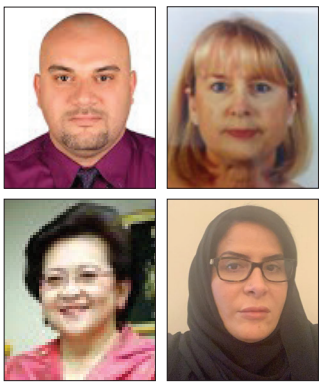
Organisational features that promote pressure ulcer prevention programmes: a literature review



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Introduction: Successfully managing pressure ulcers requires appropriate compliance for the pressure ulcer protocol. Therefore, identifying the organisational factors that promote compliance for pressure ulcer care will facilitate higher quality of care in hospitals in Saudi Arabia. **Aim:** To revise the organisational features that influence pressure ulcer development in Saudi hospitals. **Methods:** To review the available evidence available through the Ovid MEDLINE and Clinical Key databases. The review aimed to include all relevant studies that present a relationship between organisational features and changes in compliance with pressure ulcer management protocols. **Results:** The literature categorised the key organisational features that had an impact on compliance with pressure ulcer management in hospitals as being: the size of the hospital, scope of service (i.e. is the hospital a general, specialised, referral or community facility), staffing qualifications, leadership style, quality improvement projects and the utilisation of advanced technological tools. **Conclusion:** Pressure ulcer management is an organisational effort. Understanding the organisational context will facilitate higher compliance performance. This review intends to formulate a new insight for hospital leaders to enhance pressure ulcer care in hospitals in Saudi Arabia.

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Developing a pressure ulcer during hospitalisation has a negative impact on patients, families and healthcare practitioners (European Pressure Ulcer Advisory Panel, 2019), and it also indicates a low quality of care (Moore and Price, 2004; Li, 2016). As pressure ulcer development is an indication of low quality of care (Moore, 2010), accelerating pressure ulcer treatment (reducing the required time for closing the ulcer) is an indication for high quality of care (Spilsbury et al, 2007). Therefore, the quality of care and pressure ulcer management in hospitals are connected.

The organisational characteristics affect pressure ulcer care and this is an indicator for the quality of care in the hospital (Tannen et al, 2009). There are specific organisational characteristics that influence pressure ulcer management either positively or negatively (Dellefield and Magnabosco, 2014). Therefore, there is a need to investigate these characteristics. The ability to determine these features will facilitate effective organisational decision making. Also, these characteristics will provide better evidence for patients, insurance companies and national authorities regarding patient safety levels (Demarré et al, 2015).

Risk assessment repositioning, nutritional support and offloading surfaces are among the procedures listed by the European Pressure Ulcer Advisory Panel (2019) that are required in all hospitals in Saudi Arabia in the prevention of pressure ulcers (Ministry of Health [MoH], 2019). In Saudi Arabia, the MoH created policies in 2019 to obligate certain hospitals to use the Braden risk assessment scale, as well as require the logistics department to provide offloading mattresses and follow up on nutritional concerns through

regular nursing protocols and frequent medical assessments (MoH, 2019).

Hospitals in Saudi Arabia create policies that customise pressure ulcer prevention guidelines within a specific organisational context (Choi et al, 2016; Collier, 2016; Hartmann et al, 2016; Ali et al, 2019; Mervis and Phillips, 2019; MoH, 2019). These policies provide instructions for healthcare professionals relating to scientific approaches to preventing pressure ulcers, what they should do, how to report them and what the required investigations are (Sving et al, 2014; Tayyib and Coyer, 2017; Wound, Ostomy and Continence Nurses Society-Wound Guidelines Task Force, 2017; Ali et al, 2019; Cyriacks and Spencer, 2019; Mervis and Phillips, 2019). However, compliance among healthcare professionals is always a concern. Studies show that abiding by these policies is not associated with compliance (Vanderwee et al, 2007; Schutt et al, 2018). Many hospitals that apply these guidelines still report high pressure ulcer incidence (Beeckman et al, 2011).

Therefore, the aim of this review was to examine the organisational factors that influence compliance with pressure ulcer protocols. Organisational features includes the domains that affect routine daily care offered in hospitals. This includes the features that help healthcare professionals comply with pressure ulcer management, remind them of the requirements and observe compliance with protocols (Mallah et al, 2015).

Understanding the relationship between hospital characteristics and pressure ulcer prevention compliance will provide a better insight into the nature of pressure ulcer management in these hospitals (Tayyib et al, 2013). Understanding the nature of day-to-day pressure ulcer management in these hospitals will provide further insights toward modifying the actual care provided.

Method

This review aimed to examine the literature for examples of pressure ulcer management practice in hospitals. Manuscripts published between 2009 and October 2019 that presented organisational factors that enhanced pressure ulcer prevention compliance were considered for the review. These organisational features included any systematic procedures designed to promote compliance with pressure ulcer management protocols, such as monitoring the compliance of nurse to undertake repositioning every 2 hours; follow up applying the offloading mattress; and ensuring patients receive the adequate nutrition. The review did not impose any restrictions on literature type, results or the final recommendations, however, the study excluded studies examining populations other than healthcare professionals working in hospitals, such as families, community care givers or patients post discharge.

The authors searched Ovid MEDLINE and the Clinical Key database and the following search terms were used: pressure ulcer prevention, compliance, adherence, nursing, pressure ulcer prevention policy/guideline/protocol, pressure injury prevention, pressure ulcer injury policy /guideline/hospitalised patient, bedsores prevention, decubitus ulcer prevention, organisational features and environmental role.

Results

A total of 1,003 studies were identified following the initial search. After excluding editorials and expert opinion pieces, the number of available studies was 800, and after excluding studies published in non-healthcare journals, this number reduced to 506 studies. Secondly, the authors excluded articles that did not match this study's aims, namely, to focus on hospital characteristics in pressure ulcer management; a total of 48 studies were selected as matching the inclusion criteria. Four studies did not present the organisational features clearly and after discussion between the authors, the decision was taken to exclude these studies from the analysis. The number of studies, therefore, that were included in this study was 44.

Discussion

The literature categorised the key organisational features that have an impact on compliance for pressure ulcer management protocols in hospitals as being: the size of the hospital, scope of service (general or specialised), staffing qualifications, leadership style, quality improvement projects and the utilisation of advanced technological tools in prevention and treatment.

The size of the hospital

There was no link between compliance with pressure ulcer protocols and the number of beds in the hospitals (Tannen et al, 2009; Bergstrom et al, 2013; Hanna et al, 2016). Although higher bed capacity was found to be an influential factor for higher quality of healthcare in general (Pollack et al, 1993), this was not found to be a factor for improved pressure ulcer care (Sermeus et al, 2008; Tannen et al, 2009; Beeckman et al, 2013; Sving et al, 2014; Gunningberg et al, 2015; Gunningberg et al, 2017; Lavallée et al, 2018).

Hospital scope of services

The level of hospital specialisation had an impact on compliance with pressure ulcer protocols. Lee et al (2019) conclude that long-term hospitals (comparably this would be a nursing home in the UK and the US) had better compliance with pressure ulcer management protocols. Oncology services were also found to be more compliant than other services in a study conducted by Källman et al (2016). Furthermore, trauma and orthopaedic services both report higher compliance than other services in a number of studies (Rich et al, 2011; Alghnam et al, 2014; Ham et al, 2017; Oyesanya and Thomas, 2017; Brienza et al, 2018; Kim et al, 2018; Cyriacks and Spencer, 2019). In the authors' opinion, specialised hospitals will develop a higher level of experiences regarding the most appropriate method of pressure ulcer care. However, further studies are required to examine the effect of specialisation on compliance with pressure ulcer prevention strategies, ruling out any confounding factors that may be present.

Staff qualifications

More qualified staff conducting pressure ulcer management was found to have a positive impact on compliance with protocols (Chaboyer et al, 2016; Giesbers et al, 2016; Källman et al, 2016; Gunningberg et al, 2017; Ham et al, 2017; Lavallée et al, 2018; Lee et al, 2019). Hospitals with a higher percentage of nurses with a bachelor of science in nursing (BSN) reported better compliance with optimum pressure ulcer care (Tayyib and Coyer, 2017; Ünver et al, 2017; Lavallée et al, 2018; Qaddumi and Almahmoud, 2018; Yap et al, 2018; Ali et al, 2019). However, no studies were found that investigated the academic qualifications in other specialties, other than nurses.

Leadership style

Numerous studies found that when a head nurse, charge nurse or any administrative nurse leads clinical care, this plays a significant role in maintaining a good quality of care (Gunawan and Aungsuroch, 2017; Gunawan et al, 2018). In terms of pressure ulcer care, nurses are requested by hospital policy and protocol to comply with the list of recommendations outlined by EPUAP et al (2019). For instance, nurses should perform patient repositioning at regular interval (Mervis and Phillips, 2019) — this should be every 2 hours in Saudi Arabia (MoH, 2019) — observe the skin of patients at each turn, observe skin hygiene and ensure the correct amount of nutrition (Demarré et al, 2015; Ousey et al, 2015; Collier, 2016; Feng et al, 2016; Wogamon, 2016; Tayyib and Coyer, 2017, Ünver et al, 2017; Webster et al, 2017; Wound, Ostomy and Continence Nurses Society-Wound Guidelines Task Force, 2017; Brienza et al, 2018; EPUAP et al, 2019). When a patient presents with a pressure ulcer, healthcare professionals should also ensure that the appropriate dressing is chosen, as well as documenting whether or not there is any wound exudate, change in healing progress etc (Redelings et al, 2005; Vanderwee et al, 2007; Källman and Suserud, 2009; Athlin et al, 2010; Moore, 2010; Strand and Lindgren, 2010).

However, nurses have reported a lack of cooperation among staff as barriers to undertaking optimum pressure ulcer management, as well as a lack of the administrative support (Moore and Price, 2004; Jankowski and Nadzam, 2011; Lavallée et al, 2018). Nurses need a well-educated head nurse who is able to promote pressure ulcer care (Alloubani et al, 2019). Hospitals that spend the required resources to train and educate head nurses on the methods involved in organising effective pressure ulcer care protocols will witness further advances in pressure ulcer management (Tayyib and Coyer, 2017).

Quality improvement projects

Quality improvement projects are used in hospitals to solve a problem or improve a practice (Shaikh et al, 2018). Quality projects enhance the standard of care (Shirley, 2016) and play a significant role in influencing compliance with the required care (Yap et al, 2018; Ali et al, 2019, Lee et al, 2019). Furthermore, these projects have lead to several international success stories that document higher level of compliance for pressure ulcer care at the clinical level. For instance, Ali et al (2019) reported on enhanced compliance with pressure ulcer prevention by adopting a new quality project at the clinical level. This was similar to Chaboyer et al's (2016) study which reported the long-term positive effects of changes in nursing behaviours after imitating an improvement project (Webster et al, 2017). In general, introducing quality improvement projects in hospitals provides better insights in hospitals to initiate effective pressure ulcer care plans.

Utilisation of advanced technological tools in pressure ulcer prevention and treatment

Studies have shown that effective pressure ulcer management is supported by the presence of advanced dressing materials and devices (Behrendt et al, 2014; Renganathan et al, 2018;

(Schutt et al, 2018). Devices such as automated offloading mattresses can support nurses in performing pressure offloading, for example, while the availability of advanced dressing technologies in hospitals, such as repositioning feedback systems and advanced hydride offloading mattresses, also effectively promotes compliance with pressure ulcer protocols in hospitals (Meesterberends et al, 2013; Behrendt et al, 2014, Mendoza et al, 2014; Newton, 2014; Choi et al, 2016; Gunningberg et al, 2017; King Saud Medical City [KSMC], 2018; Ali et al, 2019).

Conclusion

Pressure ulcer management is one of the key indicators for the quality of care in hospitals. This review aimed to identify the organisational features that are associated with a higher standard of pressure ulcer care. The review found theat the scope of services, staff qualifications, leadership style and adopting new technologies are all positive factors on promoting effective pressure ulcer care. In conclusion, this review aimed to provide an insight for patients, families, insurance companies and national authorities for the organisational features that play a significant role in promoting pressure ulcer care in hospitals. However, one limitation of this study was that it revised only studies published in English that could be accessed by the reviewers. There is a need for further analysis of the organisational factors that affect pressure ulcer care in the future as it is no longer accepted in the Middle East region to maintain the current level of pressure ulcer care while there are several protocols available that offer improved pressure ulcer care. WME

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