Cannabis and Multiple Sclerosis, can it help?

By Rebecca Bates

Introduction

Multiple Sclerosis (MS) induced spasticity is a debilitating symptom associated with MS, and can impede on a patients physical, psychological, social and spiritual aspects of wellbeing, reducing quality of life (Syed, McKeage, & Scott, 2014). Working in a residential care setting, alongside patients who experience moderate to severe spasticity gives a good understanding to how spasticity impacts on their quality of life. Cannabis is a subject that is known to have beneficial properties to reduce spasticity. This got my enquiring mind to explore if the use of cannabis can reduce or control spasticity.

Research question "How effective is the medical use of cannabis in reducing moderate to severe spasticity, in patients with Multiple Sclerosis".

Literature Review Findings

Literature has identified that cannabinoids are proven to be effective in reducing muscle spasticity (Zajicek et al., 2003). Cannabinoids have an effect on the Central Nervous System, particularly the motor system of the brain, enabling them to have an effect on muscle spasticity (Zettyl et al., 2016). Literature has also acknowledged the benefit patients receive from cannabinoid use is high, and most patients prefer this method of treatment due to the positive effects it has (Notcutt, 2015). It is used currently in other parts of the world as an add on treatment to current medications for those who find it difficult to manage their spasticity, which enhances the effect by reducing spasticity and increasing quality of life (Zettyl et al., 2016). Adverse effects are common but once therapeutic titration levels are established, these effects are reduced. Overall, many researchers have acknowledged that cannabinoids have proven to be effective to control, and manage spasticity.

Implications

Currently, cannabinoids are not legal in New Zealand. Nurses and medical professionals need to be up to date with relevant information regarding cannabinoids and effects they have physically and psychologically.
Having up to date knowledge regarding the forms, and doses of administration is necessary.

Nurses need to be aware of their own beliefs regarding the medical use of cannabinoids, and how this can impact the patient.

Cannabinoids can interact with the body systems, when patients are taking opioids and other drugs that have an effect on the Central Nervous System increasing side effects.

Falls and psychotropic effects are common in MS patients, and cannabinoid use can enhance these effects. Assessments need to be thorough and ongoing.

Understanding cannabinoids is the key, so information can be relayed to the patient to empower them to make choices.

Recommendations

Research has proven that cannabinoids are effective in reducing muscle spasticity and other health conditions (Notcutt, 2015), so legalising it for medical use would be ideal.

Pharmacodynamics and pharmacokinetics of cannabinoids need to be understood well. Although it is not legalised, but if patients indicate that they may want to use this as a form of treatment then this knowledge is required to educate the patient.

Currently cannabinoids are used as an add on therapy in parts of the world (Zettyl et al., 2016). Further research needs to be undertaken to see if it can be used as a first line of treatment.

Further research is needed into exploring systemic dose to dose comparisons of cannabinoids and current antispasticity medications, to see how much therapeutic advantage cannabinoids will offer over conventional medication (Notcutt, 2015).

Conclusion

Numerous researchers have identified that the use of medicinal cannabinoids have proven to be effective in controlling and reducing MS induced spasticity. As cannabinoids are not currently legal in New Zealand, legalisation would need to occur in order for those suffering with spasticity to experience the therapeutic effects. Adverse reactions do occur, but with right titration levels these will diminish. Understanding how cannabinoids work on and within the body are important for nurses to know, so they are well prepared in any clinical area, if a patient enquires about alternative therapy.

References

Notcutt, W. G. (2015). Clinical Use of Cannabinoids for Symptom Control in Multiple Sclerosis. *Neurotherapeutics*, *12*(4), 769–777.
Jeffrey, S. (2014, April 28). Medical marijuana image. Retrieved from http://www.medscape.com
Zajicek, J., Fox, P., Sanders, H., Wright, D., & Al, E. (2003). Cannabinoids for treatment of spasticity and other symptoms related to multiple sclerosis (CAMS study): Multicentre randomised placebo-controlled trial. *The Lancet, 362*(9395), 1517-26.
Zettl, U. K., Rommer, P., Hipp, P., & Patejdl, R. (2016). Evidence for the efficacy and effectiveness of THC-CBD oromucosal spray in symptom management of patients with spasticity due to multiple sclerosis. *Therapeutic Advances in Neurological Disorders*, *9*(1), 9–30.

PICOT Model (Whitehead, & Schneider, 2013).

	Information relating to question	Explanation
Population	Population is those who have a medical diagnosis of Multiple Sclerosis (male and female) and who experience painful moderate to severe spasticity due to their condition. A pain score of over 3/10. They also need to be over the age of 16 years old.	A score more than 3/10 on the pain scale represents that the pain is significant enough and enough to impact on activities of daily living. This also represents that person is experiencing moderate to severe spasticity (Zettl et al., 2016). The person also needs to be over the age of 16 to give informed consent.
Intervention	People with Multiple Sclerosis who have been administered cannabinoids, whether they are inhaled or synthetic, as a pharmacology intervention for control and reduction of spasticity.	I will be using research articles that are experimental in design, where administration of cannabinoids are compared to placebo groups
Comparison	Those with Multiple Sclerosis who receive the placebo drug as part of the intervention	The explanation is that same as the above section.
Outcome	Significant decrease and control of spasticity, resulting with an increase in quality of life	As I am wanting to know how effective cannabinoids are in reducing spasticity then it is important to look for articles that focus on the effects of cannabinoids on moderate to severe spasticity.
Time	N/A	N/A

Why a poster?

A poster presentation was chosen as a method of disseminating my research. I chose this method to do this as I am a very visual person, and many others also find this form of presentation easier to understand and learn from. I know what I look for in a poster that engages me to read it, so I felt I can use this skill to get my message across to those to inform others of my literature review. According to Whitehead and Schneider (2013), posters are a useful way to disseminate research findings. Posters are effective as they are eye catching and easy for people to read as they are purposely designed to have minimal wording that is effective in getting the research message across (Ilic and Rowe, 2013).

By using a poster to disseminate findings has added benefits, as posters can be strategically placed in areas where people are more likely to read it such as; hospital corridors, notice boards, tertiary institutions, Doctors offices, Nurses stations and other public areas (Whitehead, & Schneider, 2013). Presenting research findings in the form of a poster is known to be successful in increasing peoples knowledge, changing attitudes and behaviours, and if the graphical design, and the physical appearance of the poster is the key thing in successfully promoting knowledge transfer (Ilic and Rowe, 2013).

Reference

Ilic, D. and Rowe, N. (2013), What is the evidence that poster presentations are effective in promoting knowledge transfer?. A state of the art review. *Health Info Library Journal, 30*(4)12.

Schneider, Z., Whitehead., D. (2013). Identifying research ideas, questions, statement & hypotheses. In Z. Schneider, D. Whitehead, G. LoBiondo-Wood, & J. Haber. Schneider, Z., Whitehead., D. (4th eds) *Nursing and midwifery research methods and appraisal for evidence-based practice.* (pp. 58-73). Sydney, Australia: Mosby.

Schneider, Z., Whithead., D. (2013).Writing and presenting research findings for dissemination. In Z. Schneider, D. Whitehead, G. LoBiondo-Wood, & J. Haber. Schneider, Z., Whitehead., D. (4th eds) *Nursing and midwifery research methods and appraisal for evidence-based practice* (p.373-386). Sydney, Australia: Mosby,