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Citation

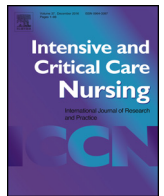
Luiking, M. L. (2017). The evaluation of nurse driven treatments starts with the nurses. *Intensive And Critical Care Nursing*, 43, 1-2. doi:10.1016/j.iccn.2017.09.004

Version: Publisher's Version

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Note: To cite this publication please use the final published version (if applicable).



Editorial

The evaluation of nurse driven treatments starts with the nurses



Medication treatment which is almost fully in the hands of nurses is increasingly described in the literature. While there have always been treatments, e.g. nursing tasks, which have been entirely a part of the nurses' domain; nurse driven treatments add a new dimension. They are treatments, which were previously guided by the medical staff, but are now commenced, executed and evaluated by the nurses themselves (Luiking et al., 2016). The medical staff only get involved if there are extraordinary circumstances. There is increased autonomy for the nurses in these nurse driven treatments and this autonomy can benefit the patient results (DuBose et al., 2009; Laschinger and Havens, 1997; Page et al. 2008).

How successful a new treatment is, is dependent upon the characteristics of the new method of treating patients and of the characteristics of the patients themselves. For nurse driven treatments the characteristics of the nurses, e.g. their nurse education and their experience, also influence the success of the new treatment. These nurses' characteristics seem to be especially important for the treatment success in the long run or the sustainability of the treatment.

The success in practice of a new treatment could be considered to be the result of 1) the potential of the new treatment, the possible innovation success and 2) the success of bringing the innovation to the work environment and keeping the beneficial effects of the innovation in the long run: the implementation (and sustainability) success. van Achterberg et al. (2008) acknowledge these two key elements to successful treatment results, when stating: "*how evidence-based nursing requires evidence-based implementation*". The contributions to the results by the innovation and the implementation are very much entwined. Van Berkel et al. (2017) reported in this issue (pages 6–11), realise that the innovation and implementation results are both important. They measure the results of their three-tiered protocol treatment immediately after the introduction of the innovation and they measure the sustained implementation results in the six months thereafter. However, the specifics of the implementation process are only briefly reported and could be expanded upon.

When studying the contribution of the innovation (sec) to the success of the new treatment, certain measures are more indicative than when the implementation is studied. For the contribution of the innovation, results tied to the patients are most indicative. They predominantly represent the benefits of the new treatment, the 'introduced product'. For the contribution of the implementation, results which depict the compliance are more indicative. They predominantly represent the success of the introduction, the

'introduction process'. In the article by Van Berkel et al. (2017) the blood glucose at recheck (Table 3 in Van Berkel et al. (2017)) seems to be the measurement best resembling the introduced product result. The treatment according to protocol (Table 4 in Van Berkel et al. (2017)) seems to be the measurement best resembling an introduction process result.

Introduced product and introduction process results are difficult to separate and to a degree they are always interconnected. In the article by Van Berkel et al. (2017) the time to treatment (Table 4 in Van Berkel et al. (2017)) is an example of how entwined the introduced product and introduction process results can be. When treating hypoglycaemia, it is essential that the treatment is started as soon as possible to minimise the damage caused by the low blood glucose. The time to treatment can be considered a measurement of patient's damage control and as such the introduced product result. The time to react to a hypoglycaemic event also is an indicator of how well the treatment is executed or introduced, as such it is an introduction process result.

An innovation always needs a form of implementation and the implementation makes introduced product results possible. The importance of a good implementation is stressed by Kotter (2008), who indicated that a failure to properly implement can lead to a 70% failure of innovations. For an implementation to be successful it is necessary that the innovation is doable. For innovations which are experienced as cumbersome in practice, it can become very difficult to keep them sustained in the long run. Protocols for hand washing seem to suffer from this problem (Battistella et al., 2017; El-Soussi and Asfour, 2017; Piras et al., 2017; Rigby et al., 2017; Sadule-Rios and Aguilera 2017; von Lengerke et al., 2017).

The implementation doesn't stop and continues into the sustainability period. This is shown in the article Van Berkel et al. (2017) (Table 4) as the percentage of patients treated according to protocol increases even after the post-protocol period and into the extended post-protocol period.

When a new treatment method is studied, the research population is the patients' group treated with this new method. The characteristics of this research population, e.g. mean age, gender, illnesses are provided in the study for the reader to examine the validity and relevancy of the study for the reader's patients. When nurse driven innovations are studied, the nurses become an additional research group alongside the patients. The characteristics of the nurse research group, e.g. age, gender, grade of nursing education, nursing experience are now important for the chance of the implementation success. The reader must be able to examine

these characteristics to determine the validity of the study and its relevancy for the reader's nursing situation. The successful implementation of a nurse driven innovation in a certain group of nurses might not be successful in another group, when the two groups are dissimilar, e.g. in the grade of nursing education. Even the cultural makeup of the nurses' research group is important for the chance of success of an implementation. (Luiking et al., 2015). When the innovation means more than a minimal change in the work method of the nurses, it becomes more essential that there is an implementation method for its introduction, which is proven to be effective: an evidence-based implementation.

Van Berkel et al. (2017) recognise the importance of the nurses' contribution for the sustainability of their three-tiered hypoglycaemia treatment. For the extended post-protocol period, they focus on introduction process measurements: treated according to protocol and time to treatment. They however only summarily describe the characteristics of the nurse research group.

While the necessity of a good implementation is recognised, the implementation rarely gets extensively described in research articles. A proper description of the implementation process can be lengthy and the word limit of an article can become problematic. Describing and investigating the introduced product and the introduction process in one article might give a confused impression of the aim of the research; what is it the authors want to describe: the results of the product or the results of the implementation process? Providing introduced product results next to introduction process results while focussing on the new product is very often the best compromise. Van Berkel et al. (2017) have chosen this compromise.

While it is important to know which implementation method was used in a study, it is also important to realise that an implementation method cannot be copied in full to another situation; no two clinical settings are identical. Implementation methods are increasingly seen as processes that need adaptation to fit the situation (Van Linge, 2006) and corrections by means of feedback (Grol et al., 2013).

Nurse driven treatment demands more initiative taking and more autonomy of the nurses. Increased nurses' autonomy in their work has been associated with better patient results and better compliance by the nurses (Laschinger and Havens, 1997; Luiking, 2015; Luiking 2016; Page et al., 2008). The increased autonomy when treating patients comes with an increased responsibility of the nurses for the treatment. This responsibility is thought to make the nurses part 'owners' of the innovation and an important stimulus for the nurses to adhere or comply to the innovation (Burnes, 1996).

Allowing nurses to take initiative and have this autonomy is a decision nurses, nurse management and medical staff have to make. The decision to allow this initiative and autonomy can be made safely if the introduction of the innovation is monitored. This means that the introduction process is continuously reviewed and the introduction process results are measured.

For the introduction process monitoring it is essential that it is recognised that there is an introduced product alongside a distinct introduction process and that together they determine the end results of a new treatment. Additionally, it is necessary to recognise that the nurses form the (research) population in the introduction process and it are the characteristics of this population which influence the outcomes.

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