation meant that further substantiating evidence was required.

A study conducted in Scotland found that allied health professionals scored significantly higher transformational leadership scores if they had undertaken leadership training. [3] The authors recommend that leadership training for allied health professionals be expanded, though caution that such training requires robust evaluation. Other studies similarly recommended leadership training for allied health practitioners. [31]

Discussion

The literature review of allied health and leadership yielded limited published information. Of the papers selected, four quantitative studies provided strong evidence in relation to the transformational leadership skills of some allied health professions. One of these studies also demonstrated that allied health practitioners who had undertaken leadership training scored significantly higher transformational leadership scores than those who had not undertaken leadership training.

Other studies described multiprofessional leadership development programs that included allied health professionals as core study participants along with nurses and midwives (two studies) and the multidisciplinary clinical team (one study).

These locally developed programs produced less robust evidence in relation to the effectiveness of leadership development program involving allied health practitioners. The literature review identified two main research themes in relation to allied health clinicians. Unlike studies published by other clinical cohorts, such as nursing, there were no papers identified which addressed leadership elements such as expected leadership competencies for allied health, the impact of leadership skills on subordinates, or how allied health leaders were able to positively impact standards of clinical care. This highlights the opportunity for further research in relation to the many facets of leadership as they pertain to the allied health disciplines.

Several allied health professional associations have highlighted the importance of leadership and have developed leadership programs for members (for example, see 34 and 35). Other allied health professional associations and multidisciplinary allied health agencies could strengthen and build upon programs such as these.

Collectively, a strategic approach that seeks to build leadership capability for a stronger future is required across allied health professions.

Limitations

There are several study limitations. The definition of allied health varies across countries and jurisdictions [4] thereby using the New South Wales definition of allied health influenced the numbers of studies included. The search of the literature also did not include grey literature, which may also have added valuable information.

When conducting literature reviews, it is recommended that two or more reviewers independently assess individual studies for quality and content. [36] The papers in this study were reviewed by one individual as part of her PhD candidacy.

In order to minimise any effects of this approach, studies where there was equivocality were discussed with supervisors in order to achieve consensus.

Conclusion

Leadership is critical for fostering engaged staff and has been linked with improved clinical and organisational outcomes. [10] Allied health practitioners are essential members of the clinical team within the healthcare system [4] yet there has been limited research in the areas of allied health leaders and leadership development to date. This review of the literature has highlighted to need for well-designed research studies to further evaluate leadership skills of allied health practitioners as well as to determine the effectiveness of leadership programs in developing transformational allied health leaders.

Competing Interests

The authors declare that they have no competing interests.

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