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# Authentic leadership, nurse-assessed adverse patient events and quality of care: The mediating role of nurses' safety actions

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## Abstract

**Background:** Authentic leadership has been consistently cited as a strong precursor of sustained job performance and work effectiveness in nurses; however, studies linking authentic leadership with nurses' safety actions, nurse-assessed adverse patient events and nursing care quality are scarce.

**Aim:** To examine whether nurses' safety actions mediate the relationship between authentic leadership, nurse-assessed adverse events and nursing care quality.

**Methods:** A multi-centre, cross-sectional study involving 1,608 nurses employed in acute care facilities in Oman. Multi-stage regression analysis was conducted in testing for the mediation model.

**Findings:** Nurse managers in Oman were perceived to be highly authentic by their staff nurses. Authentic leadership significantly predicted nurses' safety actions ($\beta = 0.168$, $p < .001$), decrease in nurse-assessed adverse events ($\beta = -0.017$, $p = .024$) and increase in care quality ($\beta = 0.121$, $p < .001$). Further, the association between authentic leadership and nurse-assessed adverse events ($\beta = -0.063$, $p = .057$) and care quality ($\beta = 0.038$, $p = .002$) was mediated by nurses' safety actions.

**Conclusion:** Results suggest the importance of developing nurse managers' authentic leadership to foster nurses' safety actions and reduce adverse patient outcomes and promote nursing care quality.

**Implications for nursing management:** Organizational efforts to address patient safety issues should be directed towards developing authentic leadership in nurse managers through leadership programmes, periodic evaluation of leadership competencies (e.g., 360-degree or a bottom-up performance evaluation), and a creation of a safe culture in which nurses can openly report safety concerns for corrective action.

KEYWORDS

adverse events, authentic leadership, nursing, quality of care, safety action

## 1 | INTRODUCTION

The role of nurse leaders in today's health care climate, characterized by increasing health care costs and budget cuts, staffing shortages, an ageing population, a stressful work environment, increased patient acuity and the emergence of new diseases, is undoubtedly one of the most vital positions in the health care field (Catton, 2020). These challenges, faced by nurse leaders, demand an effective leadership to adequately provide direction for its employees while positively contributing to the attainment of the organisation's mission and vision (Alilyyani et al., 2018). Effective leadership styles, such as those that are centred on relations and people rather than the task itself, are instrumental in creating work conditions to support professional practice in employees (Avolio, 2004; Cummings et al., 2021).

Transformational and authentic leadership are two frequently used types of relational leadership style and are associated with enhanced nurse effectiveness and desirable patient outcomes (Cummings et al., 2021). Transformational leadership, a more established leadership style, focuses on motivating and inspiring followers to pursue higher-order goals through idealized influence, inspirational motivation, intellectual stimulation and individual consideration (Bass & Avolio, 1994), resulting in desirable work outcomes and organisational effectiveness (Enwereuzor et al., 2018; Labrague et al., 2020). Authentic leadership, on the other hand, emphasizes building a healthy workplace environment and focuses on the key qualities of a leader, such as self-awareness, relational transparency, internalized moral perspective and balanced processing (Avolio, 2004). This style of leadership has been associated with increased followers' job engagement, organisational commitment and work performance (Alilyyani et al., 2018). While many scholars suspect overlaps between the two leadership styles (Banks et al., 2016), authentic leadership possesses several unique features that are not present in transformational or other leadership styles. Such features include an open and transparent leader–follower relationship, alignment in leaders' values and behaviours and follower authenticity, which are vital to heightened well-being, performance and engagement by both the leader and followers (Avolio & Gardner, 2005). In addition, while both types of leadership have been shown to yield positive consequences for individuals and organisations, substantial evidence has demonstrated the incremental validity of the authentic leadership factors, beyond the influence of transformational leadership style, in predicting individual and organisational outcomes (Rodriguez et al., 2017). The greater appeal of the authentic leadership style may stem from its characteristics and underlying values, especially given the increasing emphasis on the ethical and moral conduct of today's nurse leaders and managers in increasingly complex health care organisations.

### 1.1 | Theoretical framework and relevant research

This study integrates concepts from the Authentic Leadership Theory of Avolio and Gardner (2005) and the Self-determination Theory by Deci and Ryan (1985) to examine how organisational context influences patient safety outcomes and quality of care.

### 1.2 | Authentic leadership

Authentic leadership, the root of a positive and relational leadership form, has been widely researched in management, business, sociology, psychology and health care. This leadership style acknowledges the importance of ethical standards, transparency, honesty, authenticity and integrity in cultivating a quality leader–subordinate relationship (Avolio & Gardner, 2005; Gardner et al., 2011), resulting in increased work commitment and job engagement and sustained job performance in their subordinates (Avolio, 2004). Considerable evidence exists in the realm of nursing linking authentic leadership of nurse leaders with enhanced nurses' work outcomes (Kida et al., 2020; Maziero et al., 2020; Regan et al., 2016) and heightened psychological well-being (Wei et al., 2020; Alilyyani et al., 2018; Shirey et al., 2019). However, there are limited yet valuable reports that relate authentic leadership to patient safety outcomes including fewer adverse events (Asif et al., 2019; Wong et al., 2013) and improved care quality (Puni & Hilton, 2020; Laschinger & Fida, 2015). A systematic literature review by Alilyyani et al. (2018) demonstrated an apparent lack of literature examining the contribution of authentic leadership to the achievement of positive patient outcomes, suggesting the need for further evidence to fully understand the mechanism to which authentic leadership influences patient outcomes. Given this context, this study was conducted to examine the influence of authentic leadership on patient safety outcomes and quality of care, through nurses' safety actions.

### 1.3 | Adverse patient events

Defined as 'an event or circumstance that could have or did lead to unintended or unnecessary harm to a person' (Brady et al., 2009), adverse events have been recognized in the nursing literature as an essential outcome of nursing leadership. Available evidence has shown the positive effects of a relational leadership style, including ethical and transformational leadership, on error rates, such as patient fall, medication errors, pressure ulcers, nosocomial infection, and maltreatment and complaints from patients and their families (Barkhordari-Sharifabad & Mirjalili, 2020; Boamah et al., 2018; Wong et al., 2013). An earlier study by Wong et al. (2013) showed a significantly lower incidence of reporting of nurse-assessed adverse events in nurses who worked under an authentic nurse manager. Meanwhile, using hospital data, Johnson (2015) found compelling evidence linking authentic leadership and a higher incidence of actual patient fall. Previous reports identified leaders demonstrating authentic leadership as someone who value innovative input or ideas from nurses, including findings of research and scientific evidence to support nursing practice

in the provision of effective, safe, quality and standard nursing care and the prevention of patient adverse events and complications (Kim & Han, 2019; Wong et al., 2013). Despite the evidence linking authentic leadership with reduced adverse patient events, the mechanism underlying this relationship remains unclear. In the present study, adverse patient events refer to incidents of common adverse patient outcomes including patient falls, medication errors, hospital-acquired infections, pressure ulcers and patient and/or family complaints. In this study, the assessment of adverse patient events was based on nurses' perceptions of these events rather than obtained from hospital databases.

### 1.4 | Quality of care

Quality of nursing care, or the 'degree of excellence of nursing care provided to achieve patients' needs and requirements' (Al Sabei et al., 2020), has been identified in the nursing literature as an essential consequence of effective leadership (Boamah et al., 2018; Laschinger & Fida, 2015; Lavoie-Tremblay et al., 2016). A considerable amount of literature exists linking transformational leadership, a relational type of leadership style, with increased perceptions of quality of care (Boamah et al., 2018; Lavoie-Tremblay et al., 2016); however, studies linking authentic leadership and quality of care are limited. Nevertheless, available studies demonstrated that working under an authentic leader enables nurses to provide high-quality patient care through a positive work environment (Laschinger & Fida, 2015; Wong et al., 2013). By being authentic, nurse leaders highly value shared decision-making, innovation and creativeness, positively affecting work performance and motivation in nurses, leading to improved quality of nursing care in their designated wards or units (Alilyyani et al., 2018; Malik et al., 2016). However, despite these assumptions, empirical evidence describing the mechanism by which authentic leadership influences the quality of nursing care remains elusive. In the current study, quality of care refers to nurses' appraisal and assessment of the quality of nursing care provided in their respective units.

### 1.5 | Safety actions

Safety actions are defined as measures undertaken by nurses to prevent errors and adverse patient events associated with nursing and health care (Van Bogaert et al., 2014). Nurses' safety actions can be best explained using self-determination theory, which posits that an individual performs safety behaviours for a variety of motivations (e.g. external, introjected, identified, integrated and intrinsic; Deci & Ryan, 1985). A leader who demonstrates authenticity, high moral values and strong integrity creates a shared value of safety within an organisation, resulting in employees adopting safety behaviours or actions and facilitating integrated motivation (Scott et al., 2014).

Numerous studies have established the vital role of authentic leaders in providing increased support and opportunities for employees, resulting in more proactive work behaviour (Griffin et al., 2010) and safety-oriented actions (Maziero et al., 2020). Additionally, by developing a genuine and honest relationship with their subordinates, authentic leaders positively influence their intrinsic motivation, resulting in desirable intra- and extra-role behaviours (Bolino & Turnley, 2005). Safety actions undertaken by a nurse when caring for a patient can be considered as intra-role behaviour, which positively influences patient safety outcomes (e.g. adverse events, quality of care). In nursing, an authentic nurse leader's high self-awareness and transparency may potentially reduce uncertainty in the work environment and enhance nurses' psychological safety (Alilyyani et al., 2018), in turn leading to nurses' increased safety actions or behaviours. Moreover, authentic leaders facilitate structural empowerment in nurses, such as providing nurses with relevant information, learning opportunities and substantial organisational support and resources, which are vital for implementation of safe nursing actions for patient safety (Wong et al., 2013). It is therefore logical to expect that working under an authentic leader may reduce adverse events and increase the quality of care through nurses' safety actions.

Numerous studies in other sectors identified the positive impact of authentic leaders on the work safety behaviour of their employees by enhancing internal motivation for work (Liu et al., 2018; Ilies et al., 2005; Parker et al., 2010). In the realm of nursing, no studies were located which related authentic leadership to adverse events and care quality through nurses' safety actions. In the present study, nurses' safety actions pertained to nursing activities to avoid or prevent adverse events (e.g. application of pressure ulcer and hand hygiene guidelines, pain assessment, fall risk assessment and fall prevention measures, early warning score for potential critical patients, and reporting of adverse events and safety errors).

### 1.6 | Hypothesized model

Based on the literature review, we hypothesized that authentic leadership in nurse managers may have an indirect positive influence, through nurses' safety actions, on nurse-assessed adverse events and the quality of care in their unit. In other words, the influence of authentic leadership on nurse-assessed adverse events and the quality of care is mediated by nurses' safety actions (Figure 1).

## 2 | METHODS

### 2.1 | Research design

This is a cross-sectional study to explore the influence of authentic leadership on nurse-assessed adverse events and nursing care quality, as mediated by patient safety actions.

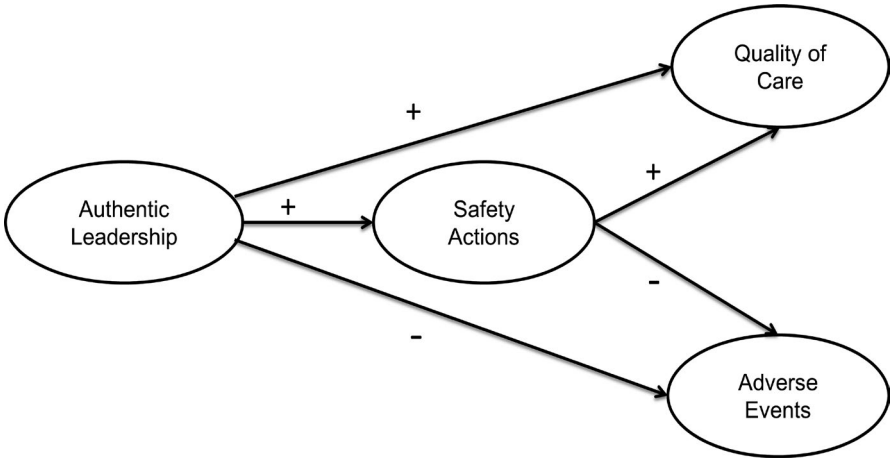


**FIGURE 1** Hypothesized model

## 2.2 | Samples and settings

A proportional stratified sampling technique was used to gather a representative sample of nurses employed in acute care facilities in the Sultanate of Oman. This sampling design was used to ensure adequate representations of nurses from 24 hospitals across 11 governorates of the country. The accessible population size for nurses was 11,096. To increase the sample representations from the different governorates in Oman, 10% of the accessible nurse population was taken as samples, resulting to 1,096 nurses. Two thousand nurses were invited to participate in the study, and 1,608 responded, providing a response rate of 80.4%. After identifying the required samples per hospital, staff nurses from the identified hospitals were recruited through a convenience sampling method. Nurses were deemed qualified to the part of the study if they were a registered nurse, currently employed in the selected hospital, holding either a diploma or higher education nursing degree, and consented to participate in the research. Both Omani and non-Omani nurses were included in the study. Nurses with less than a year of work experience in their present unit or ward were excluded from the study.

## 2.3 | Measures

A five-part questionnaire, consisting of the demographic data, and the original English versions of the Authentic Leadership Questionnaire (ALQ), Adverse Patient Events (APE), Patient Safety Actions (PSA) and Quality of Care (QoC), was used for data collection.

The ALQ assessed nurses' view of their managers' authentic leadership (Walumbwa et al., 2008). The ALQ was a 16-item questionnaire that was categorized into four distinct domains: 'self-awareness', 'relational transparency', 'balanced information processing', and 'internalised moral perspective'. Nurses responded to the questionnaire using a 5-point Likert scale ranging from 1 ('*strongly disagree*') to 5 ('*strongly agree*'), in which high scores in the total score represent higher levels of authenticity. Previous studies established the scale's excellent reliability with internal consistency values that ranged from 0.70 (Wong et al., 2013) to 0.90 (Dirik & Seren Intepeler, 2017). The criterion validity of the ALQ was found excellent as manifested by its association with job satisfaction, work empowerment and job engagement (Wong et al., 2013). Cronbach's alpha of the scale in the current study was 0.95.

The PSA measures nurses' actions to prevent errors and adverse events in patients (Van Bogaert et al., 2014). Safety action items included (a) the application of fall risk assessment and fall prevention measures, (b) hand hygiene guidelines, (c) pain assessment and pain medication administration, (d) early warning score for potential critical patients, (e) reporting of adverse events and safety errors and (f) prevention of pressure ulcer guidelines. Using a six-point Likert scale (*never*, *a few times a year*, *at least once a month*, *several times a month*, *at least once a week*, *several times a week or daily*), nurses reported the frequency of the application of the various patient safety actions during professional practice. Higher scores indicated a higher extent of implementation of safety actions. The scale has an acceptable reliability and criterion validity based on earlier research (Van Bogaert et al., 2014), and in this study, Cronbach's alpha of the scale was found to be acceptable ($\alpha = 0.87$).

Nurse-assessed adverse events were examined using the APE scale (Laschinger & Leiter, 2006). This scale was originally derived from the Nursing Quality Indicators formulated by the American Nurses Association (American Nurses Association, 2000). This scale included adverse events that commonly occur in the health care setting, including (a) family and patient complaints and (b) abuses, (c) health care-related infections, (d) patient falls and (e) medication administration errors. Nurses scored each item based on each occurrence's frequency during their shift, using a seven-point Likert scale that ranged from 0 for '*never*' to 6 for '*daily*'. Nurses' report of adverse events has been widely utilized in nursing and health care research and has been reported to be a valid and reliable measure to estimate of the occurrence of adverse patient events (Aiken et al., 2017; Boamah et al., 2018). High scores in the total score represent higher levels of adverse patient events.

This scale was found to have excellent predictive validity as manifested by the relationship with nursing care quality, missed care and patient satisfaction (Labrague, De los Santos, et al., 2020). The reliability of the scale, as reflected on its internal consistency, was found acceptable with a Cronbach alpha value of 0.93 (Labrague, De los Santos, et al., 2020). In this study, the Cronbach alpha value was 0.86.

Using a single-question scale, the QoC was used to determine nurses' judgement and assessment of the quality of care provided in their respective units of assignment (Aiken et al., 2017). This single-item measure of nursing care quality has been widely used in nursing and health care studies and has been consistently associated with positive outcomes in patients (Aiken et al., 2017; Labrague, De los Santos, et al., 2020). Moreover, this single-item measure of care quality has inherent advantages (e.g. less burden to the respondents, economical, easy to administer) when compared to multi-item scales (Gardner et al., 1998). Previous studies have shown that a single-item measure of quality of care may yield excellent validity and reliability estimates (Aiken et al., 2017; Youngblut & Casper, 1993; Labrague, De los Santos, et al., 2020). Higher scores indicated a higher quality of care delivered. The scale has a four-point Likert scale scored by nurses with 0 for '*poor*' to 4 for '*excellent*'. The measure's test–retest reliability was found acceptable based on the previous research ($r = .79$) (Labrague, De los Santos, et al., 2020).

### 2.4 | Ethical clearance and data gathering procedure

The Review and Ethical Boards of the College of Nursing and College of Medicine and Health Sciences (SQU-EC/067/19) and the Ministry of Health (MoH/CSR/18/10004) in Oman granted the study's ethical clearance. Trained research assistants collected the data over 6 months. The research assistants approached eligible nurses, and the nurses' consent to partake in the study was sought. Upon approval, nurses were provided a short briefing about the study's aim and the benefits that could be derived from participating in the study, along with the relevant instructions on how to complete the questionnaires. The questionnaires, which were kept in a sealed envelope, were handed to nurses during their break time to avoid work interruptions.

### 2.5 | Data analysis

Nurses' characteristics and the descriptive data related to authentic leadership, adverse events, safety actions and quality of care were presented using descriptive statistics. The direct relationship between authentic leadership and the outcome variables was examined using multiple linear regressions. The hypothesized models were tested using the causal-step approach. As described by Baron and Kenny (1986), there are three steps to be tested using regression models: (a) the association between the independent variable (IV) (authentic leadership) and the mediator (safety actions), (b) the association between the IV (authentic leadership) and dependent variables (DV) (nurse-assessed adverse events and nursing care quality) and (c) the association between the mediator variable (safety actions) and DV (nurse-assessed adverse events and nursing care quality) while controlling for the IV (authentic leadership). The effect of the IV on the DV must be reduced in step 3 compared to step 2. If the reduction is equal to zero, then this is a full mediation; otherwise, it is a partial mediation effect. The Sobel test was conducted to test the significance of mediation analysis for each model.

## 3 | RESULTS

One thousand six hundred eight nurses were involved in the study, of which the majority were female (86.5%, $n = 1,379$), married (78.7%, $n = 1,255$) and employed as full-time nurses (92.7%, $n = 1,491$). The mean age was 34.11 (*SD*: 6.798), with average years of nursing experience of 11.73 years (*SD*: 6.771). The complete characteristics of nurses are presented in Table 1.

The mean scale score of the authentic leadership questionnaire was 2.90 (*SD*: 0.708), in which the self-awareness subscale (*M*: 2.93, *SD*: 0.793) obtained the highest mean. The mean scale score of the quality of care measure was 3.12 (*SD*: 0.768) out of 5. The mean scale score of the adverse patient event measure was 0.96 (*SD*: 1.073) out of 7, in which the item related to patient and family complaints (*M*: 1.44, *SD*: 1.655) obtained the highest score followed by patient and family verbal abuse (*M*: 1.28, *SD*: 1.511). The mean scale score of the patient safety action measure was 5.07 (*SD*: 1.237) out of 6, with a higher score obtained in the application of hand hygiene guidelines (*M*: 5.56, *SD*: 1.235) and a lower score on reporting of potential safety errors and adverse events (*M*: 4.13, *SD*: 2.224) (Table 2).

Bivariate analyses showed the correlations between authentic leadership, nurses' safety actions, nurse-assessed adverse patient events and nursing care quality in an expected pattern. Authentic leadership had a statistically significant correlation with nursing care quality ($r = .134$) and safety actions ($r = .204$) and negatively correlated with nurse-assessed adverse patient events ($r = -.171$) (all $p < .001$). Further, quality of care correlated positively with safety actions ($r = .164$) and negatively with adverse patient events ($r = -.281$) (all $p < .001$). Finally, safety actions correlated negatively with adverse patient events ($r = -.156$; $p < .001$) (Table 3).

The test for simple mediation effects was conducted using the approach described by Baron and Kenny (1986) (Figure 2; Table 4). Step 1 showed that authentic leadership significantly related with safety actions ($\beta = 0.168$, $p < .001$). In Step 2, authentic leadership significantly and positively related with nursing care quality ($\beta = 0.121$, $p < .001$) and negatively related with nurse-assessed adverse events ($\beta = -0.071$, $p = .024$). In Step 3, the mediator (safety actions) correlated significantly with quality of care ($\beta = 0.144$, $p < .001$) and adverse events ($\beta = -0.073$, $p = .034$) while controlling for authentic leadership. The effect of authentic leadership on care quality ($\beta = 0.038$, $p = .002$) was reduced but still significant when the safety

**TABLE 1** Sample characteristics ($n = 1,608$)

| Variables | *n* | % |
|---|---|---|
| Gender | | |
| Female | 1,379 | 86.5 |
| Male | 215 | 13.5 |
| Nationality | | |
| Local | 637 | 40.0 |
| Expatriate | 954 | 60.0 |
| Marital status | | |
| Single | 326 | 20.4 |
| Married | 1,255 | 78.7 |
| Divorced | 8 | 0.5 |
| Widowed | 6 | 0.4 |
| Highest education level | | |
| Diploma | 865 | 54.8 |
| Baccalaureate | 678 | 42.9 |
| Master | 36 | 2.3 |
| Employment status | | |
| Full-time | 1,491 | 92.7 |
| Part-time | 117 | 7.3 |
| Type of working unit | | |
| Medical–surgical | 552 | 36.3 |
| Critical care | 464 | 30.6 |
| Obstetrics and gynaecology | 57 | 3.8 |
| Paediatrics | 189 | 12.4 |
| Oncology | 141 | 9.9 |
| Operation theatre | 16 | 1.1 |
| Mental health | 30 | 2.0 |
| Others[a] | 70 | 4.6 |
| Hospital teaching status | | |
| Teaching | 656 | 40.8 |
| Non-teaching | 952 | 59.2 |
| Hospital type | | |
| Public | 1,582 | 98.4 |
| Private | 26 | 1.6 |
| | **Mean** | ***SD*** |
| Age | 34.11 | 6.798 |
| Years of experience in the nursing profession | 11.73 | 6.771 |
| Years of experience in the present unit | 7.27 | 5.077 |

*Note:* Missing data were as following: gender = 14; marital status = 13; nationality = 17; education = 29.

[a]Included nurses working in multispecialty units, outpatient clinics and cath lab.

**TABLE 2** Descriptive summary of quality of care, safety actions, adverse events and authentic leadership

| Scale/subscale | Mean | *SD* |
|---|---|---|
| Nurse-assessed quality of care[a] | 3.12 | 0.768 |
| Adverse patient events[a] | 0.96 | 1.073 |
| Patient and family complaints | 1.44 | 1.655 |
| Patient and family verbal abuse | 1.28 | 1.511 |
| Patient falls | 0.56 | 1.109 |
| Nosocomial infections | 0.95 | 1.299 |
| Medication errors | 0.58 | 1.120 |
| Nurses' safety actions[a] | 5.07 | 1.237 |
| Hand hygiene guidelines | 5.56 | 1.235 |
| Report (potential) safety errors and adverse events | 4.13 | 2.224 |
| Assessment of fall risk and fall prevention measures | 5.14 | 1.625 |
| Pressure ulcer prevention guidelines | 5.06 | 1.708 |
| Assessment of pain score and administer pain medication as described in a standard procedure | 5.38 | 1.352 |
| Early warning score in case of potential critical patient | 5.19 | 1.545 |
| Authentic leadership[a] | 2.90 | 0.708 |
| Transparency | 2.89 | 0.772 |
| Moral/ethical | 2.89 | 0.759 |
| Balanced processing | 2.92 | 0.799 |
| Self-awareness | 2.93 | 0.793 |

[a]Scale composite score.

**TABLE 3** Correlations between authentic leadership behaviours, assessed quality of care, safety actions and adverse patient events

| Variables | Authentic leadership | Quality of care | Patient safety actions |
|---|---|---|---|
| Authentic leadership | 1 | | |
| Quality of care | 0.134** | 1 | |
| Nurses' safety actions | 0.204** | 0.164** | 1 |
| Adverse patient events | −0.171** | −0.281** | −0.156** |

**$p < .001$.

actions were added to the model, indicating a partial mediating effect of safety actions (Table 4). Meanwhile, the effect of authentic leadership on adverse events ($\beta = -0.063$, $p = .057$) became insignificant when the safety actions were added to the model, indicating a full mediating effect of safety actions. In other words, patient safety actions seemed to increase the effect of authentic leadership on care quality and decrease its effect on adverse events.

## 4 | DISCUSSION

Overall, the hypothesized model was supported by the study's results linking authentic leadership among nurse managers with

**FIGURE 2** Final model

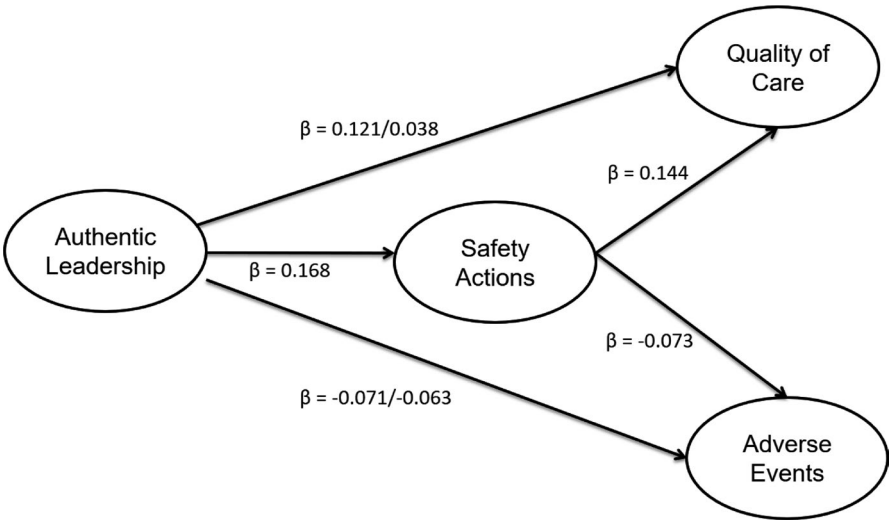


**TABLE 4** Effect estimates

| Structural paths | Unstandardized coefficients | Standardized coefficients | *SE* | CR | *p* |
|---|---|---|---|---|---|
| Direct effects | | | | | |
| Authentic leadership → Nurses' safety actions | 0.297 | 0.168 | 0.055 | 10.242 | <.001 |
| Authentic leadership → Quality of care | 0.141 | 0.121 | 0.037 | 6.567 | <.001 |
| Authentic leadership → Adverse patient events | −0.106 | −0.071 | 0.047 | 10.013 | .024 |
| Nurses' safety actions → Quality of care | 0.093 | 0.144 | 0.023 | 5.549 | <.001 |
| Nurses' safety actions → Adverse patient events | −0.065 | −0.073 | 0.030 | 9.566 | .034 |
| Indirect effects | | | | | |
| Authentic leadership → Nurses' safety actions → Quality of care | 0.117 | 0.038 | 0.038 | 7.354 | .002 |
| Authentic leadership → Nurses' safety actions → Adverse patient events | −0.100 | −0.063 | 0.053 | 9.566 | .057 |

nurse-assessed adverse patient events and nursing care quality through safety actions.

Nurse managers in this study were perceived to be highly authentic by their staff nurse–subordinates. This result is in accordance with international studies in which nurse managers rated themselves as authentic leaders (Černe et al., 2014) and were evaluated by their staff nurse subordinates as highly authentic (Boamah et al., 2018; Dirik & Seren Intepeler, 2017; Wong et al., 2013). This finding is relevant as earlier reports identified a more significant proportion of nurses who favoured or preferred authentic leadership over other leadership styles, primarily due to its desirable consequences such as improved nurse effectiveness and overall organisational performance and productivity (Alilyyani et al., 2018; Laschinger & Fida, 2015). Unlike other relational leadership styles in which leaders have unilateral influence with employees, authentic leadership values individual interaction and communication with employees and treats them with authenticity (Woo & Han, 2018). These characteristics could potentially explain the higher preference of nurses in our study for authentic leadership.

Additionally, nurses in this study assessed the nursing care quality in their assigned unit to be 'good' to 'excellent', corroborating earlier studies in Canada, Thailand, Switzerland, Pakistan and the Philippines, whereby nurses reported 'good' to 'excellent' quality of nursing care in their respective assignments (Nantsupawat et al., 2016; Zúñiga et al., 2015; Boamah et al., 2018; Asif et al., 2019; Labrague, De los Santos, et al., 2020). Such a result implies that despite occasional adverse events committed, nurses in Oman are able to implement quality nursing care tasks to their assigned patients in their respective units of assignment.

The mean scale score of the adverse patient events scale was 0.96 out of 7, which was in accordance with international studies (Jarrar et al., 2020; Labrague, 2020). Individual assessments of scale items showed higher mean scores on items related to complaints and abuses from patients and their families. Adverse patient events related to patients' and their families' abuses and complaints are a recurring issue in many health care settings, both in developing and in developed countries, and have raised challenges among hospital and nursing administrators for years (Jarrar et al., 2020). These types of adverse events

have been reported by 36%–75% of nurses worldwide (Labrague, De los Santos, et al., 2020; Skålén et al., 2016) and were strongly linked to poor communication, negative attitude of health care workers, unpleasant encounters and interactions with staff, and ineffective leadership (Boamah et al., 2018; Skär & Söderberg, 2018). Authentic leaders emphasize transparency, openness, and honesty in the relationship, which is imperative when communicating care activities and other critical issues related to patient care to other health team members, thus preventing adverse patient events (Shirey et al., 2019). Meanwhile, the obtained mean scale score of the safety action measure was 5.07 out of 6, suggesting a high level of implementation of safety actions when caring for patients. However, despite a higher emphasis on safety actions, nurses in this study reported a lower score in the area related to the reporting of safety errors and adverse events, which coincides with international studies (Yurdakul et al., 2016; Cole et al., 2019) in which many nurses and other health care professionals remain quiet and underreport issues related to patient safety and nursing care. This result calls for hospital and nursing administrators to employ institutional measures to promote early reporting and communication among nurses in regard to addressing issues that concern patient care to prevent potential adverse events in patients and improve nursing care (Labrague, De los Santos, et al., 2020; Seren et al., 2018).

In health care settings, relational leadership, such as authentic leadership, was seen as an important factor in building a healthy work environment that encourages nurses and other health care members to implement safe and effective nursing activities, which are anchored on scientific evidence, to prevent or reduce patient safety issues including missed care and adverse events (Alilyyani et al., 2018; Barkhordari-Sharifabad & Mirjalili, 2020; Boamah et al., 2018). The direct and positive influence of authentic leadership on adverse events and quality of care in the present study supported hypotheses 1 and 2. In other words, nurses who work under an authentic nurse manager are more likely to report fewer adverse events and increased care quality. This result is an affirmation of earlier studies whereby effective leadership, including authentic leadership, has been strongly attributed to higher satisfaction ratings in patients and desirable patient care outcomes (Akbiyik et al., 2020; Lavoie-Tremblay et al., 2016). This pattern of influence is somewhat expected as effective leaders, including those who practice authentic leadership, are able to create a positive and empowering work climate for professional nursing practice, leading to reduced patient care errors and adverse events (Alilyyani et al., 2018; Malik et al., 2016). Moreover, authentic leaders create a safety climate within the organisation and foster inter-professional collaboration between health care teams, thus preventing patient safety incidents (Woo & Han, 2018). Ineffective leadership styles (e.g. abusive, toxic, destructive, exploitative), on the other hand, are known to demotivate and discourage nurses from contributing to the enhancement of nursing care delivery, leading to low patient satisfaction, increased occurrence of missed care and adverse events, and poor care provision (Labrague, 2020; Lavoie-Tremblay et al., 2016).

Finally, the study results yielded support to hypothesis 3, in which nurses' safety actions partially mediated the effects of authentic leadership on quality of care and fully mediated the effects of authentic leadership on adverse events. The study results imply that when nurses view their nurse managers as highly authentic, they are able to implement safety actions to their patients, which, in turn, decrease the incidence of adverse patient events and increase the nursing care quality. To our knowledge, our study is the first to establish such a pattern of relationship, hence adding new knowledge in this area of nursing inquiry. Further, evidence linking authentic leadership to nurses' safety action provided additional support to the self-determination theory. This pattern of influence is somewhat expected as leaders demonstrating authentic leadership are able to create a desirable work environment in which nurses 'safety behaviours are supported and promoted in order to implement standard, quality, and safe nursing activities (Raso et al., 2020), leading to improved care quality and reduced incidence of adverse outcomes. Moreover, authentic leadership was attributed to an enhanced safety climate, whereby nurses' safety behaviours are fostered, leading to better patient outcomes (Dirik & Seren Intepeler, 2017). Through the demonstration of authenticity, honesty, integrity and strong ethics, and high moral values, an authentic leader is able to influence its followers to follow similar values, resulting in a higher job motivation, sustained performance, and safe and proactive behaviours (Avolio, 2004). The results underscore the importance of pursuing authentic leadership development among nurse managers as a potential strategy to promote nurses' safety actions and, in turn, improve overall care quality and prevent adverse patient outcomes.

### 4.1 | Limitations of the study

The findings of the present study should be cautiously interpreted in the light of a few identified limitations. First, establishing causality was not possible due to the limitations posed by a cross-research design. The use of nurse-report scales in assessing the quality of care and adverse events may be associated with self-reported bias. As such, future research may utilize a more objective data collection approach (e.g. chart review, actual observations) to accurately measure care quality and adverse patient events. Although a significant association was established between authentic leadership and outcome variables, other individual and contextual factors that may explain care quality and adverse events were not accounted for. Hence, these variables should be taken into account and explored in future research undertakings. Future studies using a more rigorous research design (e.g. experimental) should be conducted to test the effectiveness of a leadership development programme in improving patient safety outcomes and care quality. Moreover, studies examining how adverse patient events influence the quality of nursing care are recommended.

## 5 | IMPLICATIONS FOR NURSING MANAGEMENT

The positive impact of nurse manager authentic leadership on patient safety actions, nurse-assessed adverse events and nursing care quality suggests that measures towards improving nurse

safety performance and patient outcomes can be best facilitated by improving leadership among nurse managers. This can be realized through various measures, including theory-based leadership programmes, leadership simulation and the provision of a work environment that promotes effective leadership (Shapira-Lishchinsky, 2014; Phillips et al., 2018). To gain understanding of the performance and leadership needs and practices of a leader, performance evaluation using an appropriate tool, such as the 360-degree or a bottom-up performance appraisal, could be used by collecting inputs from all health team members (Espinilla et al., 2013). Study findings may also provide guidance during the recruitment and promotion of nurse managers by using leadership scales to screen potential candidates who possess an authentic leadership style. In addition, periodic assessment of nurse managers' performance could include leadership competencies and should consider their staff subordinates' input during the evaluation. Collectively, these measures may ultimately result in a highly committed and well-sustained nursing workforce, which is vital in implementing quality and safe nursing care, resulting in fewer incidences of adverse patient outcomes.

Patients' and their families' complaints and abuses emerged as the top adverse events reported by nurses; hence, measures to reduce these events could focus more on improving communication between health care workers and patients and their families, promoting positive attitudes in health care members, and fostering active care involvement of patients and their families (Labrague, Nwafor, et al., 2020; Skär & Söderberg, 2018). Low scores on reporting adverse events highlight the importance of establishing a work environment where nurses are supported and encouraged to speak out and freely report patient-related issues, including patient safety concerns, complications, adverse events and missed care, without the fear of being condemned or punished. This can best be addressed by instituting a reporting mechanism within the organisation in which nurses can openly report patient safety issues.

## 6 | CONCLUSION

This study provided new insight in nursing science regarding the mediating effects of nurses' safety actions on the relationship between authentic leadership and nurse-assessed adverse events and nursing care quality. The study's findings support the use of authentic leadership behaviours to foster nurses' safety actions, reduce the occurrence of adverse patient events and improve nursing care quality. Therefore, organisational strategies, which focus on improving authentic leadership among nurses through continuing education and leadership programmes, and relevant policies, may be vital in enhancing patient safety and nursing care quality.

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### CONFLICT OF INTEREST

All authors declare no conflict of interest.

### ETHICAL APPROVAL

Prior to data collection, the research protocol was submitted to the College of Nursing and College of Medicine and Health Sciences (SQU-EC/067/19) and the Ministry of Health (MoH/CSR/18/10004), for ethical clearance.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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