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Letter from the Editor

As an open-source, peer-reviewed journal, we're committed to making it easy and accessible to publish the work of Canadian nurse practitioners. We're happy to announce that NP Current will be moving later this fall to an online submission and review system. This change from the current email-based system will make it easier to manage the process for authors and reviewers.

As we move in this direction, I want to thank all of you who have participated in the submission and review process, and welcome the NPs who have volunteered as peer reviewers for the 2022-2023 session. Right now we have over 30 names on our reviewer list, and are always happy to add more. If you'd like to add your name as a reviewer, go to www.npcurrent.ca and let us know.

Acute Pain Management for a Patient with Chronic Pain Stabilized on buprenorphine-naloxone

Naomi Steenhof,[1,2] John Flannery,[1,2] Joyce Lee[1,2]
[1]Toronto Rehabilitation Institute, University Health Network
[2]University of Toronto

Introduction

For a small percentage of patients suffering from chronic pain, buprenorphine-naloxone (bup-nal) is a useful pharmacologic option (Chen et al, 2014; Alford, Compton, & Samet, 2006). Although buprenorphine was originally developed as an analgesic, using bup-nal for chronic pain management is still off-label in Canada. Instead, bup-nal is more commonly known for its role in treating patients with opioid-use disorder.

From a pharmacological perspective, buprenorphine has a few unique properties which make it ideal for patients suffering from chronic pain. Buprenorphine is a partial agonist at the mu-opioid receptor and tolerance to buprenorphine occurs at a slower rate than other opioids. Additionally, bup-nal can also be used to improve pain in patients suffering from opioid-induced hyperalgesia (Anderson et al, 2017). In addition to its partial agonism, buprenorphine has a high binding affinity for the mu-opioid receptor and has a slow rate of dissociation which yields a more extended duration of action compared to traditional full-agonist opioids (ex: morphine, oxycodone, hydromorphone) (Chen et al, 2014).

One challenge clinicians face is managing bup-nal therapy during acute pain episodes (acute-on-chronic pain). Because buprenorphine has such a high affinity for the mu-opioid receptor, it can block other opioids from working. Unfortunately, there is little published in the literature on managing acute pain in an outpatient setting for patients stabilized on bup-nal for chronic pain and experts remain divided on the ideal approach. Most clinicians recommend discontinuation of the bup-nal prior to a scheduled surgery to eliminate the receptor blockage and then convert to a full agonist during surgery (Anderson et al, 2017; Rajput & Vadivelu, 2021). However, with more urgent surgery this is not always an option. In surgeries with moderate to high levels of postoperative pain where there is no time to stop bup-nal, anesthesiologists usually use higher doses of full mu-agonist therapy during surgery to overcome the high binding affinity (Anderson et al, 2017). However, there is a paucity of information in the literature on how to manage acute-on-chronic pain in an outpatient setting where the post-surgical pain is expected to be mild to moderate.

The following case study describes the experience of a patient stabilized on bup-nal who required urgent dental surgery. This example adds to the literature because it involves managing acute pain in a patient with chronic pain stabilized on bup-nal in an outpatient setting without tapering down the bup-nal, and without adding a full-agonist opioid. We will describe how we managed her post-surgical pain using additional doses of bup-nal for acute pain management.

Case Presentation

HN is a 54-year-old female with chronic pain post mastectomy, stabilized on bup-nal, who was scheduled for urgent dental surgery and needed guidance on how to manage her acute pain following dental surgery.

Patient description: HN is a 54-year-old female followed at a tertiary comprehensive pain program in Toronto for her chronic pain.

Case history: HN's past medical history included breast cancer (2016) treated by mastectomy, hypertension, migraine, gastroesophageal reflux, depression, and fibromyalgia.

Surgical history includes bariatric surgery, hysterectomy, and appendectomy.

When HN was initially assessed at the pain program her pain scores were consistently 8/10 or higher, and brief pain inventory (BPI) functional interference score showed severe interference. HN described her pain as shooting, sharp, gnawing, burning, tender, and tiring. On her body map, HN described her neck, shoulders, entire back, breast, lower extremities as her areas of pain.

Her previous medications include oxycodone-acetaminophen (Percocet), hydromorphone, morphine SR (Kadian), gabapentin (Neurontin), trazodone, duloxetine (Cymbalta), and zopiclone (Imovane). She is unable to take NSAIDS due to history of bariatric surgery.

HN recalled having pain since 2000 and was prescribed opioids on and off, but at that time she described no difficulties weaning off her opioids. However, after her mastectomy, she had difficulty managing her overall pain, which was classified as both nociceptive and nociplastic (pain was centralized). HN attempted to wean off of the opioids but was unsuccessful. Full agonist opioids were not helping and unfortunately were making her pain worse and HN was diagnosed with opioid induced hyperalgesia. Her goal was to eventually wean off opioids again as she recognized that they were not helping reduce her pain and she also knew that opioids are not indicated for fibromyalgia.

In September 2021 she was switched from hydromorphone to bup-nal for chronic pain management. Three weeks post induction, her pain ranged from 6/10-9/10, and BPI functional interference score remained unchanged (severe interference). She reported that bup-nal was helping her manage her pain.

Her current medications included:
- buprenorphine-naloxone 8mg/2mg SL BID
- pregabalin 100mg po BID
- escitalopram 20mg po once daily
- topiramate 50mg po BID
- nabilone 1mg po BID
- acetaminophen 1000mg po q6h

One month later HN was scheduled for dental surgery (tooth extraction). HN called the nurse practitioner (NP) at the clinic with only a few day's notice for the dental procedure, which meant there was no time to wean HN off bup-nal. Her dentist was not sure of how to manage

Table 1. bup-nal dosing for HN after first dental surgery				
	Day 0	Day 1	Day 2	Day 3
Usual bup-nal dose	8mg/2mg SL BID	8mg/2mg SL BID	8mg/2mg SL BID	8mg/2mg SL BID
Additional bup-nal doses	2mg/0.5mg	2 x 2mg/0.5mg	2 x 2mg/0.5mg	2mg/0.5mg
Total bup-nal dose	10mg/2.5mg	12mg/3mg	12mg/3mg	10mg/2.5mg

her pain except that she would need additional pain coverage. After consulting with the team pharmacist (RPh) and physician (MD) regarding reasonable options, the NP decided to increase her daily bup-nal dose to manage HN's acute pain post dental-surgery. The NP prescribed 6 tablets of bup-nal 2mg/0.5mg as needed for acute pain associated with dental surgery (with instruction of no more than 2-3 additional tablets post procedure day). HN took 1 tablet (2mg/0.5mg) SL BID-TID (in addition to her usual dose of bup-nal 8mg/2mg SL BID) and said that she felt that 6 tablets over 2-3 days "was good" (Table 1). HN was using ice as needed, as well as continuing acetaminophen one gram po QID.

HN had another, more extensive, dental surgery scheduled a few weeks later, and the NP prescribed another 6 tablets (bup-nal 2mg/0.5mg) as needed. HN used 3 tablets per day x 2 days and called the pain clinic for more tablets. The NP prescribed another 3 tablets which was enough to manage the acute pain. Of note, HN continued to use ice as needed, as well as acetaminophen one gram po QID.

In December, HN had a third procedure, and the NP prescribed another 6 tablets with similar effect. HN again reported that 6 tablets over 2-3 days was sufficient to manage her pain post-dental procedure.

Discussion

While there have been reports in the literature that describe increasing daily bup-nal for a few days post-surgery as an option for acute pain management, we had little experience with this aproach at our clinic (Anderson et al, 2017). This strategy was efficacious, safe, and straightforward for the patient.

From an efficacy perspective, temporarily increasing HN's daily bup-nal dose for 3 days post-surgery addressed her acute pain. It is of the utmost importance to use shared decision-making principles with our patients and to be open to guidance regarding additional doses. (Matthias, Talib, & Huffman, 2020) In this case, temporarily increasing the overall bup-nal dose addressed HN's acute pain.

In addition, the importance of collaboration with other healthcare providers can't be understated. The dentist was aware of the plan and was able to optimize non-opioid treatments during surgery (for example giving longer/deeper freezing).

From a safety perspective, this plan did not result in a disruption of HN's chronic bup-nal therapy, which was very important to her and simplified the number of steps by the multiple players of the health care team. HN did not have to undergo withdrawal by decreasing the bup-nal and using a full-agonist opioid (which would have been used if the patient was not already taking bup-nal). Additionally, the NP didn't have to prescribe a full-agonist opioid to be taken on top of the bup-nal, which could have heightened the risk for opioid poisoning and other side effects. With this plan, HN didn't experience any side effects with the temporary increased dose of bup-nal.

Finally, the plan was straighforward for the NP to execute, and simple for HN to follow. Our team had concerns about safety in an outpatient setting. If, for example, the team suggested to start a low dose of hydromorphone (0.5mg), the hydromorphone could not fully displace the buprenorphine and the hydromorphone would have not had much effect. This is because of the tight binding of buprenorphine at the mu receptor, which leads to reduced analgesia. This tight binding can be overcome with increased doses of a full-agonist opioid; however, the amount of full-agonist opioid to give in addition to buprenorphine is very individual, and unsafe to titrate without close supervision from a health-care professional (for example, in an in-patient setting) (Kornfeld & Manfredi, 2010). In this case the patient might take more doses to get pain relief, which could increase the risk of opioid poisoning or adverse effects such as nausea, vomiting, or drowsiness. The other, most complicated option, would be to fully stop bup-nal for the surgery, but this would have led to a disruption of analgesia for the patient, the need for another bup-nal induction once the full-agonist opioid was cleared from her body, and would have been much more complicated for the patient and the team. The fact that the NP created a simple and easy-to-follow plan for HN allowed HN to undergo subsequent surgeries safely and with confidence.

Conclusion

For patients with chronic pain stabilized on bup-nal, adequate pain management can be achieved through continuing baseline bup-nal therapy and adding on 2-3 'extra' doses of bup-nal per day for the first few days post-surgery. Importantly, this additional bup-nal dose was supplemented with multi-modal therapies (example: ice, acetaminophen, rest).

Alford, D. P., Compton, P., & Samet, J. H. (2006). Acute pain management for patients receiving maintenance methadone or buprenorphine therapy. Annals of internal medicine, 144(2), 127–134.

Anderson, T. A., Quaye, A., Ward, E. N., Wilens, T. E., Hilliard, P. E., & Brummett, C. M. (2017). To Stop or Not, That Is the Question: Acute Pain Management for the Patient on Chronic Buprenorphine. Anesthesiology, 126(6), 1180–1186.

Chen K, Chen L, Mao J. (2014). Buprenorphine–Naloxone Therapy in Pain Management. Anesthesiology, 120, 1262–1274.

Kornfeld H, Manfredi L. (2010) Effectiveness of full agonist opioids in patients stabilized on buprenorphine undergoing major surgery: a case series. Am J Ther, 17(5):523-8.

Matthias M, Talib t, & Huffman M. (2020) Managing Chronic Pain in an Opioid Crisis: What Is the Role of Shared Decision-Making?, Health Communication, 35:10, 1239-1247.

Rajput, K., Vadivelu, N. (2021) Acute Pain Management of Chronic Pain Patients in Ambulatory Surgery Centers. Curr Pain Headache Rep 25, 1.

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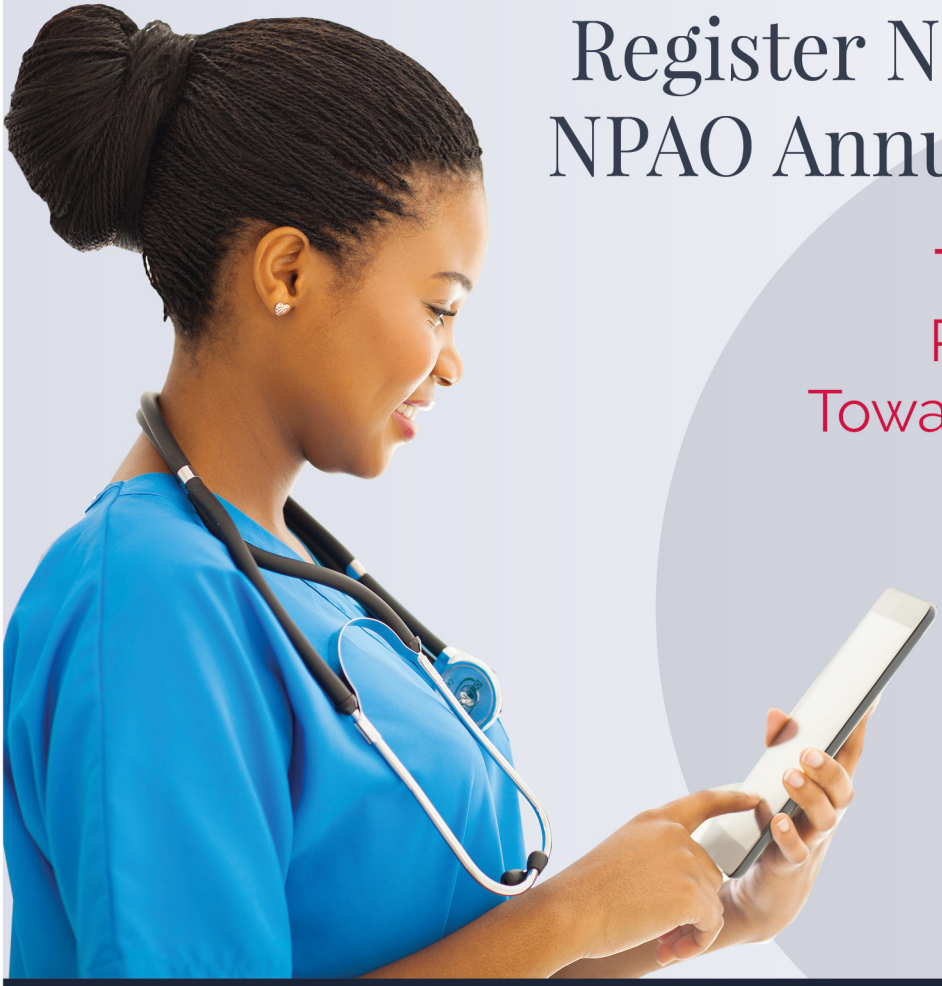

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An Update on Pregnancy Complications that Affect Black Canadians

Esther Kayode RN(NP), MN
Nurse Practitioner
Norwest Co-op Community Health
Winnipeg, Manitoba

Noah Gatzke RN(NP), MN
Instructor II
College of Nursing, Rady Faculty of Health Sciences
University of Manitoba
Winnipeg, Manitoba

Introduction

The Federal Government of Canada [GOC] projected that by 2020 the foreign-born proportion of the total Canadian population is projected to increase by 25%.[1] The 2016 census reports that there are over 1 million black people living in Canada with 51.6% being black women and the black population is estimated to double by 2036.[2] The population of Black Canadians are on the rise yearly due to immigration, settlement and reproduction; however, gaps exist in the complete portrait of substantial health data for Black Canadians.[2] Canada's colour-blind approach to health care creates gaps that do not allow for depiction of the marginalization and health disparities that these groups of people might face and may not reflect how communities understand and talk about health.[1] Research conducted by McGill University discovered that black women in Canada have substantially higher rates of premature births than white women mirroring relative disparities in the United States.[3] Therefore, for the purposes of this article, data for both Canadian and United States health disparities of black women will be employed.

According to the Center for Disease Control and Prevention (CDC), though full reasons are unclear, black mothers are more than twice as likely to experience stillbirth when compared to Hispanic and white mothers and may be linked to differences in health problems that occur during pregnancy or underlying health conditions.[4] Health disparities present opportunities for prevention to reduce fetal mortality rates. This article addresses the role of the nurse practitioner (NP) across the maternal health spectrum to mitigate the health disparities that affect black women disproportionately.

Background

Women across different races are faced with challenges in maternal health and efforts to reduce maternal and fetal morbidity have led to an increased focus on improving maternal health before, during and after pregnancy.[5] Infant mortality provides information on maternal and infant health. In Canada, one of the leading causes of death is infant mortality particularly caused by congenital malformations, deformations and chromosomal abnormalities, disorders related to short gestation and low birth weight and maternal complications of pregnancy.[2]

Black women are three to four times more likely to experience pregnancy related death, preventable maternal death and heightened risk of pregnancy-related death when compared to white women.[6-7] They are more likely to have quick growing fibroids at a younger age which can cause postpartum hemorrhaging and display signs of

preeclampsia earlier in pregnancy leading to death if not properly treated.[7] Black women also experience physically faster aging due to chronic stress thus making pregnancy risker at an earlier age.[7] All women regardless of race, socioeconomic status and health status should receive health care that is respectful, culturally competent, safe and of the highest quality.

Social Determinants of Health and Racial and Ethnic Disparities

Health disparities are inequalities in health outcomes and their determinants within and across communities and countries, as defined by social, demographic, environmental and geographic attributes.[8] These disparities greatly affect women, children, and persons with disabilities, residents of rural areas, racial and ethnic minorities.[8] Nurse Practitioners (NPs) play a pivotal role and are able to identify factors that are modifiable, encourage healthy public policy, ensure an effective social safety net and provide patients with resources to decrease the negative burden of social determinants on health.[1]

Social determinants of health such as utility needs, access to food and safe water, stable housing, safe home and community, immigration status and employment status relate closely with health outcomes, health care and health-seeking behaviours.[2, 5] Women of colour with low socioeconomic status are at risk of adverse pregnancy and overall poor health outcomes.[5, 8-9] NPs can increase access to health care and social services by understanding the social and structural determinants of health for Black Canadians.

Cultural Competence

Nurse practitioners are on the front line of patient care and are both caregivers and educators of clients from diverse backgrounds.[10] Many studies have shown that people of different cultures have different attitudes of pain and expressions of pain.[11] The same can be said for how clients describe their symptoms, how they experience it and their preferred traditions and health practices.[11] NPs can achieve cultural competence and promote cultural safety by providing emotional support, providing helpful information, building relationships, being open-minded, acknowledging health care disparities, promoting social justice, engaging in comprehensive ethical reflection, and providing interpretation services and diversity in the care they provide.[8, 12] NPs as constructivist can form collaborative innovative care plan with clients that help prevent and reduce health inequalities.[12] NPs can actively construct their knowledge to practice culturally safe care by using textbooks such as Transcultural Health Care: A Population Approach by Larry D. Purnell and Eric A. Fenkl, 2021.

Reproductive Care

Preconception Care

The foundation of a child's health throughout their life is based on the foundation of the parent's health status.[13] The primary care NP can maximize the benefits of preconception care (PCC) through the reproductive years of a woman and her partner by identifying unique risk factors and encouraging healthy behaviours that can improve maternal and perinatal outcomes.[13-15] Implementation of systematic processes such as The Preconception Health Care Tool developed by Centre for Effective Practice https://cep.health/clinical-products/preconception/ as a primary care initiative can help NPs to assess preconception health and risk factors for pregnancy of all patients of reproductive age.[16]

Blacks are disproportionately affected by the effects of hypertension and diabetes when compared to other racial groups.[17] PCC presents the opportunity to identify and manage chronic medical conditions such as hypertension and diabetes that have a significant adverse impact on both mother and fetus if not properly managed in pregnancy.[15] It also provides the NP the opportunity to identify nutritional concerns that can have negative effects on health, pregnancy, conception and fertility, encourage motivational behaviour to strive for an optimal pre-pregnancy weight and collection of comprehensive history and genetic testing for both mother and partner.[15]

A genetic and family history of the patient and partner should be obtained in detail.[18-20] All women should be counselled to take vitamins containing 400 micrograms of folic acid daily at least 1 month before conception and continue for the first 12 weeks of pregnancy but women who have a history of a child with a neural tube defect should take 4mg of folic acid daily for at least 3 months before and 3 months after conception.[18] A thorough review for teratogens in all prescription and nonprescription medications, herbal treatments and possible environmental exposures should be reviewed.[18]

Prenatal Care

Prenatal care is important for evaluating risk, promoting health and managing complications in pregnancy. NPs engage patients early in pregnancy and provide risk assessment and psychosocial, cultural and educational support with the goal of improving pregnancy outcomes.[21]

> The NP can provide culturally sensitive care with special attention given to ethnic variables with the goal of ensuring safety for both mother and child through health promotion, education, support and shared decision making.

Women of Black, Hispanic and Native American descent are at increased risk for late entry into prenatal care.[21] Poor compliance and late presentation for prenatal care is associated with adverse maternal behaviours and outcomes such as smoking, alcohol consumption, poor weight gain, inadequate prenatal care, and decreased breastfeeding rates/initiation.[21] Black women are twice as likely to develop a maternal near miss as a result of inadequate prenatal care than white European women.[22] One study indicated that black women do not have a higher prevalence of pregnancy complications such as eclampsia, postpartum hemorrhage, placenta previa, abruptio placentae and preeclampsia; however, they experience a twofold to threefold increase in death rates due to these complications compared to white women.[22] The NP can provide culturally sensitive care with special attention given to ethnic variables with the goal of ensuring safety for both mother and child through health promotion, education, support and shared decision making.

Interpregnancy

The goal of interpregnancy care is to proactively address health issues that may adversely affect future maternal and fetal pregnancy outcomes and optimize long-term wellness for women and children along their life course.[5, 18] Within the scope of interpregnancy and well-woman care transitions, the NP should include history updates, reproductive life planning, mental health assessment, vaccinations, infection management, and assessment of social determinants of health including intimate partner violence.[5, 18]

Women of colour and of lower socioeconomic status appear to be at risk of the shortest interpregnancy intervals of less than 6 to 18 months with increased adverse risk.[5] Education on contraceptive use and woman-centered family planning counselling is shown to be effective in modifying this risk.[5]

Specific Medical Conditions

Black women with chronic conditions are at four times the increased risk for adverse maternal outcomes.[23] It is important for NPs to understand the interactions between race, chronic conditions and maternal outcomes to influence decision making and strategic implementation of health interventions to reduce rates of ethnic disparities in adverse maternal outcomes.[24]

NPs should be equipped with knowledge of conditions that disproportionately affect black Canadian women and provide counselling, interpregnancy testing, screening, and culturally competent interventions.

Preterm Birth

Preterm birth is the leading cause of perinatal morbidity and mortality and the risk of preterm birth is higher in African Americans.[25] Insufficient vitamin D in early pregnancy has been associated with increased risk of preterm birth in ethnic minority women in Canada due to increase in inflammatory response, dysregulation of immune function and transcription of genes that have a role in placental function which are involved in pathogenesis of preterm birth.[25-26] Black people in western countries have less food sources for vitamin D and those in higher latitudes require longer exposure to sun than lighter-skinned people to absorb the same amount of vitamin D from the sun.[26] The role of vitamin D in brain function and its higher deficiency in dark-skinned immigrant mothers suggest the hypothesis and explanation of increased rates of autism in dark skinned children.[26]

NPs alongside obstetricians can obtain detailed medical history of all previous pregnancies in women who have history of preterm birth and the causes ideally within 6 to 8 weeks after delivery in order to obtain accurate information and formulate a management plan for subsequent pregnancies and need for appropriate referral.[18] These women should also be counselled against short interpregnancy intervals due to the negative affect on subsequent pregnancy outcomes .[18]

Obesity

According to the World Health Organization (WHO), obesity and overweight are defined as abnormal or excessive fat accumulation that may impair health.[27] Women with excessive gestational weight gain and obese pregnant women are at a two to fourfold increased risk for gestational diabetes (GDM), pregnancy induced hypertension, stillbirth, preeclampsia, and cesarean delivery compared with women of normal BMI.[15, 28-30] Maternal obesity is associated with prevalence of childhood cardiovascular diseases such as onset and development of obesity, insulin resistance, cardiac hypertrophy and myocardial contractile anomalies in children.[31]

Black women are more likely to enter pregnancy overweight or obese and are four times more likely to remain overweight following pregnancy compared with white women.[32] NPs can implement culturally sensitive interventions such as nutritional and physical activity plans for weight loss to decrease the ill-effects of obesity on the mother and fetus.[15, 32]

Pregnancy-Specific Cardiovascular Diseases (CVDs)

The leading cause of maternal and fetal mortality in pregnant women are CVDs.[33-34] Amongst the most common and severe pregnancy-specific CVDs are gestational hypertension, preeclampsia, and peripartum cardiomyopathy.[31, 34-35] During pregnancy the maternal body remodels to accommodate an increased circulatory volume overload which increases cardiac output as much as 45% above pre-pregnancy levels.[34] Black women have a higher risk of peripartum cardiomyopathy, preeclampsia, intrauterine fetal death and a more severe form of hypertension, antepartum hemorrhage, and increased mortality.[34-35]

Some clinical manifestations of pregnancy-specific CVDs such as dyspnea, edema, and excessive fatigue can often be confused with signs and symptoms of normal pregnancy. NPs must recognize onset and progression of these symptoms and emotional symptoms such as anxiety, panic and helplessness that often accompany peripartum cardiomyopathy.[34] Women who present with peripartum cardiomyopathy have symptoms such as dyspnea, fatigue and palpitations that moderately or severely impede daily activities and they often have orthnopnea, persistent nocturnal dry cough, new onset murmurs, tachycardia, hypo or hypertension and elevated jugular venous pressure.[34] Though these physiological changes are normal, pregnant women often feel shortness of breath and fatigue even in day-to-day activities therefore increasing the risk of a cardiovascular event in those at higher risk.[34]

Genetic Counselling and Sickle Cell Disease

Individuals of African descent are at increased risk of certain ethnic-related inheritable conditions such as sickle cell disease (SCD) and thalassemia and should receive genetic counselling based on family history and carrier status.[18, 36] SCD is an inherited hemoglobinopathy that manifests primarily as chronic hemolytic anemia and pain crises due to vaso-occlusion resulting in stroke, renal dysfunction, pulmonary hypertension, retinal disease and avascular necrosis.[30] Women with SCD have higher risk of fetal complication and require enhanced preconception and prenatal care.[37] Thalassemia results in varying severity of chronic anemia and reduced or no production of hemoglobin.[38] NPs can find quick facts about thalassemia at https://www.cmaj.ca/content/cmaj/192/41/E1210.full.pdf.

Postpartum

Women with a history of gestational diabetes mellitus (GDM) are at significantly higher risk of developing type 2 diabetes (T2D) within 6 years of childbirth and children exposed to GDM invitro are at increased risk for future metabolic abnormalities, still birth and macrosomia.[15, 18, 39-40] GDM is prevalent among mothers who are non-white, older, overweight and/or lower socioeconomic status and increases the risk of developing postpartum depression, subsequent reoccurrence of GDM in future pregnancies, increased maternal risk of glycemic instability, preeclampsia, surgical caesarean delivery and progression of chronic diabetes complications.[19, 29, 41] Therefore, NPs have the opportunity to deliver transgenerational health promotion interventions including screening, reproductive planning, identifying modifiable risk factors and encouraging lifestyle changes, weight management and promotion of breastfeeding.[18, 34]

NPs should encourage pre-pregnancy weight loss by 6 to 12 months postpartum.[5, 29] Post-pregnancy weight retention has been associated with adverse obstetric consequences while reduction in BMI between pregnancies is associated with improved perinatal outcomes.[5, 29] Research shows that more black women are obese and extremely obese compared to other ethnic groups and are more tolerant of weight gain.[29, 42] NPs can liaise with other allied health care professionals (HCP) to establish goals to achieve optimal weight and they can also use religious communities as a resource for obesity education and behaviour modification as research shows a positive connection.[42]

Clients who survive preeclampsia are at elevated risk for postpartum cardiometabolic disease such as abnormal mean arterial pressures, glycosylated hemoglobin values, total cholesterol-to-HDL ratios, and waist-to-hip ratios compared to other races.[35] NPs should provide anticipatory guidance and support to enable women to breastfeed as multiple studies show that longer duration of breastfeeding is associated with improved maternal health such as

decreasing the risk of diabetes, hypertension, myocardial infarction, ovarian cancer and breast cancer.[5]

Barriers to Care

Some barriers to reduction of peripartum racial and ethnic disparities include improper assessment due to unreliable measurements, lack of recognition that disparities exist at the personal and system level, communication and language barriers, and different structures of care from preconception to prenatal and interpregnancy care.[23]

Role of NP/Research Opportunities

The Federal government can collect and monitor data to track health and conditions that may affect the health of black women in Canada.[43] National initiatives can be implemented to further research that engages the community and HCPs to address disease and health conditions that disproportionately affect Canadian minorities.[43]

HCPs can work with other sectors such as faith and community organizations to promote health starting from infant-hood and can employ proven programs that reduce disparities and barriers. Training can be developed to educate HCP on cultural and health differences within the healthcare system.[43] They can also promote trusting relationships with clients and learn about social and economic conditions that put their clients at higher risk for having certain health problems.[43]

Little research exists regarding best practices for transitional care within the context of GDM and with increasing prevalence among ethnic and racial minority women, urgency of research is needed to determine the most effective modes of delivery of culturally-sensitive diabetes prevention education and interventions for women with a history of GDM.[18]

Conclusion

In conclusion, black women are at higher risk of mortality due to complications associated with pregnancy.[22] Province based review of all pregnancy-related death and expansion into review of maternal complications could help improve the quality of maternity care for women in Canada. There is much research and data collection to be done around the challenges new immigrants and well-established black Canadians experience that can negatively or positively impact their maternal health. A multidisciplinary approach to preconception, prenatal, postpartum, and interpregnancy care will be critical to make changes that address maternal health disparities for blacks.[44] The nurse practitioner can be the liaison that advocates change for the client at the individual, organizational and political level.

1. Government of Canada. Social determinants and inequities in health for Black Canadians: A Snapshot. Canada. https://www.canada.ca/en/public-health/services/health-promotion/population-health/what-determines-health/social-determinants-inequities-black-canadians-snapshot.html. Published September 9, 2020.
2. Hélène Maheux, Deniz Do. Diversity of the black population in Canada: An overview. Statcan.gc.ca. Published February 27, 2019. https://www150.statcan.gc.ca/n1/pub/89-657-x/89-657-x2019002-eng.htm
3. McKinnon B, Yang S, Kramer MS, Bushnik T, Sheppard AJ, Kaufman JS. Comparison of black–white disparities in preterm birth between Canada and the United States. Canadian Medical Association Journal. 2016;188(1):E19-E26. doi:10.1503/cmaj.150464
4. CDC. Stillbirth | CDC. Centers for Disease Control and Prevention. Published September 17, 2020. https://www.cdc.gov/ncbddd/stillbirth/features/kf-black-mothers-stillbirth.html
5. Louis JM, Bryant A, Ramos D, Stuebe A, Blackwell SC. Interpregnancy Care. American Journal of Obstetrics and Gynecology. 2019;220(1):B2-B18. doi:10.1016/j.ajog.2018.11.1098
6. Amankwaa LC, Records K, Kenner C, Roux G, Stone SE, Walker DS. African-American mothers' persistent excessive maternal death rates. Nursing Outlook. 2018;66(3):316-318. doi:10.1016/j.outlook.2018.03.006
7. National Partnership for Women & Families. Black Women's Maternal Health: Nationalpartnership.org. Published April 2018. https://www.nationalpartnership.org/our-work/health/reports/black-womens-maternal-health.html
8. Natale-Pereira A, Enard KR, Nevarez L, Jones LA. The role of patient navigators in eliminating health disparities. Cancer. 2011;117(S15):3541-3550. doi:10.1002/cncr.26264
9. Committee Opinion No. 649 Summary. Obstetrics & Gynecology. 2015;126(6):1325. doi:10.1097/aog.0000000000001208
10. Dawson L, Lighthouse S. Assessment of Self-Efficacy for Cultural Competence in Prescribing. The Journal for Nurse Practitioners. 2010;6(1):44-48. doi:10.1016/j.nurpra.2009.02.012
11. Choi E, Moore G. A Case for Cultural Awareness. The Journal for Nurse Practitioners. 2020;16(2):163-164. doi:10.1016/j.nurpra.2019.11.012
12. Garneau AB, Pepin J. Cultural Competence: A Constructivist Definition. Journal of Transcultural Nursing. 2014;26(1):9-15. doi:10.1177/1043659614541294
13. Government of Canada. Family-Centred Maternity and Newborn Care: National Guidelines. Canada. https://www.canada.ca/en/public-health/services/maternity-newborn-care-guidelines.html. Published December 5, 2017.
14. Coffey K, Shorten A. The challenge of preconception counseling: Using reproductive life planning in primary care. Journal of the American Association of Nurse Practitioners. 2014;26(5):255-262. doi:10.1002/2327-6924.12054
15. Hurst HM, Linton DM. Preconception Care: Planning for the Future. The Journal for Nurse Practitioners. 2015;11(3):335-340. doi:10.1016/j.nurpra.2014.09.011
16. Centre for Effective Practice. The Preconception Health Care Tool. Published October 2018. https://cep.health/clinical-products/preconception/
17. Booth JN, Abdalla M, Tanner RM, et al. Cardiovascular Health and Incident Hypertension in Blacks. Hypertension. 2017;70(2):285-292. doi:10.1161/hypertensionaha.117.09278
18. LaManna JB, Quelly SB. After Gestational Diabetes: An Overlooked Care Transition in Primary Care. The Journal for Nurse Practitioners. 2020;16(5):319-323. doi:10.1016/j.nurpra.2020.01.016
19. Committee Opinion No. 690 Summary. Obstetrics & Gynecology. 2017;129(3):595-596. doi:10.1097/aog.0000000000001947
20. Committee Opinion No. 691. Obstetrics & Gynecology. 2017;129(3):e41-e55. doi:10.1097/aog.0000000000001952
21. Gadson A, Akpovi E, Mehta PK. Exploring the social determinants of racial/ethnic disparities in prenatal care utilization and maternal outcome. Seminars in Perinatology. 2017;41(5):308-317. doi:10.1053/j.semperi.2017.04.008
22. Fernandes KG, Souza RT, Leal MC, Moura EC, Santos LM, Cecatti JG. Ethnic differences in maternal near miss. Archives of Gynecology and Obstetrics. 2017;296(6):1063-1070. doi:10.1007/s00404-017-4530-6
23. Howell EA, Brown H, Brumley J, et al. Reduction of Peripartum Racial and Ethnic Disparities. Obstetrics & Gynecology. 2018;131(5):770-782. doi:10.1097/aog.0000000000002475

24. Brown CC, Adams CE, George KE, Moore JE. Associations Between Comorbidities and Severe Maternal Morbidity. Obstetrics & Gynecology. 2020;136(5):892-901. doi:10.1097/aog.0000000000004057
25. Tabatabaei N, Auger N, Herba CM, et al. Maternal Vitamin D Insufficiency Early in Pregnancy Is Associated with Increased Risk of Preterm Birth in Ethnic Minority Women in Canada. The Journal of Nutrition. 2017;147(6):1145-1151. doi:10.3945/jn.116.241216
26. Dealberto M-J. Prevalence of autism according to maternal immigrant status and ethnic origin. Acta Psychiatrica Scandinavica. 2011;123(5):339-348. doi:10.1111/j.1600-0447.2010.01662.x
27. World Health Organization. Obesity and overweight. World Health Organization. Published June 9, 2021. https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight
28. Bogaerts A, Van den Bergh BRH, Ameye L, et al. Interpregnancy Weight Change and Risk for Adverse Perinatal Outcome. Obstetrics & Gynecology. 2013;122(5):999-1009. doi:10.1097/aog.0b013e3182a7f63e
29. Brooten D, Youngblut JM, Golembeski S, Magnus MH, Hannan J. Perceived weight gain, risk, and nutrition in pregnancy in five racial groups. Journal of the American Academy of Nurse Practitioners. 2012;24(1):32-42. doi:10.1111/j.1745-7599.2011.00678.x
30. Snowden JM, Mission JF, Marshall NE, et al. The Impact of maternal obesity and race/ethnicity on perinatal outcomes: Independent and joint effects. Obesity. 2016;24(7):1590-1598. doi:10.1002/oby.21532
31. Dong M, Zheng Q, Ford SP, Nathanielsz PW, Ren J. Maternal obesity, lipotoxicity and cardiovascular diseases in offspring. Journal of Molecular and Cellular Cardiology. 2013;55:111-116. doi:10.1016/j.yjmcc.2012.08.023
32. Moore AP, Flynn AC, Adegboye ARA, Goff LM, Rivas CA. Factors Influencing Pregnancy and Postpartum Weight Management in Women of African and Caribbean Ancestry Living in High Income Countries: Systematic Review and Evidence Synthesis Using a Behavioral Change Theoretical Model. Frontiers in Public Health. 2021;9. doi:10.3389/fpubh.2021.637800
33. Magee LA, Pels A, Helewa M, Rey E, von Dadelszen P. Diagnosis, evaluation, and management of the hypertensive disorders of pregnancy. Pregnancy Hypertension: An International Journal of Women's Cardiovascular Health. 2014;4(2):105-145. doi:10.1016/j.preghy.2014.01.003
34. Maheu-Cadotte M-A, Pépin C, Lavallée A, et al. CE. AJN, American Journal of Nursing. 2019;119(11):32-40. doi:10.1097/01.naj.0000605352.84144.a2
35. Zhang M, Wan P, Ng K, et al. Preeclampsia Among African American Pregnant Women: An Update on Prevalence, Complications, Etiology, and Biomarkers. Obstetrical & Gynecological Survey. 2020;75(2):111-120. doi:10.1097/OGX.0000000000000747
36. Edwards QT, Seibert D, Macri C, Covington C, Tilghman J. Assessing Ethnicity in Preconception Counseling: Genetics-What Nurse Practitioners Need to Know. Journal of the American Academy of Nurse Practitioners. 2004;16(11):472-480. doi:10.1111/j.1745-7599.2004.tb00426.x
37. Barfield WD, Barradas DT, Manning SE, Kotelchuck M, Shapiro-Mendoza CK. Sickle Cell Disease and Pregnancy Outcomes. American Journal of Preventive Medicine. 2010;38(4):S542-S549. doi:10.1016/j.amepre.2009.12.020
38. Taher AT, Musallam KM, Cappellini MD. ß-Thalassemias. Longo DL, ed. New England Journal of Medicine. 2021;384(8):727-743. doi:10.1056/nejmra2021838
39. Agarwal P, Morriseau TS, Kereliuk SM, Doucette CA, Wicklow BA, Dolinsky VW. Maternal obesity, diabetes during pregnancy and epigenetic mechanisms that influence the developmental origins of cardiometabolic disease in the offspring. Critical Reviews in Clinical Laboratory Sciences. 2018;55(2):71-101. doi:10.1080/10408363.2017.1422109
40. Kim C. Maternal outcomes and follow-up after gestational diabetes mellitus. Diabetic Medicine. 2014;31(3):292-301. doi:10.1111/dme.12382
41. Cabrera JP. Postpartum problems in primary care. Journal of the American Association of Nurse Practitioners. Published online June 2019:1. doi:10.1097/jxx.0000000000000216
42. Jeffries TY. Co-Morbidity and Other Complexities Affecting Black Women's Health. The Review of Black Political Economy. 2012;39(3):335-340. doi:10.1007/s12114-012-9131-9
43. CDC. African American Health. Centers for Disease Control and Prevention. Published July 3, 2017. https://www.cdc.gov/vitalsigns/aahealth/
44. Njoroge JN, Parikh NI. Understanding Health Disparities in Cardiovascular Diseases in Pregnancy Among Black Women: Prevalence, Preventive Care, and Peripartum Support Networks. Current Cardiovascular Risk Reports. 2020;14(7):undefined–undefined. doi:10.1007/s12170-020-00641-9

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Age Stereotypes and Their Potential Relationship to Frailty Risk in Older Adults: A Literature Review to Improve Understandings and Orient a Nurse Practitioner Response

Jinelle Woodley, MN-NP, PhD(c)
University of Victoria
Victoria, British Columbia

ABSTRACT

The older adult population is growing in Canada. This is accompanied by increasing rates of frailty, making it a healthcare priority. A nurse practitioner (NP) approach emphasizing holism, health promotion and illness/injury prevention may be particularly well-positioned to lead this challenge. NP practice experience identified older adult reluctance to engage in evidence-based frailty mitigating recommendations because of beliefs that they are unlikely to be of benefit or are too risky and generated the questions: Where might these beliefs come from? How powerful is their impact on the progression and outcomes of frailty? And how might frailty be mitigated by addressing them? Frailty concepts and best practice guidelines have yet to explore systemic factors, such as age stereotypes, as potential reversible risk factors and sources of health inequity for older adults. This literature review aims to explore (a) the existing literature on the relationship between age stereotypes and frailty, (b) the underlying assumptions and objectives of this knowledge base, (c) the gaps and limitations for informing NP knowledge and practice development, and (d) the implications for NP practice.

Methodology and methods: This literature review was designed to inform a future interpretive description study to develop understanding and inform disciplinary action.

Results: Studies exploring the potential relationship between age stereotypes and frailty, wholly and directly, are few and inconsistent in their findings. There is significantly more research suggestive of a relationship between age stereotypes and singular frailty factors, across multiple domains, and associated outcomes.

Discussion: The literature exploring the relationship between age stereotypes and frailty appears to justify concern and warrant further inquiry and action. To orient and inform future knowledge development for NPs, the existing knowledge is examined and critiqued to reveal its underpinnings and gaps for disciplinary knowledge development. Until such knowledge is available, NPs can lead an initiative to embrace the opportunities inherent in existing knowledge and create practice change through critical self-reflection, a shift in approach with older adult clients, disruption of social systems, and re-consideration of engagement with the concept of frailty.

Conclusion: NPs will increasingly provide healthcare for older adults. Experience in NP practice generated the concern about a potential relationship between frailty and age stereotypes, which appears supported by the existing, but limited, literature base. There remains an intriguing space for future NP research and an emerging awareness that is a call to action to prevent harm and health inequity for older adults.

Background

Healthcare of older adults is regarded as a healthcare priority.[1-2] The Canadian population of older adults is increasing[3] and accompanied by escalating frailty rates.[1] According to the Canadian Frailty Network (2021), our healthcare system is "organized to manage illness based on single body systems and diseases, not the complex multisystems of those living with frailty."[1] Nurse Practitioners [NP] are well-positioned to address this systemic shortcoming because it is core to NP practice to approach the healthcare encounter with a view to holism, complexity, and contextualization.[4] NPs are often the most appropriate healthcare providers for complex patients[5] and serve frail older adults in primary care and specialty services.[6] In personal NP practice, a pattern is noted in which older adults with frailty often resist or restrict health-promoting efforts, expressing beliefs that their health conditions are due to age, that improvements are doubtful, or that recovery activities are risky. This response stymies NP efforts to implement best practice recommendations and generates the following questions: Where might these beliefs come from? How powerful is their impact on the progression and outcomes of frailty? And how might frailty be mitigated by addressing them?

Age stereotypes are emerging in the literature as potentially related to frailty[7] and health inequity for older adults; yet, frailty definitions and practice tools lack consideration of systemic social risk factors.[8] Age stereotypes, for this

review, are conceived of as one process of ageism in which negative stereotypes of old age are internalized over a lifetime and embodied once they become self-relevant to a person[9] and operationalized as self-perceptions of aging. Frailty, for this review, is conceptualized as "a dynamic state affecting an individual who experiences losses in one or more domains of human functioning [physical, psychological, and social,[10] cognitive,[11] and environmental[12-13] with an eye toward systemic factors]... caused by the influence of a range of variables and which increases the risk of adverse outcomes."[10] To explore the current state of knowledge, this literature review aims to (a) present the results of the search of existing literature on the relationship between age stereotypes and frailty, (b) discuss the underlying assumptions and objectives of this knowledge base, (c) identify the gaps and limitations of this knowledge for informing nursing knowledge and practice development, and (d) suggest the implications for NP practice.

Methodology and Methods

This literature review was designed to inform the need for an interpretive description study on the topic. As such, it is logical, "formal", "critical", "thoughtful,"[14] and is intentionally not systematic or comprehensive.[14] In consultation with an academic librarian, five databases (CINAHL, MedLine with full text, AgeLine, Social Science Abstracts, and PsycInfo) were searched using the keywords (age OR aging OR ageis*) AND (stereotyp*) AND (internaliz* OR embodi*) AND (concept* OR theor*). Limiters included English language and publication date of 1969-present, with 1969 selected as it was when Butler's[15] seminal work on the concept of ageism was published. Titles and abstracts were reviewed by a single reviewer. Articles were included if they were focused on the nature, process, or extent of age stereotype internalization or embodiment; impact on frailty; and community setting. Literature was excluded if it focused on (a) other types of ageism (such as stereotype threat or age discrimination), (b) particular conditions or disease (such as cancer), (c) acute or residential care settings, or (d) operationalizations or interventions. The reference lists of retrieved literature were also searched for sources of relevant literature.

Inclusion of the search word (frail*) was trialed but resulted in few-to-no results and so was removed. Thus, the review of the literature was logically extended to include a targeted search of literature from the field of frailty study; specifically, to explore what older adults living with frailty identify as influences on their experiences of health, including ageism. A total of 48 pieces of literature were included.

Results

Existing literature on the relationship between age stereotypes and frailty

Studies exploring the potential relationship between age stereotypes and frailty, wholly and directly, are few and inconsistent in their findings. It is notable that these few studies relied on attitudes toward aging generally rather than attitudes towards one's own aging, and biomedical models of frailty, rather than integral models. Salguero et al.[16] found that neither explicit nor implicit ageist attitudes were associated with a greater risk of frailty. Ye et al.[17] found that age stereotypes did influence frailty, but indirectly, mediated by attitudes towards aging. Gale and Cooper[18] found that persons with more negative attitudes toward aging were more likely to develop physical frailty or pre-frailty, though negative attitude was not an independent contributing factor.

> Aims of this review:
>
> (a) present the results of existing literature on the relationship between age stereotypes and frailty,
>
> (b) discuss underlying assumptions and objectives,
>
> (c) identify gaps and limitations,
>
> (d) suggest implications for NP practice.

The literature search revealed significantly more knowledge on the relationship between age stereotypes and singular frailty factors, across multiple domains, and associated outcomes.

In the physical frailty domain, more negative self-perceptions of aging were found to be associated with elevated cardiovascular stress,[19] lower levels of physical activity,[20] worse experience of physical health,[21] beliefs of being incompetent to successfully take part in exercise and exaggerating the risk of injury and exertion related to exercise.[22] Longitudinally, they predicted a steep decline lower extremity performance.[23] Further, the number of health conditions, such as those appearing on a Frailty Index, attributable to ageism in the USA was estimated at 17.04 million per year.[24]

In the cognitive domain, negative self-perceptions of aging were associated with lower cognitive function and increased likelihood of having cognitive symptoms secondary to depression.[25] Longitudinally, they were predictive of significantly worse memory performance[26]; significantly steeper emergence of the biomarkers of Alzheimer's disease[27]; and, amongst those with the APOE4 gene, development of dementia.[28]

In the psychological domain, more negative perceptions of aging were, longitudinally, significant predictors of the onset and persistence of depression and anxiety[29] and, correlationally, associated with positive screening and new-onset post-traumatic stress disorder, suicidal ideation, generalized anxiety disorder, major depressive disorder,[30-31] and the experience of worse mental health in general.[21] A dose-response gradient was detected.[30-31]

In the social domain, negative self-perceptions of age were correlated with increased loneliness and intra-version.[32] Longitudinally, they predicted worse performance on screened hearing.[33]

Frailty associated outcomes have also been found to be impacted by age stereotypes. The phenomena has been correlated with or predictive of poor self-rated health,[21,32,34-35] functional decline,[32,34,36-38] morbidity,[24,27,39-40] mortality,[35-36,39] and costs to the healthcare system.[24]

Two findings challenged the relationship. Moser et al.[38] found that negative perceptions of aging were not predictive of falls or hospitalizations and Coudin and Alexopoulos[32] found that they were not associated with decreased self-esteem.

One qualitative study was found in the literature search. Van Wijngaarden et al.[41] found that "the negative metaphorical representations of old age used by the participants [older adults with a death wish] seem to correspond with the negative deficit-oriented societal discourse on aging AND that these shared cultural beliefs resonate in participants' self-perception, thus 'becoming flesh: lived and perceived as true'." This study adds support from an authentic and particular source for the possibility that age stereotypes significantly impact multiple domains of frailty.

When viewed collectively, the evidence to date provides a strong rationale for concern about the potential contribution of age stereotypes to various singular frailty factors and outcomes. It justifies further inquiry into their relationship with frailty wholly.

Theoretical Development

Studies have also explored the relational processes and mechanisms between these two concepts [frailty and ageism]. The predominant model in the literature is Levy's[42] Stereotype Embodiment Theory (SET). The theory, its supporting research, and theoretical challenges and extensions are summarized here. SET posits that age stereotypes in the sociocultural environment can be internalized over the life course,[43] implicit in nature,[39,44] and more salient once considered self-relevant,[39-40] with some authors going so far as to say that self-relevance is a precondition for their health manifestations.[45]

Levy proposes that embodiment occurs via psychological, behavioural, and physical pathways.[42] The psychological pathway occurs via age expectations becoming self-fulfilling prophecies.[42] The process is influenced by the stability of the belief,[35,46] attitude toward aging,[17] motivation,[25] and perception of control.[23,35] The behavioural pathway occurs when beliefs of reduced self-efficacy[39] and the inevitability of symptoms or illness in old age[35,47] result in decreased engagement in health maintenance behaviours such as exercise,[22,35] diet, sleep,[35] and use of healthcare services.[29,35,48] This pathway is influenced by negative emotions[35] and reduced openness to experience.[20] The physiological pathway occurs when cardiovascular stress associated with age stereotypes manifests in increased cardiovascular events[42] with poorer recovery,[40] increased cognitive impairment[49] and increased psychiatric conditions.[29] Chronic inflammation biomarkers have been found to partially mediate the relationship between negative self-perceptions of aging and survival.[50]

Challenging SET, research suggests that internalized ageism specific to the health domain[20,34] may be associated with exceptionally negative stereotypes[51] and, therefore, particularly detrimental. Considering this possibility, the health impacts suggested thus far may be diluted. SET would benefit from extension to consider intersections with discriminatory factors beyond age, such as race[48] and gender.[22]

Enrichment with Frailty Literature

The exploration of the literature on what older adults living with frailty identify as influential to their experience of health revealed an absence of explicit discourse on ageism however, potentially common or shared experiences are visible. First, older adults' perceptions of frailty appear to be consistent with ageist stereotype content which is predominantly negative[52] and related to health concepts[9]: slow-thinking, incompetent, feeble, senile, depressed, lonely, hopeless, afraid, neglected, complaining, ill-tempered, demanding, and inflexible[52]. This is suggestive of the possibility that the experience of frailty may increase the self-relevancy of internalized negative age stereotypes, thereby, increasing susceptibility to detrimental health effects. Second, older adults living with frailty have described a process or turning point of assuming a frail identity, which they hold as distinct from their authentic self and find negative in nature.[53-54] The congruences between this experience and that of age stereotype embodiment raise the possibility that they may be describing the same phenomena from a different conceptual perspective. Third, the frailty literature suggests that the relationship between age stereotype internalization and health detriments may be bidirectional or cyclical, which would be an extension of the current unidirectional model[42]. Fourth, descriptions by older adults living with frailty identified potentially relevant factors in the relationship between frailty identity and health detriments which also appear in the age stereotype embodiment literature.[55]

Literature on the potential contribution of frailty to ageism is more common and suggests that it may fuel ageism. More specifically, frailty is temporally linked to concerns about an aging population and its perceived threat to the sustainability of the healthcare system[56] and is conceptually linked to advancing age and negative stereotypical views of aging.[57]

Discussion

Underlying assumptions, objectives, gaps, and limitations of existing knowledge

The literature exploring the relationship between age stereotypes and frailty appears to justify concern and warrant further inquiry and intervention. To orient and inform future knowledge development for nursing, the existing knowledge must first be examined and critiqued to reveal its underpinnings.

Studies identified by the formal literature search, with a single exception, were quantitative in approach, held negative views of aging, and were individualistic.

The quantitative approach generally aims to advance theory through exploration of the relationships between variables to predict, control, or manage the phenomena,[58] constructing linear, empirical understandings.[59] The need to extend understandings to those that are qualitative[60] and aim to shift practice approaches to potentially improve the health of older adults are acknowledged.

There is an assumption in the body of work to date that health and functional changes that occur with age are unquestionably negative, consistent with the stereotypical view. However, there are suggestions that this may not consistently resonate with older adults[53] and leaves a void in understandings that allow for positive possibilities.

The knowledge developed so far, despite vague acknowledgement of sociocultural influences, frames health detriments potentially related to age stereotypes as being the result of how an individual feels, thinks, behaves, and physically responds based on their own self-perceptions which results in placing the work and burden of resisting or remedying the situation on the individual[55]

and de-emphasizes the cooperative and communal responsibility for social change that, at least, share responsibility.

The nursing discipline has distinct ways of seeing and knowing that are required to inform practice. Nursing epistemology is pluralistic in its approach, though it does require integration of authentic sources; holism, complexity, and contextualism[61]; particularization and generalization[62]; and a focus on praxis[14]. Such approaches to knowledge development remain unexplored in terms of the phenomenon of interest.

Implications for Nurse Practitioner Practice

Nurse practitioners recognize the need to mitigate vulnerabilities and prevent risks in order to promote health and improve outcomes for all individuals in their care. As suggested by this literature review, the emerging awareness of a potential relationship between age stereotypes and frailty justifies and obligates NPs to act for the well-being of older adults receiving their care. Many of the authors cited in this literature review propose suggestions for practitioners, though future research is needed to develop understandings of the phenomena and inform intervention effectiveness studies. Until such knowledge is developed, NPs can lead an initiative to embrace the opportunities inherent in existing knowledge. Initiatives include critical reflection, a shift in approach, disruption of social systems, and re-consideration of how to engage with frailty.

Nurse practitioners must critically reflect on their own age assumptions. The likelihood is that those raised within Western culture have internalized ageist stereotypes over their lifespan[63] and bring these implicitly into practice. Studies have found that ageism is prevalent and unintentional amongst healthcare professionals[35]. This can manifest as misattribution of biological changes or health problems to chronological age[42] or paternalistic approaches to care provision, thereby perpetuating social harms.

To take action in this area, NPs need to be aware that there is much variability in objective and subjective perceptions of older adults' age and health[42,54] and critique whether the 'evidence' of age-related changes has captured authentically biological processes or whether it has, unknowingly, captured other invisible influences, such as stereotype embodiment. For example, how much of slowed memory retrieval with age is due to biological deterioration of the brain and how much might be the result of reduced stimulation that accompanies forced retirement with expectations of engagement in leisure pursuits, educational institutions organized for the young, and beliefs that 'you can't teach an old dog new tricks'? Or how much of kyphosis is age-related biological deterioration and how much might be due to beliefs that exercise is too risky[22], embodied social inferiority, or efforts to appear enfeebled enough to receive services[46]? NPs must recognize that the attribution of age-related changes to inevitable biological decline may be over-emphasized in our learning and practice environments, reinforcing the misinformed age stereotype.[35,46]

For the individual care encounter, assessing for self-identified age and health, intervening in ageist expectations and stereotypes, optimizing client control, and reconsidering the usefulness of frailty in practice may contribute to well-being of older adults.

NPs could ask individuals to self-identify their age and health status, respecting the variability of perceptions and experiences.[33] NPs must recognize that being frail does not imply the holding of a frail identity.[53-54] To label someone as old, frail, or draw attention to health vulnerabilities, risks activating the identity shift that threatens health. Conversely, NPs can recognize that identification with age stereotypes may indicate a potential reversible risk factor for frailty.[17,25,30,47]

> NPs should expose and disempower age stereotypes by informing older adults, their families and caregivers of their implicit nature and potential negative impacts.[32]

NPs should actively promote a positive outlook on aging[21,23,39-40,47,64] and sensitively disrupt negative expectations of aging.[35-36,48] Studies have shown that self-perceptions of aging can be made significantly more positive with intervention and that even small increments of change in these perceptions can create a significant health impact.[28] Presenting signs and symptoms should be attributed to a particular cause or part of the body,[54] avoiding attribution to age[35] and emphasizing that age needs not be a barrier to treatment or recovery.[29,35] Active coping skills,[31] health promotion, chronic disease self-management,[21-22,54] and agency and control over health decisions[29] should be encouraged regardless of age or frailty. NPs should expose and disempower age stereotypes by informing older adults, their families and caregivers of their implicit nature and potential negative impacts.[32]

NPs are encouraged to reconsider the usefulness of 'frailty' in their practice. Holistic, complex, contextual, client-centered assessments and care planning to prevent decline and promote health are inherent to NP practice, so it is worth asking why a particular label and tool are employed for older adults. If it has little usefulness in distinguishing a practice approach and potentially triggers health decline via increasing the self-relevancy of age stereotypes, then its harms seem to outweigh its benefits.

The focus on the care of individual older adults in practice is essential, but should not be without concurrent social action to relieve the source of the issue: societal ageism.[24] The systemic ageism that perpetuates the age stereotypes and health inequities of older adults persist largely unchallenged.[42] For example, age is not yet explicitly included in the United Nations Declaration of Human Rights.[65]

Suggestions for NP actions could include large-scale campaigns by our NP associations or NP representation in the political realm to (a) disrupt the denigration of older adults[17,24,36]; (b) lead a shift in values toward cooperation and interdependence in healthcare; and (c) ally with older adults for structural and policy changes that outlaw age discrimination and facilitate engagement of older adults.[29]

Conclusion

NPs will increasingly provide healthcare for older adults. Practice experience generated concern about a potential relationship between frailty and ageism. The existing literature suggests interconnectedness between age stereotypes and various singular frailty factors. However, understandings to date are generated from a narrow angle of vision and frailty as a whole remains largely unexplored, leaving an intriguing space for future investigation for nursing. In the meantime, Nurse Practitioners are called to action based on an emerging awareness of the phenomena's potential for harm and health inequity for older adults. NPs can take action through personal and professional critical reflection, a shift in their approach toward age and frailty in practice, and disruption of social complacency on the issue of ageism.

1. Frailty Matters. Canadian Frailty Network. Published 2012-2022. Accessed September 15, 2021. https://www.cfn-nce.ca/frailty-matters/
2. "Ageing well" must be a global health priority. World Health Organization. Published November 6, 2014. Accessed September 24, 2021. https://www.who.int/news/item/06-11-2014--ageing-well-must-be-a-global-priority
3. Action for Seniors Report. Government of Canada. Updated February16, 2021. Accessed September 24, 2021. https://www.canada.ca/en/employment-social-development/programs/seniors-action-report.html
4. Arslanian-Engoren C, Hicks FD, Whall AL, Algase DL. An ontological view of advanced practice nursing. Research and Theory for Nursing Practice. 2005;19(4):315-322. doi:10.1891/rtnp.2005.19.4.315
5. Prodan-Bhalla N, Scott L. Primary care transformation in British Columbia: A new model to integrate Nurse Practitioners. British Columbia Nurse Practitioner Association; November 2, 2016. Accessed February 9, 2021. https://bcnpa.org/wp-content/uploads/BCNPA_PHC_Model_FINAL-November-2-2016.pdf
6. Sangster-Gormley E, Canitz B. Evaluation of the integration of Nurse Practitioners into the British Columbia healthcare system. Published 2015. Accessed February 12, 2017. https://www.msfhr.org/sites/default/files/HSPRSN_MOH_UVIC_Evaluation_of_Integration_of_NP_into_BC_Healthcare_System.pdf
7. Nelson TD. Promoting healthy aging by confronting ageism. The American Psychologist. 2016;1(4):276-282.
8. Frailty in older adults: early identification and management. British Columbia Guidelines. Published October 25, 2017. Accessed August 5, 2021. https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/frailty.
9. Swift HJ, Abrams D, Lamont RA, Drury L. The risks of ageism model: How ageism and negative attitudes toward age can be a barrier to active aging. Social Issues and Policy Review. 2017;11(1):195-231. doi:10.1111/sipr.12031.
10. Gobbens RJJRNM, Luijkx KGP, Wijnen-Sponselee MTP, Schols JMGAMDP. In search of an integral conceptual definition of frailty: opinions of experts. Journal of the American Medical Directors Association. 2010;11(5):338-343. doi:10.1016/j.jamda.2009.09.015.
11. De Roeck EE, Dury S, De Witte N, De Donder L, Bjerke M, De Deyn PP, Engelborghs S, Dierckx E. CFAI-Plus: Adding cognitive frailty as a new domain to the CFAI. International Journal of Geriatric Psychiatry. 2018;33:941-947. doi.org/10.1002/gps.4875.
12. De Witte N, Gobbens R, De Donder L, Dury S, Buffel T, Schols J, Verte, D. The comprehensive frailty assessment instrument: Development, validity and reliability. Geriatric Nursing. 2013;34(4):274-281. doi-org.ezproxy.library.uvic.ca/10.1016/j.gerinurse.2013.03.002.
13. De Witte N, Gobbens R, De Donder L, Dury S, Buffel T, Verte D, Schols JMGA. Validation of the comprehensive frailty assessment instrument against the Tilburg frailty indicator. European Geriatric Medicine. 2013;4(4):248-254. doi.org/10.1016/j.eurger.2013.03.001.
14. Thorne, SE. Interpretive Description: Qualitative Research for Applied Practice. Vol 2. 2nd ed. New York, NY: Routledge; 2016.
15. Butler, RN. Age-ism: Another form of bigotry. The Gerontologist. 1969;9(4):243-246. doi:10.1093/geront/9.4_Part_1.243.
16. Salguero D, Ferri-Guerra J, Mohammed NY, Baskaran D, Aparicio-Ugarriza R, Mintzer MJ, Ruiz JG. Is there an association between ageist attitudes and frailty? BMC Geriatrics. 2019;19(1):329-329. doi:10.1186/s12877-019-1357-y.
17. Ye B, Gao J, Fu H, Chen H, Dong W, Gu M. How does ageism influence frailty? A preliminary study using a structural equation model. BMC Geriatrics. 2020;20(1):422-422. doi:10.1186/s12877-020-01749-8.
18. Gale CR, Cooper C. Attitudes to ageing and change in frailty status: The English Longitudinal Study of Ageing. Gerontology (Basel). 2018; 64(1):58-66. doi:10.1159/000477169.
19. Levy BR, Hausdorff JM, Hencke R, Wei JY. Reducing cardiovascular stress with positive self-stereotypes of aging. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2000;55(4):P205-P213. doi:10.1093/geronb/55.4.P205.
20. Emile M, Chalabaev A, Stephan Y, Corrion K, d'Arripe-Longueville F. Aging stereotypes and active lifestyle: Personal correlates of stereotype internalization and relationships with level of physical activity among older adults. Psychology of Sport and Exercise, 15(2):198-204. doi:10.1016/j.psychsport.2013.11.002.
21. Kim SH. Older people's expectations regarding ageing, health-promoting behaviour and health status. Journal of Advanced Nursing. 2009;65(1):84-91. doi:10.1111/j.1365-2648.2008.04841.x.
22. O'Brien Cousins S. 'My heart couldn't take it': Older women's beliefs about exercise benefits and risks. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2000;55(5):P283-P294. doi:10.1093/geronb/55.5.P283.
23. Sargent-Cox KA, Anstey KJ, Luszcz MA. The relationship between change in self-perceptions of aging and physical functioning in older adults. Psychology and aging. 2012;27(3):750-760. doi:10.1037/a0027578.
24. Levy BR, Slade, MD, Chang ES, Kannoth S, Wang SY. Ageism amplifies cost and prevalence of health conditions. The Gerontologist. 2018;60(1):174-181. doi:10.1093/geront/gny131.
25. Choi EY, Kim YS, Lee HY, Shin HR, Park S, Cho SE. The moderating effect of subjective age on the association between depressive symptoms and cognitive functioning in Korean older adults. Aging & Mental Health. 2019;23(1):38-45. doi:10.1080/13607863.2017.1390733.
26. Levy BR, Zonderman, AB, Slade MD, Ferrucci L.Memory shaped by age stereotypes over time. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2011;67(4):432-436. doi:10.1093/geronb/gbr120.
27. Levy BR, Ferrucci L, Zonderman AB, Slade MD, Troncoso J, Resnick SM. A culture-brain link: negative age stereotypes predict Alzheimer's disease biomarkers. Psychology and Aging. 2016;31(1):82-88. doi:10.1037/pag0000062.
28. Levy BR, Slade MD, Pietrzak RH, Ferrucci L. Positive age beliefs protect against dementia even among elders with high-risk gene. PLOS ONE. 2018;13(2): e0191004-e0191004. doi:10.1371/journal.pone.0191004.
29. Freeman AT, Santini Z I, Tyrovola S, Rummel-Kluge C, Haro JM, Koyanagi A. Negative perceptions of ageing predict the onset and persistence of depression and anxiety: Findings from a prospective analysis of the Irish Longitudinal Study on Ageing (TILDA). Journal of Affective Disorders. 2016;199:132-138. doi:10.1016/j.jad.2016.03.042.
30. Levy BR, Pilver CE, Pietrzak RH. Lower prevalence of psychiatric conditions when negative age stereotypes are resisted. Social Science & Medicine. 2014;119:170-174. doi:10.1016/j.socscimed.2014.06.046.

31. Levy BR, Chung PH, Slade MD, Van Ness PH, Pietrzak RH. Active coping shields against negative aging self-stereotypes contributing to psychiatric conditions. Social Science & Medicine. 2019;228:25-29. doi:10.1016/j.socscimed.2019.02.035.
32. Coudin G, Alexopoulos T. 'Help me! I'm old!': How negative aging stereotypes create dependency among older adults. Aging & Mental Health. 2010;14(5):516-523. doi:10.1080/13607861003713182.
33. Levy BR, Slade MD, Gill TM. Hearing decline predicted by elders' stereotypes. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2006;61(2):P82-P87. doi:10.1093/geronb/61.2.p82
34. Liang K. The longitudinal association between age identity and physical functioning among urban Chinese older adults. Journal of Aging and Physical Activity. 2018;26(3):486-491. doi:10.1123/japa.2017-0023.
35. Stewart TL, Chipperfield JG, Perry RP, Weiner B. Attributing illness to 'old age': Consequences of a self-directed stereotype for health and mortality. Psychology & Health. 2012;27(8):881-897. doi:10.1080/08870446.2011.630735.
36. Levy BR, Slade MD, Kunkel SR, Kasl SV. Longevity increased by positive self-perceptions of aging. Journal of Personality and Social Psychology. 2002;83(2):261-270. doi:10.1037/0022-3514.83.2.261.
37. Levy BR, Slade MD, Murphy TE, Gill TM. Association between positive age stereotypes and recovery from disability in older persons. JAMA: The Journal of the American Medical Association. 2012;308(19):1972-1973. doi:10.1001/jama.2012.14541.
38. Moser C, Spagnoli J, Santos-Eggimann B. Self-perception of aging and vulnerability to adverse outcomes at the age of 65-70 years. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2011;66B(6):675-680. doi:10.1093/geronb/gbr052.
39. Levy B, Ashman O, Dror I. To be or not to be: The effects of aging stereotypes on the will to live. Omega. 2000;40:409-420.
40. Levy B. Stereotype embodiment: A psychosocial approach to aging. Current Directions in Psychological Science: A Journal of the American Psychological Society. 2009;18(6):332-336. doi:10.1111/j.1467-8721.2009.01662.x.
41. van Wijngaarden E, Leget C, Goossensen A, Pool R, The AM. A captive, a wreck, a piece of dirt: Aging anxieties embodied in older people with a death wish. Omega: Journal of Death and Dying. 2019;80(2):245-265. doi:10.1177/0030222817732465.
42. Levy BR, Zonderman AB, Slade MD, Ferrucci, L. Age stereotypes held earlier in life predict cardiovascular events in later life. Psychological Science. 2009;20(3):296-298. doi:10.1111/j.1467-9280.2009.02298.x.
43. Bergman, YS. Ageism in childhood. In: Nelson TD, ed. Ageism: Stereotyping and Prejudice Against Older Persons. 2nd ed. Cambridge, Massachusetts: The MIT Press; 2017:3-36.
44. Levy B. Handwriting as a reflection of aging self-stereotypes. Journal of Geriatric Psychiatry. 2000;33:81-94.
45. Kornadt AE, Voss P, Rothermund K. Age stereotypes and self-views revisited: Patterns of internalization and projection processes across the life span. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2017;72(4):582-592. doi:10.1093/geronb/gbv099.
46. Pickard S. Biology as destiny? Rethinking embodiment in 'deep' old age. Ageing and Society. 2014;34(8):1279-1291. doi:http://dx.doi.org/10.1017/S0144686X13000196.
47. Levy BR, Myers LM. Preventive health behaviors influenced by self-perceptions of aging. Preventive Medicine. 2004;39(3):625-629. doi:10.1016/j.ypmed.2004.02.029.
48. Goodwin JS, Black SA, Satish S. Aging versus disease: The opinions of older Black, Hispanic, and non-Hispanic White Americans about the causes and treatment of common medical conditions. Journal of the American Geriatrics Society (JAGS).1999; 47(8):973-979. doi:10.1111/j.1532-5415.1999.tb01293.x.
49. Robertson DA, King-Kallimanis BL, Kenny RA. Negative perceptions of aging predict longitudinal decline in cognitive function. Psychology and Aging. 2016. 31(1):71-81. doi:10.1037/pag0000061.
50. Levy BR, Bavishi A. Survival advantage mechanism: Inflammation as a mediator of positive self-perceptions of aging on longevity. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2018;73(3):409-412. doi:10.1093/geronb/gbw035.
51. Kornadt AE, Meissner F, Rothermund K. Implicit and explicit age stereotypes for specific life domains across the life span: Distinct patterns and age group differences. Experimental Aging Research. 2016;42:195-211.
52. Hummert ML. Age stereotypes and aging. In: Warner Schaie K, Willis SL, eds. Handbook of the Psychology of Aging. Elsevier/Academic Press; 2011. doi:10.1016/B978-0-12-380882-0.00016-4.
53. Grenier A, Hanley J. Older women and 'frailty': Aged, gendered and embodied resistance. Current Sociology. 2007;55(2):211-228. doi:10.1177/0011392107073303.
54. Warmoth K, Lang IA, Phoenix C, Abraham C, Andrew, MK, Hubbard RE, Tarrant, M. 'Thinking you're old and frail': A qualitative study of frailty in older adults. Ageing and Society. 2015;36(7):1483-1500. doi:10.1017/S0144686X1500046X.
55. Ebrahimi Z, Wilhelmson K, Eklund K, Moore CD, Jakobsson A. Health despite frailty: Exploring influences on frail older adults' experiences of health. Geriatric Nursing. 2013;34(4):289-294. doi:10.1016/j.gerinurse.2013.04.008.
56. Reed J, Clarke CL. Nursing older people: Constructing need and care. Nursing Inquiry. 1999;6:208-215.
57. Grenier A. Constructions of frailty in the English language, care practice and the lived experience. Ageing and Society. 2007;27(3):425-445. doi:10.1017/S0144686X06005782.
58. Risjord MW. Nursing Knowledge: Science, Practice, and Philosophy. Ames, Iowa; Chichester, West Sussex: Wiley Blackwell; 2010.
59. Dahnke MD, Dreher HM. Philosophy of Science for Nursing Practice: Concepts And Applications. 2nd ed. New York, NY: Springer Publishing Company, LLC; 2016.
60. Meisner B, Levy B. Age stereotypes' influence on health: Stereotype embodiment theory. In: Bengtson VL, Settersten, RJ, eds. Handbook of Theories of Aging. 3rd ed. New York: Springer Publishing Company, LLC; 2016:59-275.
61. Munhall PL. Epistemology in nursing. In: Brink PJ, Wood, MJ, eds. Advanced Design in Nursing Research. 2nd ed. Thousand Oaks, Calif: Sage Publications; 1998:335-355.
62. Thorne S, Sawatzky R. Particularizing the general: Sustaining theoretical integrity in the context of an evidence-based practice agenda. Advances in Nursing Science. 2014;37(1):5-18. doi:10.1097/ANS.0000000000000011.
63. Ayalon L, Tesch-Römer C. Taking a closer look at ageism: Self- and other-directed ageist attitudes and discrimination. European Journal of Ageing. 2017;14(1):1-4. doi:10.1007/s10433-016-0409-9.
64. Levy BR, Leifheit-Limson E. The stereotype-matching effect: Greater influence on functioning when age stereotypes correspond to outcomes. Psychology and Aging. 2009;24(1):230-233. doi:10.1037/a0014563.
65. Universal Declaration of Human Rights. United Nations. Published December 10, 1948. Accessed September 15, 2021. https://www.un.org/en/universal-declaration-human-rights/ .

Art: Creating a Space for Holding and Healing

Casey Wigg is a nurse practitioner at The Anita Rachlis Clinic (HIV Clinic) in Toronto, Ontario. The focus of her work as an HIV nurse practitioner is on mental health, new immigrants, gerontology and primary care prevention. She has international experience working with HIV in a home-based palliative care project in the Dominican Republic of the Congo and HIV/AIDS health promotion in Kenya.

As a teenager I experienced a dark, debilitating depression that came and left within a year. Years later, I began a journey to understand where the depression came from and where it went. My psychiatrist's office was thoughtfully set up with a private entrance and alternate exit, providing me with a quiet, safe space, while waiting for my turn. In the tiny entrance way there were two seats. As a person of habit, I always sat in the same seat. Just opposite was a reproduction of Picasso's *Child with Dove*. The tender gaze of the child and the gentle cradle of the dove captured me. I purposely arrived early for appointments so that I would have time with the painting. The painting has a sad, somber feel that could handle the emotional turmoil I presented it with. The painting could relate to my melancholy and at the same time, the peaceful child and calm dove spoke of hope. At times I could even embrace the colorful ball, promising maybe even joy as part of the journey. Picasso's *Child with Dove* was an integral part of my journey towards healing and self-discovery.

Many years later, as a nurse practitioner at a busy HIV clinic, I am now the one who is opening the door and inviting people in. Some have just been diagnosed with HIV and are full of questions and fears. Others bring with them stories of

trauma they have escaped. My office holds people's stories of success, failure, addiction, depression, anxiety and joy. I am humbled by the honesty and vulnerability with which people share their stories. I often noted that as people ventured into vulnerable topics, their eyes diverted and looked up and to the right. As they looked off, I felt that they too should have the opportunity to look into a piece of art that can create a safe space, which can hold their sadness and give them courage to speak the next words.

Those that walk through my door come from all over the world, from across socioeconomic lines, from diverse racial and sexual backgrounds. I commissioned a talented family artist to create a painting that would speak to the diversity of my patients. Deborah Edwards (www.deborahedwards.art) is a multimedia award-winning artist with work in private and public collections in the United States, Canada and Kenya. She is best known for her watercolour paintings.

My request was not small. Deborah created *Home*, a painting that would give the people who visit my office a reprieve from the heaviness of the moment. As they divert their eyes upward and to the right, they can now look into a peaceful landscape. The fabric comes from Kenya, Africa. The painting is strong enough to hold their sadness, their hopes and dreams. Throughout the day, my eyes fall on the painting. The painting steadies me, renews me and allows me to open the door and usher the next person in.

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Highlighting the Role of the NP in Withdrawal Management Services

Anthony J. Gilding, HBSc
Nursing Student
Nipissing University

Michael Postic, NP
Mental Health and Addictions Nurse Practitioner
Humber River Hospital

Background

Withdrawal Management Services (WMS) or Withdrawal Management Care (WMC) refers to the medical and psychological care of individuals who are experiencing acute withdrawal symptoms as a result of ceasing or reducing use of their drug of dependence.[1] The goal of WMC is to assist individuals in the mitigation of withdrawal symptoms through medical supervision and access to pharmacological treatment options.[2] Historically, most community-based WMS facilities were developed around a non-medical model and were not resourced to be able to manage medically complex withdrawals. This presents a challenge given that many WMS clients often have complex medical comorbidities associated with their substance use.[3] As a result, clients requiring acute medical care must be transferred to already over-extended emergency departments (EDs). In this paper, we highlight the role and impact of the nurse practitioner within WMS and emphasize the need to deploy more of them into community-based WMS facilities.

The Scope of Nurse Practitioner Practice in WMS Facilities

According to the College of Nurses of Ontario, Nurse Practitioners (NPs) are authorized to diagnose, order, interpret diagnostic tests, and prescribe medications and other treatments for clients.[4] NP practice includes health promotion with the aim of optimizing the health of people, families, communities and populations.[4] By enabling the NP to practice within their full scope in community WMC, the NP is best positioned to deliver safe and timely care to this vulnerable and often stigmatized population.

Addressing shortages of adequate healthcare services across Canada through the implementation of NPs as primary care providers or most-responsible providers has been a topic of great discussion.[5-9] It has been shown that patients are highly satisfied with the patient-centered medical care and holistic support that NPs provide,[10,11] which makes them ideal for WMC as patients are more likely to adhere to their treatment regimen if they are satisfied with their care provider. An added benefit of deploying NPs to underserved areas is that it can be a more cost-effective option.[12] From a practical perspective, the NP within WMC assists individuals struggling with substance abuse in terms of therapeutic guidance and support.

Utilizing evidence-informed care, the NP initiates assessments, and collaborates with nursing and non-medical staff to provide effective withdrawal monitoring and initial treatment interventions. The NP can also identify and address acute primary health care needs or connect individuals to primary care services that can resume longer term care/management and general medical system navigation. Once the individual is medically stabilized, the NP can also recommend and prescribe medications (anti-cravings, or opioid replacement therapy) if indicated, as well as collaborate with local providers and specialized addiction clinics to coordinate longer-term care for these clients.

How Do Nurse Practitioners Improve the Care Provided in WMS?

The level of complexity of many of the individuals entering the community withdrawal management service is well established.[13,14] From a social determinants of health viewpoint, many individuals who are entering the community WMC service are negatively impacted by a lack of housing, food insecurity, and unemployment. As such, many of these individuals struggle to access the health services they need. Most individuals have had only episodic primary care at best, and some have had no primary care access whatsoever.

Secondly, given the significant volume pressures within most urban EDs and the time required to coordinate optimal care for those individuals, managing withdrawal care can be challenging. Often individuals leave the hospital either too early or having only been partially managed, and ultimately require ongoing care once in WMS. Unfortunately, some hospitalized patients with substance use disorders often experience stigma and trauma in the hospital, which can impede trust-building.[15] An NP in community WMS can collaborate with an inter-professional team to help nurture a trusting client-provider relationship which will advance their recovery.

When staffed by NPs, WMS facilities can provide clinical assessments to a greater number of clients in need, thus increasing the capacity and diversity of services available. This ability to perform clinical assessments on-site helps to prevent any unnecessary transfers to our already busy local EDs. Given their diagnostic and prescriptive authority,[4] NPs can provide enhanced medication reconciliation and identify at-risk clients in need of more specialized medical services. This is particularly important for clients who are marginalized, including, but not limited to, youth, Indigenous Peoples, people who identify as LGBTQ+, and those who have co-existing mental health issues. NPs are well trained to provide compassionate, comprehensive care to vulnerable populations, which warrants them an ideal care provider in a WMC setting.

Conclusion

It has taken time and the commitment of many dedicated individuals to identify the gaps in WMC, review standards of practice, develop policies and procedures, and map out processes that can safely guide an individual through community WMS. The addition of NPs to community WMS has helped to address several of the health management challenges that existed in the traditional non-medical

> The addition of NPs to community WMS has helped to address several of the health management challenges that existed in the traditional non-medical setting

setting. Specifically, NPs have enhanced patient safety through their on-site medical management, medication reconciliation, staff education, and policy development. In 2020, the provincial government of Ontario (Canada) recognized the gaps in WMC that require urgent attention. In response, the "Roadmap to Wellness" was developed to implement innovative solutions aimed at expanding the availability of mental health and addictions programs in communities across Ontario.[16] This plan is enabled by a $3.8 billion dollar investment over the course of 10 years. Amongst the many gaps that will be addressed by this investment is access to treatment services for opioid use disorders, which are known to be burdensome.[17] This 10-year plan will include the addition of new rapid access addiction medicine (RAAM) clinics, as well as residential treatment and WMS centres across the province. Community WMS centres continue to evolve and improve, and remain a low-barrier service that strives to provide client-centered, evidence-informed community WMC for those who are struggling with substance abuse.

1. World Health Organization. Clinical Guidelines for Withdrawal Management and Treatment of Drug Dependence in Closed Settings. Geneva: World Health Organization; 2009. 4, Withdrawal Management. Available from: https://www.ncbi.nlm.nih.gov/books/NBK310652/
2. Center for Substance Abuse Treatment. Detoxification and Substance Abuse Treatment. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2006. (Treatment Improvement Protocol (TIP) Series, No. 45.) Available from: https://www.ncbi.nlm.nih.gov/books/NBK64115/
3. Vipler S, Hayashi K, Milloy M, et al. Use of withdrawal management services among people who use illicit drugs in Vancouver, Canada. Substance Abuse Treatment, Prevention and Policy. 2018;13:27-27.
4. College of Nurses of Ontario. Nurse Practitioners. https://www.cno.org/en/learn-about-standards-guidelines/educational-tools/nurse-practitioners/. Published April 9, 2021. Accessed January 5, 2021.
5. de Guzman A, Ciliska D, DiCenso A. Nurse practitioner role implementation in Ontario public health units. Canadian Journal of Public Health. 2010;101(4):309–13.
6. Government of Alberta. Primary Care Network Nurse Practitioner Support Program: Program Information. Edmonton; 2019. [Available from: https://www.alberta.ca/assets/documents/health-pcn-nurse-practitionersupport-program-guide.pdf].
7. Naylor M, Kurtzman E. The role of nurse practitioners in reinventing primary care. Health Affairs. 2010;29(5):893–9.
8. Poghosyan L, Lucero R, Rauch L, Berkowitz B. Nurse Practitioner Workforce: A Substantial Supply of Primary Care Providers. Nursing Economics. 2012;30:268–74 94.
9. DiCenso A, Bourgeault I, Abelson J, et al. Utilization of Nurse Practitioners to Increase Patient Access to Primary Healthcare in Canada – Thinking Outside the Box. Nursing leadership (Toronto, Ont.). 2010;23:239-259.
10. Stahlke S, Rawson K, Pituskin E. Patient Perspectives on Nurse Practitioner Care in Oncology in Canada: Patient Perspectives on NP Care. Journal of Nursing Scholarship. 2017;49:487-494.
11. Rickards T, Hamilton S. Patient Experiences of Primary Care Provided by Nurse Practitioners in New Brunswick, Canada. Journal for Nurse Practitioners. 2020;16:299-304.
12. Kaasalainen S, Martin-Misener R, Kilpatrick K, Harbman P, Bryant-Lukosius D, Donald F, et al. (2010). A historical overview of the development of advanced practice nursing roles in Canada. Nursing Leadership, 23:35–60.
13. Kouchaeva D, Patel G, McCrohan R, Ripton-Turner D. Concurrent Substance-Related Disorders and Mental Illness: Management at the Community Residential Drug Withdrawal Service. Australian and New Zealand Journal of Psychiatry. 2007;41:A42-A42.
14. White WL, M.A. The mobilization of community resources to support long-term addiction recovery. Journal of Substance Abuse Treatment. 2009;36:146-158.
15. King C, Collins D, Patten A, Nicolaidis C, Englander H. Trust in Hospital Physicians Among Patients With Substance Use Disorder Referred to an Addiction Consult Service: A Mixed-methods Study [published online ahead of print, 2021 Feb 9]. Journal of Addiction Medicine. 2021;10.1097/ADM.0000000000000819. doi:10.1097/ADM.0000000000000819
16. Ontario Ministry of Health. Roadmap to wellness: a plan to build Ontario's mental health and addictions system. Health Care in Ontario. https://www.ontario.ca/page/roadmap-wellness-plan-build-ontarios-mental-health-and-addictions-system. Published March 3, 2020. Accessed January 4, 2021.
17. Gomes T, Greaves S, Tadrous M, Mamdani MM, Paterson JM, Juurlink DN. Measuring the Burden of Opioid-related Mortality in Ontario, Canada. Journal of Addiction Medicine. 2018;12(5):418-419. doi:10.1097/ADM.0000000000000412

Current Clinical Approach: Menstrual Migraine

Christie Tait, MN, NP-PHC
Founder and Director, Structure Clinic – Headache and Wellness Centre
Clinician, Toronto Headache and Pain Clinic

What is a menstrual migraine?

Menstrual migraine can be divided into true menstrual migraine and menstrual-related migraine. True menstrual migraine attacks occur only at the time of menstruation. Menstrual-related migraine is a far more common presentation. This is characterized by attacks that occur both in a pattern related to menses as well as at other times of the menstrual cycle. Menstrual-associated attacks typically occur in the 2 days before or 3 days after menses onset.

Menstrual migraine generally begins with menarche or in adolescence. Although experiences vary, menstrual migraine commonly improves during pregnancy and may worsen during the perimenopausal period. While many assume migraine resolves during menopause, there is widespread variability and the clinical reality is that some women will improve while others will experience no change or an increase in symptoms.[1]

How do you diagnose menstrual migraine?

Migraine is a clinical diagnosis, meaning there is no diagnostic test to verify migraine. A comprehensive history and examination is needed to rule out secondary headache disorders and confirm criteria for migraine. Once this diagnosis is made, menstrual migraine is recognized if the attacks are occurring 2 days before or within 3 days of cycle day 1 in 2 out of 3 menstrual cycles. Assessing migraine patterns over time is often needed to diagnose menstrual migraine. These attacks are often longer lasting and more difficult to treat, hence the need for an effective abortive plan. Patients often report a change in their typical menstrual migraine pattern through pregnancy, breastfeeding, perimenopause, and menopause. Most patients have additional migraine attacks throughout their cycle which can make this diagnosis elusive.

Steps to diagnosing menstrual migraine:

- Assess for primary migraine
  - A simple tool for migraine diagnosis is the Lipton 3-item ID migraine screener. Answering yes to 2 of the 3 questions gives a 93% positive predictive value of a diagnosis of migraine.[2] (Table 1)

Table 1: During the last three months, did you have any of the following with your headaches?

Item	Yes / No
You felt nauseated or sick to your stomach when you had a headache?	Yes ☐ No ☐
Light bothered you (a lot more than when you don't have headaches?)	Yes ☐ No ☐
Your headaches limited your ability to work, study or do what you need to do for at least one day?	Yes ☐ No ☐

- Rely on detailed clinical history and look for a pattern of migraine attack
  - A headache diary is a useful tool for tracking migraine attacks and acute medication use
  - Canadian Migraine Tracker app was made by Migraine Canada and is available for patients to download for free

People with menstrual migraines typically experience:[3]

- Longer duration of migraine attacks
- Nausea
- Increased photophobia and phonophobia

How to effectively treat menstrual migraine?[3]

The first step in developing a treatment plan is to quantify the duration and severity of attacks as well as the functional implications to the patient.

The Canadian Headache Society (CHS) acute migraine treatment guidelines recommend acetaminophen or NSAIDs for mild to moderate attacks.[3] If over the counter options are ineffective, prescription NSAIDs such as naproxen sodium and diclofenac potassium are available to try in immediate release tablet formulations. Diclofenac potassium is also available as a water-soluble buffered powder with a T_{max}* of ~15 minutes, suggesting the potential for a rapid onset of effect.

For moderate to severe migraine attacks or when NSAIDs alone have failed, the CHS recommends an NSAID with triptan rescue or triptan alone.[3] There are currently 7 different triptans on the market and one combination triptan/NSAID. (Table 2) There is no clear data for superiority of one triptan over another and patients should try different triptans if one is ineffective or not tolerated. If attacks are long-lasting, consider using a triptan with a longer half-life such as frovatriptan or naratriptan.

Table 2: Triptan and triptan combinations available in Canada

Name (Brand name)	Available Formats
Almotriptan (Axert®)	tablet
Eletriptan (Relpax®)	tablet
Frovatriptan (Frova®)	tablet
Naratriptan (Amerge®)	tablet
Rizatriptan (Maxalt®)	tablet, orally dissolving tablet
Sumatriptan (Imitrex®)	tablet, injection, nasal spray
Zolmitriptan (Zomig®)	tablet, orally dissolving tablet, nasal spray
Sumatriptan/Naproxen sodium (Suvexx®)	tablet

CLINICAL PEARLS

- Menstrual migraine diagnosis and treatment requires a detailed clinical history to elucidate patterns
- Education on timing of medications is crucial for cyclical menstrual migraines
- Consider a combination triptan + NSAID strategy if acute monotherapy has failed or if cycles are irregular, making mini-prophylaxis impractical
- The best triptan choice is the one that works for the patient
- It is important to be mindful of the potential of medication overuse headache if aggressively treating during menses – don't forget to ask about OTC use!

For patients who are not achieving consistent resolution of their migraine attack with a monotherapy approach, they may need a combination of acute medications. The combination of an NSAID and triptan is useful for these refractory migraine attacks.[3] All triptans can be combined with naproxen for migraine and menstrual symptom relief. These can be taken as 2 separate medications or in a combination tablet of sumatriptan/naproxen.

Will OC use help with menstrual migraine?

There is no conclusive evidence or recommendations for the use of oral contraceptives as a treatment for menstrual migraines. The responses are often highly variable between patients.

Timing of Treatment

Similar to a non-menstrual migraine, patient education on timing of treatment is essential. People with migraine should be instructed to "hit hard, hit fast" and take their acute migraine treatment early in the attack.[3]

There is another approach termed "mini-prophylaxis". This refers to a strategy whereby the patient starts their acute treatment prior to the onset of their expected menstrual migraine attack and continues for 2 to 4 days. This method relies on regular menstrual cycles and consistently predictable menstrual migraine onset.

Medication Overuse Headache

All people with migraine should be made aware of the risk of medication overuse headache and how it can be avoided. This is particularly important in people who are being treated aggressively for menstrual migraine with mini-prophylaxis or who have attacks at other times during their cycle. The limits to keep in mind are no more than 10 days of a triptan or 15 days of NSAID use per month. Always ask about any OTC medications being used to treat their migraines as people will often overlook OTC use. Remind patients to track their migraine symptoms days, menstrual cycle, and acute treatment usage to improve their quality of care. The Canadian Migraine Tracker is a great app to recommend to your patients.

1. Lauritsen, C.G., Chua, A.L. & Nahas, S.J. Current Treatment Options: Headache Related to Menopause—Diagnosis and Management. Curr Treat Options Neurol 20, 7 (2018). https://doi.org/10.1007/s11940-018-0492-7
2. Lipton RB et al. Migraine prevalence, disease burden, and the need for preventive therapy. Neurology. 2007;68:343-349
3. Abdullah M et al., Comparison between menstrual migraine and menstrual-unrelated migraine in women attending gynecology clinics, 2020 Oct;12(10);e10976
4. Canadian Headache Society Acute Migraine Treatment Guideline Development Group, Canadian Headache Society Acute Drug Therapy for Migraine Headache, Can J Neurol Sci 2013;40(suppl 3):S1-S80.

* T_{max} = time to maximum plasma concentration

How to trial a triptan:

- Optimize efficacy of triptan
  - Counsel patients to treat early in the migraine attack
  - Trial for at least 3 attacks to determine effectiveness

> "The best triptan choice is the one that works for the patient."

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- Use with caution in patients with a history of cardiac arrhythmias; hypokalemia, hypomagnesaemia; significant bradycardia; family history of sudden cardiac death; concomitant use of other QT/QTc-prolonging drugs
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For more information:

Please consult the product monograph at https://www.miravohealthcare.com/wp-content/uploads/2021/08/Blexten-PM-ENG-Aug2021.pdf for important information relating to adverse reactions, drug interactions, and dosing information which have not been discussed in this piece. The product monograph is also available by calling 1-866-391-4503.

Σ As of August 31, 2021, the estimate from internal data of patient exposure is based on units sold of the defined daily dose of 20 mg bilastine and the mean treatment duration of 3 weeks.

Reference:

1. Blexten® Product Monograph. Aralez Pharmaceuticals Canada Inc. 2021.

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