Cogent Public Health

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/oamd21

Childhood adversity and co-dependency roles in a case of a midwife with pethidine use disorder attending Mulago National Referral Hospital, Kampala, Uganda

Raymond Odokonyero, Tabitha Aujo, Denis Agaba & Catherine Abbo

To cite this article: Raymond Odokonyero, Tabitha Aujo, Denis Agaba & Catherine Abbo (2022) Childhood adversity and co-dependency roles in a case of a midwife with pethidine use disorder attending Mulago National Referral Hospital, Kampala, Uganda, Cogent Public Health, 9:1, 2145704, DOI: 10.1080/27707571.2022.2145704

To link to this article: https://doi.org/10.1080/27707571.2022.2145704

Published online: 17 Nov 2022.

Odokonyero et al., *Cogent Public Health* (2022), 9: 2145704
https://doi.org/10.1080/27707571.2022.2145704

cogent public health

PUBLIC MENTAL HEALTH | CASE REPORT

Childhood adversity and co-dependency roles in a case of a midwife with pethidine use disorder attending Mulago National Referral Hospital, Kampala, Uganda

Raymond Odokonyero[1*], Tabitha Aujo[1], Denis Agaba[1] and Catherine Abbo[1]

Received: 17 March 2021
Accepted: 04 November 2022

*Corresponding author: Odokonyero Raymond, School of Medicine, Department of Psychiatry, Makerere University College of Health Sciences, P.o.box 7072, Kampala, Uganda
E-mail: rodokonyero@gmail.com

Reviewing editor:
Joe Thomas, School of Global Health, Institute of Health and Management, VIC, Australia

Additional information is available at the end of the article

Abstract: Pethidine is a short and fast-acting synthetic opioid that has a high potential for abuse and addiction compared to other opioids. It is popularly used in the management of pain such as pancreatitis, and cholecystitis peri- and post-operations. Among patients, addiction to pethidine is usually induced unintentionally by a health worker in the course of treating the patient's pain. Addiction to pethidine is a common but silent problem for healthcare workers such as doctors, nurses, and midwives, and it is often underreported. Childhood adversity and co-dependency roles by family members have been linked to the development and maintenance of addiction to psychoactive substances including pethidine. This case study on a midwife with pethidine addiction in Uganda is a call to draw attention to childhood adversity and co-dependency roles in pethidine addiction.

Subjects: Mental Health; Behavioral Neuroscience; Medicine; Nursing; Specialist Community Public Health Nursing; Midwifery

Keywords: Pethidine; midwife; Childhood adversity; co-dependency; Uganda

1. Introduction

Pethidine, which is also known as meperidine, is a synthetic opioid developed by German Chemists in the 1930s (Latta et al., 2002). It was initially developed as an antispasmodic agent and quickly gained fame in the management of painful conditions such as pancreatitis and cholecystitis (Latta et al., 2002; Von Eisleb & Schaumann, 1939), although pethidine's analgesic properties were not identified until 1939 (Latta et al., 2002). Pethidine is a weak μ receptor agonist with clear anticholinergic and local anesthetic effects. Pethidine has a half-life of 2its5 hours while its metabolite, normeperidine, has a half-life of 15–30 hours in adults (Buck, 2011; Kul et al., 2020). Pethidine's rapid onset and short duration of action made it the drug of choice for analgesia and smooth muscles (Buck, 2011). Pethidine addiction has been attributed, in part, to its rapid which leads to the rapid development of tolerance and dependence (Barlow & Lewis, 1951; Batterman & Mulholland, 1943). The brain mechanism of pethidine addiction has been linked to the inhibition

ABOUT THE AUTHOR

My name is Odokonyero Raymond. I am a behavioral and social science research fellow at Makerere University, Kampala, Uganda. I am also a psychiatrist specializing in addiction care and research. My research interests include substance use disorders among young people, alcohol use among people with HIV, mental health at the workplace, and the use of socio-behavioral theories in research. Currently, I am studying burnout among healthcare workers in rural Uganda. One of the risk factors for burnout in our setting is substance misuse. This case study provides context for future research into substance use disorders among healthcare providers.

of the transporters of both dopamine and norepinephrine causing euphoria, negative effects on cognition, and ultimately, its reinforcing effect (Barlow & Lewis, 1951; Buck, 2011; Izenwasser et al., 1996; Özer et al., 2010).

Pethidine addiction is common among healthcare workers (Mpewo, 2019). Doctors, nurses, and midwives who develop pethidine addiction, usually start using pethidine that has been prescribed for treating actual physical pain. Initially, following the administration of medically prescribed pethidine, health workers report feeling pain-free, relieved, and happy (Mpewo, 2019). Consequently, however, healthcare workers develop non-medical pethidine use (Al-Maaz et al., 2019; Ives et al., 2006; Mpewo, 2019) due to factors such as stress, pain, and marital issues (Mpewo, 2019). Moreover, because health workers have access to pethidine owing to their profession (Carr & Jacox, 1997), non-medical use of pethidine among them is usually in excess of the recommendations that adults receive of no more than 600 mg per day and no use for more than 48 hours, hence pethidine abuse (Carr & Jacox, 1997). In addition, healthcare workers may use pethidine at work without attracting attention, but even when found out, there tends to be discretion about the issue (Bateman, 2004). This silence is in part, because reporting such a case may lead to the loss of the job of the affected person, but also because sometimes, without knowing it, members of one's social system maintain pethidine use in a dependent member (Bateman, 2004). These social roles that influence one's substance use development and maintenance are referred to as co-dependency roles. Co-dependency roles are relationship dynamics that exist within a social group such as among co-workers or family members, that keep an individual who is struggling with a substance use problem such as pethidine use disorder or pethidine dependence (Harkness & Cotrell, 1997). Co-dependency results from dysfunctional social and family systems, where co-dependency roles include; enabler, hero, scapegoat, mascot, and lost child (ICCE, 2015).

In Uganda, clinical referrals of health care workers with pethidine use disorder to the mental health units within hospitals such as the Mulago National Referral hospital do occur with a few reported deaths too. However, the true incidence and burden of pethidine use among healthcare workers in Uganda are not known. This issue is rarely talked about and no written cases have been reported. This case study is a call to action to identify, treat and support healthcare workers with pethidine addiction. We present a case study of a midwife who was given pethidine after an operation to ease her pain and in whom addiction developed.

2. Case

A 36-year-old married midwife and a mother of three presented to our clinic with pethidine abuse-related complaints. The psychiatric interview revealed that she was first given pethidine for pain relief during obstetric care when she was 23 years old. Subsequently, she started to use pethidine as the pain killer of choice to relieve all types of pain such as headaches, toothaches, and menstrual pain. She easily got the medication from the hospital store and self-administered it. She reports that this went on intermittently for two years without any problems. However, at the end of her second year of using pethidine, a work colleague who was a medical doctor died from a pethidine overdose, and this was a wake-up call for her. She quit using pethidine at that time.

Nine years later, she was administered pethidine to relieve pain due to a dislocated shoulder from a road traffic accident. She was given pethidine for three days during the surgical care, however, she continued to use it intravenously even after discharge. Initially, she used a single vial (50 mg) of pethidine every other day for about three months. Thereafter, she started to use one vial every day. She reports that her use of pethidine escalated from one vial per day to 3, then 5, then 10 depending on how "stressed-out" she felt that day. By the time of her visit to the clinic, she was using up to 20 vials (~ 1000 mg) per day. During this period, she got a new job with a non-government organization (NGO) whose mandate was to supply lower-level health units with pethidine. Working for this NGO as an administrator, although on a part-time basis, enabled her to use the organization's name to procure large consignments of pethidine whenever she wanted,

without raising any suspicion. With this unlimited access, she gradually increased her daily dose of pethidine up to approximately 1000 mg by the time of the first consultation. She reports that she injected herself every 3 to 4 hours regardless of where she was, whether at work or at home, and several times in front of her children, who would pick her up when she collapsed to the floor. Following the administration of pethidine, she reports feeling calm, peaceful, drowsy, and internally happy. All the stress left her body instantly after the injection. She found herself escaping from all situations that threatened to stress her including work supervisors and even her own children and husband. She started to isolate herself by locking herself up in her bedroom all day and night, while intoxicated for most of that time. As a result, she started to neglect her children and skipped work for many days while giving the excuse that she was sick. She stopped eating, developed insomnia, and stopped caring for her body hygiene. She used most of her salary to buy pethidine and her private practice was run down because she was often too sedated to help patients. When she did not use pethidine, she felt really bad, was irritable, felt body weakness and pains, sweated excessively, and was restless.

She lives and works in a different town from her husband, who visits only once or twice a month and sometimes longer. She lives with her three children aged 13, 10, and 4. Following many months of pethidine use, her older child disconnected from her and concentrated on her studies, the second child simply "disappeared" as if he was no longer in the family, while the youngest always stayed by her bedside and often begged her to stop injecting herself. He would cover her when she was passed out on the floor. Her husband, when he was around, would casually request her to stop injecting the drug but whenever she was experiencing signs of withdrawal, he would buy her the pethidine or give her enough money for her to be able to do so. In regards to her upbringing, she was raised by her paternal aunt from the age of 4, following the death of her father. She describes her childhood as one characterized by frequent verbal and physical abuse. She was often subjected to age-inappropriate labor and suffered severe beatings for minor infractions. She reports that as a result, to date, she panics when referred to by her surname, as she perceives it to mean she is in trouble. She also believes that everyone who comes into her life will abandon her sooner or later. She ran away from home at the age of 14 and lived at a mission till she was of age.

On mental state examination, AK was drowsy, calm, and cooperative. She looked her stated age and was groomed. Her speech was loud and forceful but coherent. She spoke about pethidine using glowing references. Her affect was euphoric (had injected herself a few hours prior) and rapidly switched to irritability, especially when asked questions she perceived to be trying to "trap" her. She was not suicidal at the time. She was suspicious of our intentions but she had no overt delusions or hallucinations. On physical examination, she had ecchymosis related to injections on her arms and legs. BP: 122/85 mmHg, Pulse: 88/min. No signs of abstinence indications were found in her. Her blood chemistry examination was normal.

We admitted her with a diagnosis of pethidine use disorder in intoxication. We started her on 2 mg/day clonazepam, 300 mcg/day clonidine, and 20 mg/day fluoxetine. On day 2, she developed strong cravings, clonazepam was stopped and 30 mg/day of diazepam was started. On day 3, she accessed and injected 500 mg of pethidine at night. She was discharged on day 4 with reading material on pethidine and asked to return whenever she felt ready to start the journey of abstinence.

She was re-admitted two weeks later following 4 days of abstinence from pethidine. She had a dysphoric mood, rhinorrhea, sweating, and yawning. These findings were evaluated as abstinence indications. She was hospitalized with the diagnosis of pethidine use disorder in withdrawal.

15 mg/day of diazepam, 300 mcg/day of clonidine, and 20 mg/day of fluoxetine were started. She stayed in our unit for three months, during which time she received cognitive behavioral therapy and couple's therapy among others. She was discharged with 94 days of abstinence from

pethidine. She continued to visit the clinic regularly and became an ambassador who went to various hospital units to speak to healthcare workers about the dangers of pethidine abuse. In addition, she consented to this publication in writing, read the final draft, and consented to publish her de-identified information.

3. Discussion

Opioid analgesic abuse and dependence occur quite frequently globally (Ives et al., 2006; Kul et al., 2020). Although it is commonly used in medical settings for pain management (Latta et al., 2002), pethidine use is associated with the kind of drug-seeking behavior that leads to addiction (Izenwasser et al., 1996). Some factors that have been linked with the development of pethidine addiction include; suffering from chronic unrelenting pains, a low threshold or tolerance for pain as observed in people with anxiety and depression, a history of other substance abuse especially cocaine, and history of emotional, physical and verbal abuse (Hung et al., 2001). It has been proposed that healthcare work be included as another predisposing factor to pethidine addiction, with doctors, nurses, and midwives being the at-risk population due to easy access to the drug (Annagür, 2012). We agree with this proposed addition because the risk of pethidine addiction among healthcare workers can be perpetuated by the high-pressure nature of their work, poor support systems and poor supervision for healthcare workers, burnout, commercialization of previously protected substances such as pethidine, and silence on the issue. Moreover, the health care workers with pethidine addiction may find themselves surrounded by friends and family that unknowingly make the problem persist (ICCE, 2015), for example, by hiding a colleague's problem or simply keeping silent about it, helping the affected person to access the drug and sometimes helping to administer it (Bateman, 2004; ICCE, 2015).

We presented the case of a midwife who attended and was admitted to our unit at Mulago regional referral hospital in Kampala, Uganda. The hospital has a mental health unit that runs both in-patient and out-patient services. The addiction service is headed by RO, an addiction psychiatrist. Our patient had suffered some medical conditions characterized by pain such as gynecological surgery and shoulder dislocation, which necessitated the administration of pethidine. In Uganda, pethidine is a commonly used adjunct treatment in peri and post-operative care (Mpewo, 2019). Similar to reported cases of the onset of pethidine addiction, our patient developed an addiction to pethidine unintentionally by receiving pethidine for managing physical pain. Pethidine use disorder is characterized by loss of control over use, increased use, and prominence of use in a person's life (Wang et al., 2018).

Pethidine use disorder has been linked with adverse childhood conditions (Benjet et al., 2013; Kessler et al., 2010). In her history, she had lost her father at an early age, suffered child abuse, and lived in two foster homes. Such childhood adversity increases the risk of substance use disorders including pethidine use (Benjet et al., 2013; Enoch et al., 2010; Kessler et al., 2010), self-administration of drugs, abuse, dependence, relapse, and cravings (Benjet et al., 2013). Childhood adversity typically falls into one of four categories: family/ parental dysfunction; abuse/neglect; interpersonal loss; and economic disadvantage (Benjet et al., 2013). Family dysfunction adversities, such as witnessing family violence, physical and sexual abuse, and neglect, all increased the odds of substance use, abuse, and dependence (Benjet et al., 2013). Although our case did not report a history of sexual abuse, she experienced other family dysfunction adversity such as physical, verbal, and emotional abuse, and neglect. She also experienced other early childhood adversity such as the loss of her father and abandonment by her biological mother at age 4, and economic difficulties throughout her adolescence. Consequently, our patient suffered some of the outcomes associated with such a dire background, for example, she became detached and lost trust in her family, suffered the loss of individual identity, and she experienced disruption in emotional development.

When a family member has a substance use disorder like pethidine use disorder, the family system changes because all of its elements and function are affected (Harkness & Cotrell, 1997;

ICCE, 2015). This often leads to co-dependency roles by family members. These unconscious roles may see one become an enabler, a hero, a scapegoat, a mascot, or a lost child (ICCE, 2015). The enabler will be one that protects the person with addiction by making excuses for them and tries to keep everyone happy as if "everything is fine here", yet underlying this are feelings of inadequacy, fear, and helplessness. From our case, it appears that the husband played the role of an enabler when he did not authoritatively help the patient to seek help, and he often gave her money to feed her addiction. The hero will ignore the problem and try really hard to be successful, to be good, and to help the family yet also harbor underlying feelings of fear, guilt, and shame. In our case, the patient's 13-year-old daughter seems to be playing this role. She has immersed herself in her studies so that she can be successful and help the family. The lost child is a silent family member who is careful not to make any more trouble for the family. He tries not to be noticed. He too has underlying feelings of guilt, loneliness, neglect, and anger. In our case study, the 10-year-old second born who had "disappeared" fits the role of the lost child. Although not identifiable in our case study, two other co-dependency roles of importance are the scapegoat and the mascot. The scapegoat rebels, makes noise and diverts attention from the family problem of substance use. He is sometimes seen as the problem. He harbors underlying feelings of shame, guilt, and emptiness. Finally, the co-dependency role of the mascot is one who is the entertainer, diverts attention, and makes inappropriate and sometimes hurtful jokes. Underlying feelings are embarrassment, shame, and anger.

4. Conclusion

Healthcare workers in Uganda are prone to pethidine addiction. Childhood adversity and family co-dependency roles may predispose, precipitate or perpetuate the development and maintenance of pethidine addiction among healthcare workers. This case study is a call to action to focus on and identify pethidine use among healthcare workers in low and middle-income countries (LMICs) such as Uganda, so as to treat and support the affected health workers. We recommend further studies that interrogate the magnitude of pethidine use disorders among healthcare workers, the role of co-dependence, and family adversity in the development of pethidine dependence among healthcare workers.

Acknowledgements
We acknowledge all the clients that provide the unique opportunity to share their life stories and learn from them. They are our real teachers.

Funding
The author(s) reported there is no funding associated with the work featured in this article.

Author details
Raymond Odokonyero[1]
E-mail: rodokonyero@gmail.com
ORCID ID: http://orcid.org/0000-0002-8431-3316
Tabitha Aujo[1]
Denis Agaba[1]
Catherine Abbo[1]
[1] School of Medicine, Department of Psychiatry, Makerere University, College of Health Sciences, Kampala, Uganda.

Disclosure statement
No potential conflict of interest was reported by the author(s).

Authors' contributions
Each author made a substantive contribution to the development of this paper. OR led the conceptualization of the paper, drafting, and writing of the paper. AT supported management and follow-up of the case, and writing of the paper. AD participated in searching the literature and writing the paper. AC contributed to writing the paper draft and proofreading the case report. All authors read and approved the case report.

Citation information
Cite this article as: Childhood adversity and co-dependency roles in a case of a midwife with pethidine use disorder attending Mulago National Referral Hospital, Kampala, Uganda, Raymond Odokonyero, Tabitha Aujo, Denis Agaba & Catherine Abbo, *Cogent Public Health* (2022), 9: 2145704.

References

Al-Maaz, S., Abu-Dahab, R., Shawagfeh, M., & Wazaify, M. (2019). Prevalence and pattern of substance use and misuse among anesthesia health-care personnel in Jordan. *Journal of Substance Use*, *24*(3), 317–322. https://doi.org/10.1080/14659891.2019.1570366

Annagür, B. B. (2012, March 1). A nurse with pethidine addiction. *European Journal of General Medicine*, *9*(1). https://doi.org/10.29333/ejgm/82557

Barlow, O. W., & Lewis, J. R. (1951, Oct). Toxicology and addiction liability of meperidine (demerol) in experimental animals. *The Journal of Pharmacology and Experimental Therapeutics*, *103*(2), 147–152. PMID: 14881077.

Bateman, C. (2004, September). The drug-addicted doctor–who dares to care? *South African Medical Journal = Suid-Afrikaanse Tydskrif Vir Geneeskunde*, *94*(9), 726–727. PMID: 15487828.

Batterman, R. C., & Mulholland, J. H. (1943). DEMEROL: A SUBSTITUTE FOR MORPHINE IN THE TREATMENT OF POSTOPERATIVE PAIN. *Archives of Surgery*, *46*(3), 404–409. https://doi.org/10.1001/archsurg.1943.01220090099008

Benjet, C., Borges, G., Medina-Mora, M. E., & Méndez, E. (2013, July 1). Chronic childhood adversity and stages of substance use involvement in adolescents. *Drug and Alcohol Dependence*, *131*(1–2), 85–91. https://doi.org/10.1016/j.drugalcdep.2012.12.002. Epub 2012 Dec 29. PMID: 23276477.

Buck, M. L. (2011, July). Is meperidine the drug that just won't die? *The Journal of Pediatric Pharmacology and Therapeutics: JPPT: the Official Journal of PPAG*, *16*(3), 167–169. https://doi.org/10.5863/1551-6776-16.3.167. PMID: 22479158; PMCID: PMC3292527.

Carr, D. B., & Jacox, A. K. (1997). *Acute pain management: Operative or medical procedures and trauma clinical practice guideline*. DIANE Publishing.

Enoch, M.-A., Hodgkinson, C. A., Yuan, Q., Shen, P.-H., Goldman, D., & Roy, A. (2010, January 1). The influence of GABRA2, childhood trauma, and their interaction on alcohol, heroin, and cocaine dependence. *Biological Psychiatry*, *67*(1), 20–27. https://doi.org/10.1016/j.biopsych.2009.08.019. PMID: 19833324; PMCID: PMC2964936.

Harkness, D., & Cotrell, G. (1997, Sep-Oct). The social construction of co-dependency in the treatment of substance abuse. *Journal of Substance Abuse Treatment*, *14*(5), 473–479. https://doi.org/10.1016/s0740-5472(97)00121-9. PMID: 9437617.

Hung, C. I., Liu, C. Y., Chen, C. Y., Yang, C. H., & Yeh, E. K. (2001, Jan-February). Meperidine addiction or treatment frustration? *General Hospital Psychiatry*, *23*(1), 31–35. https://doi.org/10.1016/s0163-8343(00)00105-5. PMID: 11226555.

ICCE. (2015). The universal treatment curriculum for substance use disorders. *Physiology and Pharmacology for Addiction Professionals*, 148–158. https://www.issup.net/training/universal-treatment-curriculum

Ives, T. J., Chelminski, P. R., Hammett-Stabler, C. A., Malone, R. M., Perhac, J. S., Potisek, N. M., Shilliday, B. B., DeWalt, D. A., & Pignone, M. P. (2006, April 4). Predictors of opioid misuse in patients with chronic pain: A prospective cohort study. *BMC Health Services Research*, *6*(1), 46. https://doi.org/10.1186/1472-6963-6-46. PMID: 16595013; PMCID: PMC1513222.

Izenwasser, S., Newman, A. H., Cox, B. M., & Katz, J. L. (1996, February 15). The cocaine-like behavioral effects of meperidine are mediated by activity at the dopamine transporter. *European Journal of Pharmacology*, *297*(1–2), 9–17. https://doi.org/10.1016/0014-2999(95)00696-6. PMID: 8851160.

Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., Aguilar-Gaxiola, S., Alhamzawi, A. O., Alonso, J., Angermeyer, M., Benjet, C., Bromet, E., Chatterji, S., de Girolamo, G., Demyttenaere, K., Fayyad, J., Florescu, S., Gal, G., Gureje, O., and Williams, D. R. (2010, November). Childhood adversities and adult psychopathology in the WHO world mental health surveys. *British Journal of Psychiatry*, *197*(5), 378–385. https://doi.org/10.1192/bjp.bp.110.080499. PMID: 21037215; PMCID: PMC2966503.

Kul, A., Ozdemir, M., & Sagirli, O. (2020, July 15). Determination of pethidine of abuse and relevant metabolite norpethidine in urine by ultra-performance liquid chromatography-tandem mass spectrometry. *Journal of Pharmaceutical and Biomedical Analysis*, *186*, 113320. https://doi.org/10.1016/j.jpba.2020.113320. Epub 2020 Apr 23. PMID: 32387748.

Latta, K. S., Ginsberg, B., & Barkin, R. L. (2002, Jan-February). Meperidine: A critical review. *American Journal of Therapeutics*, *9*(1), 53–68. https://doi.org/10.1097/00045391-200201000-00010. PMID: 11782820.

Mpewo, J. T. (2019). *Healthcare workers perspectives of controlled prescription drug abuse in the health care workforce at Mulago National and Jinja Regional Referral hospitals*. Makerere University.

Özer, Ü., Sever, A., Çetin, T., & Evren, C. (2010). Venlafaxine pharmacotherapy in meperidine addiction and chronic pain comorbidity: A case report. *Dusunen Adam the Journal of Psychiatry and Neurological Sciences*, *1*(23), 69–72. https://doi.org/10.5350/DAJPN2010230111t

Von Eisleb, O., & Schaumann, O. (1939). Dolantin, ein neuartiges spasmolytickum und analgetikum. *DMW - Deutsche Medizinische Wochenschrift*, *55*(24), 967–968. https://doi.org/10.1055/s-0028-1120563

Wang, T., Ma, J., Wang, R., Liu, Z., Shi, J., Lu, L., & Bao, Y. (2018, June 7). poly-drug use of prescription medicine among people with opioid use disorder in china: A systematic review and meta-analysis. *Substance Use & Misuse*, *53*(7), 1117–1127. https://doi.org/10.1080/10826084.2017.1400066. Epub 2017 Dec 27. PMID: 29281497.

***Cogent Public Health* (ISSN: 2770-7571) is published by Cogent OA, part of Taylor & Francis Group.**