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Rituals in Nursing: intramuscular injections

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Rituals in Nursing :Intramuscular Injections

Abstract:

Aims and objectives: This discursive paper will consider to what extent Intramuscular injection (IM) technique can be described to remain entrenched in ritualistic practice and how evidence based practice should be considered and applied to the nursing practice of this essential skill.

Background: The notion of rituals within nursing and the value or futile impact they afford to this essential nursing skill will be critically reviewed.

Design: discursive paper

Method: Literature review from 2002 to 2013 to review the current position of IM injections

Results: Within the literature review it became clear that there are several actions within the administration of an IM injection that could be perceived as ritualistic and require consideration for contemporary nursing practice.

Conclusions: The essential nursing skill of intramuscular injection often appears to fit into the description of a ritualised practice. By providing evidence based care nurses will find themselves empowered to make informed decisions based on clinical need and using their clinical judgment.

Relevance to clinical practice: For key learning, it will outline with rationale, how site selection, needle selection, insertion technique and aspiration can be cited as examples of routinised or ritualistic practice and why these should be

rejected in favour of an evidence based approach. The effect on some student nurses of experiencing differing practices between what is taught at university compared to what is often seen in clinical practice will also be discussed.

Key words:

Intramuscular injections

Nursing

Rituals

Students

Skills

Learning

Cognitive dissonance

Summary box

What does this paper contribute to the wider global clinical community?

- Nurses should regularly review and update their IM injection practice.
- That certain aspects of injection giving can be considered ritualistic in nature.
- The impact of differing IM injection skills can have on the education of students in their theory and clinical placements.

Rituals in Nursing :Intramuscular Injections

AIMS

This discursive commentary will consider to what extent Intramuscular injection (IM) technique can be described to be still entrenched in ritualistic practice. It will critically review the notion of rituals within nursing and the value or futile impact they afford to this essential nursing skill. For key learning, it will outline with rationale, how site selection, needle selection, insertion technique and aspiration can be cited as examples of routinised or ritualistic practice and why these should be rejected in favour of an evidence based approach. The effect on some student nurses of experiencing differing practices between what is taught

at university compared to what is often seen in clinical practice, often called the 'theory-practice gap' will also be discussed.

BACKGROUND

Many nurses if asked, would say they are providing evidence based care as opposed to ritualistic nursing care, and perhaps they would not accept how many unchallenged routinised actions focus within their working lives. Clinical effectiveness is an important driver in healthcare and routines and rituals may help attain that goal but often they may compromise it. The nursing shift handover has been cited as an important and effective ritual (Scovell 2010) and even aligned with a religious rite (Evans 2008) however many practices are ritualistic in nature and the administration of intramuscular (IM) injections could be considered to fall within this description. Consideration of the skill of IM Injection administration has been a contemporary issue in nursing in recent years, but despite the publication of evidence based instructional guidelines and on line resources (Feetham and White 2011, Merriman and Greenway 2013) practice remains unaltered and often a change is not supported either by academics or healthcare providers.

But what is a ritual? In the context of nursing it is often associated with religious practices, and there are many authors who have included this term, when discussing end of life care, death and last offices. Yet this argument will take us away from the religious connotations of the word and align more succinctly with the psychological definition of the word in that it is routinised behaviour, and one which is more often viewed negatively. Ritual action does not require understanding or knowledge and could be portrayed to be undertaken without consideration of the clinical need. Strange (2001:177) states that by definition ritual is associated with belief and emotion, rather than knowledge and thought and alludes to some form of repetitive behaviour. Biley & Wright (1997) appear to view the topic of rituals in a more sympathetic light and argue that there is a place for such routinised care in the nursing of today, whereby it affirms the role of the nurse and the patient and can promote well being. They do recognise however that rituals should not persist which are harmful to the patient or are of no value.

The discussions surrounding ritualistic practice currently appear to be less prolific than they were in the 1990s and early 2000s, when the seminal books of Ford and Walsh, Walsh & Ford (1989 & 1994) prompted nurses to question the role of rituals in their clinical practice. For example prolonged pre-operative fasting, where subsequent research has demonstrated that it is not necessary to keep a patient 'nil by mouth' for such a long duration. As a result, shortened fasting durations are now common practice. Reading these books made nurses consider and appreciate just how ritual driven our practice was, and to be to be challenged in this way encouraged us to change it, for the better.

If ritualistic is how we regarded nursing care from the 1980s to the 2000's, then the beginning of this century has signaled an new approach to providing nursing care – that is evidence based practice (EBP). Dawes et al (2007: 7) states EBP:

'requires that decisions about health and social care are based on the best available, current, valid and relevant evidence. These decisions should be made by those receiving care, informed by the tacit and explicit knowledge of those providing care, within the context of available resources'.

Evidence based practice is developed upon the premise that standards are developed according to patient outcomes rather than procedures. The onus of the decision making has moved from the practitioner to the patient in a partnership arrangement, and tacit intuitive knowledge is recognised, but it does not drive the entire decision making process.

This system of providing care is not however, without its issues. Where problems arise, it would appear to be the antagonism between the evidence from the research and literature which seeks to inform practitioners' actions and decisions, and what limits this transformation into applying such knowledge to our nursing care. Schon (1982) described a mistrust between academic knowledge and practitioners' opinions that EBP has anything to offer them and their practice. He called this a '*crisis in professional knowledge*' and the result is the so-called theory-practice gap. Its existence is partially explained by Eraut (2003:2) who describes how EBP can be considered '*an approach to practice or even as a theory of practice*'. Most nursing academics, nursing regulatory bodies and the providers of healthcare would enlarge on that concept and now promote EBP as the central tenet to care. Consideration of the gap between the evidence and what is seen and experienced by students in practice presents a real and perturbing issue for nurse educators, who need to modify their skills based education to manage such diversity of practice.

DESIGN: Discursive paper

METHOD

A literature search using a systematic approach was undertaken using a combination of CINAHL, AMED, BNI, PUBMED, Cochrane library and MEDLINE from 2002 to 2013 in addition to serendipitous sourcing of texts via citation sampling. The objective was to review the current position of IM injections as a component of a doctoral thesis, in which the primary research study will be exploring the educational impact for students of this theory-practice gap. The findings indicated that the literature regarding administration of IM injections has in the past largely been instructional and in this way has not made any challenges to the process of this essential nursing skill. More recently, researchers have begun to question issues such as the choice of site, aspiration, needle length and needle gauge (Greenway 2004, Diggle et al 2006, Chan et al 2006, Malkin 2008).

Within the literature review it became clear that there are several actions within the administration of an IM injection that could be perceived as ritualistic and require consideration, these include:

Selecting an incorrect site
Selecting the incorrect needle length and /or gauge
Not injecting up to the hub of the needle
Aspirating back on the syringe and needle unnecessarily

Generally, these issues may be due to nurses using a ritualised approach to this nursing skill, and perhaps some of the responsibility should fall on nurse educators who have in the past, entrenched an outdated approach onto student nurses and have failed to incorporate and apply recent advances and research findings to their curriculum. The result is a nursing workforce that is using an outdated approach to the administration of IM injections. Conversely this responsibility cannot be solely that of the nurse educator as every registered nurse has a clear obligation to maintain and update their professional knowledge and competence as set out by their regulatory body.

RELEVANCE TO CLINICAL PRACTICE

The site of injection is also important if it is to be effective. One of the main criticisms of using the DG site is that a standard 37mm green hub 21 g needle will not reach the muscle and instead a subcutaneous injection will be the result. This can result in negative uptake of the drug, and necrosis or fatty deposits in the subcutaneous tissue. Conversely when using the VG site the fat depth has a mean depth of 35mm and therefore in the majority of cases using a 21G 'green' needle will result in an intramuscular injection but a 'blue' 23G will not. There is also an issue with the DG site and its proximity to the sciatic nerve, which if inadvertently struck, may result in damage ranging from mild discomfort through to complete paralysis (Bagis et al 2012, Small 2004).

With regard to site selection, the suggestion of using a 'new' site for IM injections is not a recent phenomenon; rather it is one that has not been fully explored worldwide. It is perhaps surprising to note that the ventrogluteal site was first described by Hochstetter (1954) as an appropriate alternative to the dorsogluteal site. The deltoid site is also experiencing some resurgence in its popularity as more drugs: for example antipsychotic depot medication, are being licensed, prescribed and administered via this site.

However traditional practice supports routine and ritual rather than clinical judgment in determining the site selection of IM injection administration, so it is of no surprise that the statistics for the use of the Dorsogluteal site (DG) outweigh those of the Ventrogluteal (VG). Walsh and Brophy (2011) account that the DG was used in their sample of Canadian nurses by 71% compared to 14% for the VG. This is despite recent advances and developments in the evidence, which supports the use of the VG and recommends that the DG site should no longer be routinely used (Chan 2004, Greenway 2004, Small 2006).

The skill of administering IM injections appears to be one whereby the nurse is taught once within a training environment, yet as with many skills, the bulk of the transferability of the skill is seen in practice. It is here that unsubstantiated

thoughts and claims about injections are passed down from one generation of nurse to the next. Unsubstantiated and incorrect claims such as a blue hub 23G needle will be 'less painful', or the patient is emaciated and requires a 23G needle or conversely is obese and therefore requires a 21g green hub needle. The fact remains that for most injections it is the length of the needle that is critical to the effectiveness of the IM injection, not only the bore size (Chan 2006, Diggle et al 2006).

When the needle length remains such a critical issue in reaching the target muscle, it seems imprudent to leave several millimeters gap from the skin as opposed to injecting right up to the needle hub. Yet the majority of nurses always leave a few millimeters of the needle exposed from the entry site into the skin. Anecdotally many nurses have explained that this instruction was given to them "in case the needle broke" so that the needle could be removed with tweezers. Whilst needles in years past underwent frequent use and sterilisation which may have affected their integrity, the disposable needles in use today will not break through normal usage and so this ritual needs to be questioned and challenged. This part of the ritualised practice might be the easiest to change as nurses tend to like issues to be clear: as Draper (2001:56) explains, nurses do not have the word grey in their vocabulary, rather they have only black or white, good or bad. The argument for injecting up to the hub is less contentious, and fits easily into the 'good' category, so in principle should not require a lot of cognitive effort to alter practice. Yet how easy is to change such procedural learning?

Mandler (2004:49) explores the difference between procedural and declarative learning and describes the difference as being a sensorimotor versus a conceptual system. These are opposing yet complimentary ways of learning in that procedural learning has the effect that we cannot bring it to our awareness, the information is not accessible and we cannot process it so it is nonconscious. There is debate whereby it might be considered that some actions are indeed under our control and the elements of IM injections such as injecting up to the hub, or aspirating which are seen as automatic (i.e. without thinking or cognitive effort) could be controlled by making a conscious effort to override these automatic actions that form part of an experienced nurse's skills performance.

Aspirating ('drawing back') on the syringe and needle after its insertion is the final ritualistic part of this procedure, which requires exploration. For the DG site where its proximity to the gluteal artery might be an issue that requires aspiration to ensure the vessel has not been struck, for all other IM sites, aspiration is not necessary (Malkin 2008, Crawford and Johnson 2012). Though not in itself harmful if this action persists, it remains an unnecessary step, and one, which no longer requires inclusion when teaching students this skill. Moreover students should not be castigated by their mentors when they do not aspirate, and similarly they should not be encouraged to include this within their injection skills repertoire.

Yet this action seems to be the hardest one for nurses ingrained with ritualistic practice to alter. The hands move to perform the action before the brain can stop them from doing so. This unconscious movement fails to be brought to the

nurse's awareness, and they perform this part of the skill without 'paying attention'. It is possible however to override the automatic action by invoking declarative learning: I think, I weigh up, and I perform.

The reasons why nurses choose a certain action, once presented with the evidence to support a change, are complex and varied and require further in depth investigation. The issue of cognitive dissonance as described by the theorist Festinger (1957) will certainly provide some explanation for how nurses act when faced with competing evidence, beliefs and attitudes. Festinger (1957) described a state of dissonance to exist when new or existing information conflicts with ones beliefs or values. As a consequence the desire to reduce the dissonance results in bargaining with oneself to reduce the discomfort or stress or by resorting to other actions such as such as refusing to accept the credibility of evidence. This is an issue not only for qualified nurses but especially for students who may find themselves in the situation where their skills teaching at university advocates certain techniques and sites and their mentors feel unable to supervise or assess them using these methods.

However, some other viewpoints have been proffered to explain why rituals endure and nurses reluctance to embrace change. Zeitz and McCutcheon (2005) suggest that these include nurses' unwillingness to give up elements of practice, the reassurance they provide the organisation and the need for nurses to develop autonomy with clinical decision making. There is also a dichotomy between the need to change practice and the desire to do so. Philpin (2002) attests that rituals guard against anxiety, as it is easier to complete tasks than to involve oneself in the reality of the patient's condition. A ritual therefore can be undertaken in that aspect, with the minimum of thought or risk. Yet when administering an IM Injection, the nurse faces a different risk, and that is potential injury to the patient, negative uptake of the drug and potentially exposing themselves to medico-legal claims. The medico-legal cases highlighted by Small (2004) would make uneasy reading for any Trust CEO.

Feasibly some of the responsibility for the lack of application of theory to practice, lies with nurses reliance on textbooks, instructional guides and Trust policy, yet these may not be based on the best available evidence or may be out of date. Nevertheless with regard to textbooks, Zeitz and McCutcheon (2005) are concerned that they continue to be recommended to pre-registration nurses in the early stage of their practice development. Likewise policies with their prescriptive, regimented recommendations, do not allow for the dynamic nature of clinical practice and evolving evidence. Of course it is not only the student nurses who are at risk of being 'out of date', in fact the issue is more problematical for qualified nurses. For if they fail to update themselves, they are not only affecting their own practice but if they are mentoring students, they may be contradicting the students' correct behaviours and practices.

CONCLUSIONS

Thus the ultimate aim needs to be to eliminate the theory-practice gap, reduce cognitive dissonance and only deliver evidence based, quality care. By providing evidence based care nurses will find themselves empowered to make informed decisions based on clinical need and using their clinical judgment rather than to use a cookbook approach to care whereby step by step instructions must be followed in order to arrive at the correct end result.

The essential nursing skill of intramuscular injection often appears to fit into the description of a ritualised practice. This ritual may have been perpetuated due to being taught incorrectly, if educators and mentors fail to update themselves and alter their own practice accordingly. The recommendation is made that the literature surrounding IM injections is regularly reviewed by all nurses and teaching and simulated practice learning adapted as a result and the present provision is challenged. The objective is to provide good quality, effective evidence based practice. As Crawford and Johnson (2012:25) quote: *'What's important is that nurses are asking (this) question. As nurses, we must continuously question why we do what we do in our nursing care and not be caught up in past practices and unfounded fears'*.

Words 2,858

REFERENCES

Bagis S, Adam M, Leblebici U B, Karatas M, Guven A Z, Celiker A R, (2012) Sciatic nerve injury due to intramuscular injection: electrophysical findings and one year follow-up Turkish Journal of Medical Science 42(5) 913-917

Biley FC and Wright SG (1997) Towards a defence of nursing routine and ritual, *Journal of Clinical Nursing*, 6, 115-119.

Chan VO, Colville J., Persaud T., Buckley O., Hamilton S. & Torreggiani WC (2006) Intramuscular injections into the buttocks: Are they truly intramuscular? *European Journal of Radiology* 58(3), 480-484.

Crawford CL and Johnson JA (2012) To aspirate or not: An integrative review of the evidence. *Nursing*, March , 20-25.

Dawes M, Summerskill W, Glasziou P (2005) Sicily statement on evidence-based practice, *BMC Medical Education* 5 (1):1-7.

Diggle L, Deeks JJ, Pollard A J (2006) Effect of needle size on immunogenicity and reactogenicity of vaccines in infants: randomised control trial, *British Medical Journal*, 333, 571-577.

Draper P (2003) Commentary, *Clinical Effectiveness in Nursing* 7, 56.

Eraut M (2003) The many meanings of theory and practice . *Learning in Health and Social Care* 2 (2) 61-65.

Evans AM, Pereira DA, Parker JM (2008) Discourses of anxiety in nursing practice: a psychoanalytic case study of the change-of-shift handover ritual *Nursing Inquiry* 15(1) 40-48.

Feetham C and White J (eds) (2011) Guidance on the administration to adults of oil based depot and other long acting antipsychotic intramuscular injections 3rd edition Available at: http://www.cmhp.org.uk/pdfs/Injection_SOP_2011_3rd_Edition.pdf Accessed on 6/3/14.

Festinger L (1957) *A Theory of Cognitive Dissonance*. Tavistock, London.

Ford P and Walsh M (1994) *New rituals for old*. Oxford: Butterworth Heinemann.

Greenway K (2004) Using the ventrogluteal site for intramuscular injection *Nursing Standard*, 18 (25) 39-42.

Hochsetter V (1954) Über die intraglutaale Injektion, ihre Komplikationen und deren Verhütung. *Schweizerische Medizinische Wochenschrift*. 84,1226-1227.

Mandler J M (2004) *The foundations of mind: The origins of conceptual thought*. Oxford University Press.

Malkin B (2008) Are techniques used for intramuscular injection based on research evidence? *Nursing Times* 104 (50/51) 48-51.

Merriman C and Greenway K (2013) Intramuscular injection using the ventrogluteal site, Available at: <http://www.clinicalskills.net/client-area/catalogue/procedure/72> Accessed on 7/3/14.

Philpin S M (2002) Rituals and nursing: a critical commentary, *Journal of Advanced Nursing*, 38(2), 144-151.

Schon D (1982) *The Reflective Practitioner: How Professionals Think in Action*. New York: Harper Collins

Scovell S (2010) Role of the nurse-to-nurse handover in patient care *Nursing Standard* 24(20) 35-39.

Small S (2004) *Preventing sciatic nerve injury from intramuscular injections: literature review* *Journal of Advanced Nursing* (3) 287-296.

Strange F (2001) The persistence of ritual in nursing practice, *Clinical Effectiveness in Nursing* 5 (4) 177-183.

Walsh L and Brophy K (2011) Staff nurses' sites of choice for administering intramuscular injection to adult patient in the acute care setting. *Journal of Advanced Nursing* 67(5), 1034-1040.

Walsh M and Ford P (1989) *Nursing Rituals: Research and Rational Actions*. Oxford : Butterworth Heinemann

Zeitz K and McCutcheon H (2005) Tradition, rituals and standards, in a realm of evidenced based nursing care. *Contemporary Nurse* 18:300-308