

NURSE PRACTITIONER KNOWLEDGE, PRACTICES, AND BARRIERS TO OFFICE-BASED MANAGEMENT OF OPIOID DEPENDENCE

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This program has been developed solely for the purposes of describing the level of nurse practitioner (NP) clinical practices and barriers to office-based management of opioid dependence, before and after participation in an online educational intervention with a one-month practice-change follow-up. The program is posted as a part of this project's educational intervention and is intended only for such use. The study has been approved for this purpose by the Chamberlain College of Nursing Institutional Review Board. Please find the link to return to the survey at the end of the slides.

Rationale

Best available evidence demonstrates a growing concern with methadone-induced fatalities (Andrews et al., 2009; Salimi, Okazi, & Sangsefidi, 2014). With methadone becoming a more accepted treatment for opiate addictions, further recognition of best practices and strategies to overcome barriers to best practice is necessary (Bart, 2012). One such concern in office-based management of opioid dependence is the development of fatal ventricular arrhythmias (Hanon et al., 2010; Vallecillo et al., 2013). Best clinical practice recommends interval screening to overcome such threats on healthy outcomes in the treatment of opiate addictions (Fareed et al., 2010; Katz et al., 2013). Moreover, a need for increased attention in overcoming barriers to practice is warranted (Walley et al., 2008; Taghva et al., 2014).

Objectives

By the conclusion of this presentation, participants will be able to:

- 1. Describe knowledge relating to best clinical practices to office-based management of opioid dependence
- 2. Discern best practices to overcome barriers to office-based management of opioid dependence
- 3. Identify potential for improved practice-change relating to office-based management of opioid dependence

Purpose

The purpose of this presentation is to increase the level of nurse practitioner (NP) clinical practices and overcome barriers to office-based management of opioid dependence.

Introduction

The value of understanding clinical practices and barriers to office-based methadone is largely under-estimated. Best available evidence demonstrates a growing concern with methadone-induced fatalities (Andrews et al., 2009; Salimi, Okazi, & Sangsefidi, 2014). With methadone becoming a more accepted treatment for opiate addictions, further recognition of best practices and strategies to overcome barriers to best practice is necessary (Bart, 2012). One such concern in office-based management of opioid dependence is the development of fatal ventricular arrhythmias (Hanon et al., 2010; Vallecillo et al., 2013).

Introduction Con't

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Methadone

Methadone, a synthetic opioid, often prescribed for the treatment of opioid dependence, is the gold standard of care. There is a growing amount of literature and case reports that methadone can cause a dose dependent prolongation of the QT interval in the cardiac cycle and Torsades de Pointes (TdP) a fatal cardiac arrhythmia, which has generated considerable concern for practitioners in Addiction Medicine (Butler, Rubin, Lawerence, Batey, & Bell, 2011).

Risk factors for cardiac adverse events

- Simultaneous use of benzodiazepines, other opiates, alcohol, cocaine
- Interactions between medications
- Accumulation in body to toxic levels
- Peak respiratory depressant effects
- Poor clinical practice during the start of methadone treatment (induction)
- Cardiac effects

Prescriber Challenges

- Lack of education on opioid assessment, treatment, referral
- No uniform screening procedures
- Opioid related morbidity and death are increasing

Death From Methadone

- More common with initial therapy
- Deaths at steady state are related to:
 1. Interfering co-medication
 2. Illicit drug taking(diazepam, alcohol, cocaine, cannabis, other opioids)

Improving patient safety

- The American Association for the Treatment of Opioid Dependence (AATOD) recommends a thorough exam including:
 - Patient's history
 - Family's history
 - Physical exam
- Ask your patients if they have:
 - Any heart related symptoms, problems
 - Fainting spells
 - Palpitations
 - Unexplained seizures
 - Family history of any of the above
 - Other drugs that can prolong QTc intervals.

Improving patient safety con't

- Assess each patient for use of other medications
 - Prescription drug monitoring
 - Records from other providers
 - Urine drug screens
- Patient and family education
 - Safe use, storage, potential risks and benefits
 - Take exactly as prescribed
 - Interactions with prescription and OTC medications
 - Signs of methadone overdose

Improving patient safety con't

Table. Recommendations to Prevent Sudden Cardiac Death in Methadone-Treated Patients

1. Before starting methadone, take a patient history for syncope, seizures, and cardiac conditions. Take a family history of cardiac conduction defects or sudden death. Withhold methadone if a strong history is present.
2. Perform a physical and look for cardiac arrhythmia, severe atherosclerosis, or abnormal blood pressure. Withhold methadone if cardiovascular disease is clearly evident.
3. Before starting methadone, determine if a patient is taking any of these agents, which may interfere with cytochrome P450 activity. Either stop these agents or withhold methadone.
 - a. Antidepressants/Anti-anxiety: amitriptyline, desipramine, doxepin, fluoxetine, imipramine, nortriptyline, paroxetine, protriptyline, sertraline
 - b. Anti-infectives: amoxicillin, clarithromycin, erythromycin, ketoconazole
4. Start methadone dosages low (ie, <20 mg/d) and titrate upward slowly (approximately once per week). Do not attempt to substitute methadone for another long-acting opioid on a morphine equivalence basis.
5. Perform an ECG screen on patients taking more than 100 mg/d of methadone if they report an episode of syncope, seizures, or palpitations.

ECG, electrocardiogram.

Adapted from Martin JA, Campbell A, Killip T, et al. *J Addict Dis*. 2011;30(4):283-306.

Improving patient safety con't

- Patients identified as at risk may be provided with alternative treatment
 - reduction of methadone dosage
 - provision of alternative opioid agonist treatment
 - treatment of associated risk factors

Reduction of Methadone dose

- Start methadone at low doses (no more than 20 to 30 mg daily) and titrate slowly.
- Methadone has long and variable half-life, which can be as long as 120 hours.
- Slow titration may reduce the risk for unintended drug accumulation and accidental overdose.
- Dose reduction with new onset QTc prolongation.

Alternative opioid agonist

- ❑ Buprenorphine as an option for patients being treated for opioid addiction who have risk factors for prolonged QTc.
- ❑ Cannot be prescribed by midlevel practitioners
- ❑ Less drug interaction than Methadone

Treatment of Associated Risk Factors

- Limit physical activity
- Avoid medications known to cause prolonged Q-T intervals
- Take medications to prevent long QT syndrome
- Surgery or an implantable device.
- Cardiology consult.
- Interprofessional collaboration

Baseline electrocardiogram (ECG)

- Recent data suggest that methadone is the most common drug-related cause of ventricular arrhythmia
- Consider ECG before starting methadone in patients not known to be at higher risk for prolonged QTc.
- Obtain an ECG before initiating methadone therapy in patients with risk factors for prolonged corrected QT interval (QTc)
- ECG demonstrating a QTc greater than 450 ms (Chou et al., 2014)

ECG con't

- additional ECGs annually, or whenever the daily dose exceeds 100 mg.

Conclusion

- ❑ Methadone therapy is a highly effective component of comprehensive drug rehabilitation for opioid addiction
- ❑ With effective screening, methadone reduces mortality and morbidity.
- ❑ It is important for clinicians to be knowledgeable about Methadone and how to prescribe it safely before using it.

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