Evidence reviews find little to support particular interventions for pressure ulcers, although bundles of interventions may be effective.

Prevention and treatment of pressure ulcers

National Institute for Health and Care Excellence (2003) guidance on pressure ulcer prevention (currently being updated) recommends that all people at risk of pressure ulcers should, as a minimum provision, be placed on a high-specified foam mattress with pressure-relieving properties.

Further NICE (2005) guidance on the management of pressure ulcers (also being updated) notes that there is no conclusive evidence that any one pressure-relieving support technology is superior to another.

New evidence

Chou et al (2013) reviewed 67 randomised controlled trials and cohort studies looking at the effects of risk assessment tools and preventive strategies on the incidence and severity of pressure ulcers.

The authors concluded that risk assessment tools, such as the Waterlow scale, and most types of support surfaces except advanced static mattresses, had no effect on the prevention of pressure ulcers. Likewise, nutritional support, repositioning, and dressings and pads had no clear beneficial effects. However, two trials reported some reduction in incident pressure ulcers with cleansers and fatty acid creams.

Smith et al (2013) reviewed 174 studies of treatment strategies for adults with pressure ulcers. Support surfaces, nutrition support, local wound applications and adjunctive therapies had no effect on complete wound healing compared with standard care, placebo or sham interventions. Some moderate-strength evidence suggested that air-fluidised beds, protein-containing nutritional supplements, electrical stimulation and application of radiant heat helped to reduce wound size.

Sullivan and Schoelles’ (2013) review of 26 studies focused on the factors associated with successful implementation of multicomponent preventive strategies (known as skin bundles) for pressure ulcers.

Common features of effective programmes were: education and training of healthcare staff; revision of protocols for assessing and documenting ulcers; audit and feedback; redesigning documentation and reporting processes; and use of risk prediction scores.

All three reviews highlighted the weakness of the evidence base, which comprises mainly small-studies with considerable methodological limitations, and called for more high-quality studies on preventive and treatment interventions for pressure ulcers.

Nursing Practice

Evidence Practice

Tissue viability

The conclusions of the reviews by Chou et al (2013) and Smith et al (2013) will be disappointing for health professionals.

Although it is widely appreciated that advanced static support surfaces are better at preventing pressure ulcers than standard mattresses, it may surprise some that the Chou et al (2013) review found no evidence in support of pressure ulcer risk scoring over clinical judgement. The positive conclusions of the Smith et al (2013) treatment review are largely based on clinically irrelevant comparisons (for example, comparing air-fluidised beds with standard mattresses) or surrogate outcomes, such as change in ulcer area, rather than time to complete healing.

In contrast, the Sullivan and Schoelles (2013) review concluded that bundling prevention intervention together in multicomponent programmes reduced pressure ulceration – a surprising finding given the absence of effects detected for the single interventions studied by Chou et al (2013).

There are several possible explanations for the contrasting findings. One is that bundling several interventions together and raising awareness of pressure ulcer risk, together with education, audit and feedback, is much more effective than single interventions. Another explanation is that the Sullivan and Schoelles review took a more relaxed view of the risk of bias in the underlying studies, so the conclusions may be misleading.

That said, identification of patients at risk, use of appropriate and effective support surfaces and – possibly most importantly – regular inspection of skin condition with appropriate modification of prevention strategies, are essential components of best practice.

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