Vital Link

The journal of the Canadian Association of Naturopathic Doctors

Feature Articles

Health Equity

Volume 28, No. 1

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The *Vital Link* is the flagship journal of the Canadian Association of Naturopathic Doctors (CAND). It publishes on a wide variety of topics related to the research and practice of naturopathic medicine in Canada, promoting our profession to Canadians, government, other health care professionals and insurance companies, raising awareness of our unique role in supporting the health of Canadians.

Forthcoming Themes

Vol. 28, No. 2 Technology & Virtual Care

Submissions
As a general naturopathic medical journal, we encourage submissions related to themes of our upcoming editions, and also in our identified core areas of concern including: mental health, health of vulnerable populations, community and planetary health. Contributors should keep in mind that while the main audience for the *Vital Link* is practicing Naturopathic Doctors, we encourage authors from any discipline to submit articles to our editoral team for peer review. Current Submission Guidelines are available in the Members' area of the CAND website or on request from our Editor at drmtrevorrow@cand.ca.

Circulation
The *Vital Link* is published four times per year and is distributed to over 2300 qualified Canadian NDs and students of CNME-accredited naturopathic programs in Canada and the U.S. The *Vital Link* is also distributed to the CAND's corporate members and in our media kit. The journal is available in print and e-formats, by paid subscription. Additionally, the *Vital Link* is a tool promoting qualified naturopathic doctors to corporations, insurance companies, and the provincial/territorial, and Federal branches of government in Canada.

Advertising
The *Vital Link* provides advertisers with the largest circulation to qualified Canadian naturopathic doctors of any naturopathic publication. We invite vendors providing NHPD/Health Canada-compliant products, and/or other services to naturopathic doctors to advertise in the *Vital Link*.

Announcement: *CAND Vital Link* will be going online in 2021

It has long been a goal of the Canadian Association of Naturopathic Doctors to have its journal listed as a fully indexed online publication. Following extensive work by the current editorial team, this goal will shortly be realized: *CAND Vital Link* will be moving to its own website in the Fall of 2021 as an online, indexed peer-reviewed journal. With a public facing webpage, and full access for members, the new digital *CAND Vital Link* will serve to educate naturopathic doctors and other health professionals in Canada and globally on evidence-informed care and the art of naturopathic best practices, including community and planetary health.

Over the next few months, the Editors and our Executive Director will be working with SG Publishing, a Canadian company that has helped several other medical and CAM journals make the transition to the Open Journal Systems platform. Our website will have optimized functionality and an enhanced reader experience across multiple platforms, including mobile and handheld devices.

In addition to launching with our third edition of 2021, we will be adding our 2019-2021 editions to the website, so that members will be able to browse and download articles from past and recent editions. Select articles from past editions (collated by the Editors) will also be available in Open Access to build readership and impact.

Behind the scenes, SG Publishing will also be providing ongoing production and editorial support so that peer review, copy editing, and layout will be done efficiently, thoroughly, and on time. Articles will be searchable online, with unique DOI numbers to increase their potential reach. Longer term, our plan with SG Publishing is to meet standards to be included in higher impact databases such as PubMed Central and EBSCOhost, planned for year 2-3 post-transition. This will be a first for any ND association journal in North America.

The CAND Board of Directors, *CAND Vital Link* Editors and our 12-member Editorial Board are very excited to see this project about to launch and welcome member questions and feedback as we move forward with the transition.

Mark Fontes, ND
CAND Chair

Dr. Marianne Trevorrow, ND
Editor in Chief

Dr. Cyndi Gilbert, ND
Associate Editor

Shawn O'Reilly
Executive Director

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Advancing Health Equity in Naturopathic Medicine

Cyndi Gilbert, ND

Editor's note: *Considering her significant contributions to the advancement of health equity and diversity & inclusion in our profession, I have asked my Associate Editor, Cyndi Gilbert, to introduce this issue.*

As a naturopathic doctor who works at a Community Health Centre as well as an anti-racism anti-oppression educator and curriculum advisor, I regularly witness the impacts of health inequities and the myriad ways that naturopathic doctors can make a difference. Leadership from our professional institutions and organizations regarding health equity is critical as we help define values, set priorities, and produce naturopathic medical knowledge.

Although health inequities have long been recognized as a public health issue, the COVID-19 pandemic has highlighted and magnified long-standing disparities in our communities. In Canada, non-White people have a significantly higher risk of becoming infected with SARS-COV-2, as well as a higher risk of mortality related to COVID-19.[1] This is particularly true for those who face both social and economic barriers, including Indigenous people living on reserves, seniors in long-term care, people who are living in shelters or encampments, those who work in essential jobs with precarious employment, and people living with disabilities. Systemic discrimination has also manifested in inequitable distribution and access to vaccination, as vaccine deserts have been identified, too often overlapping with neighbourhoods most affected by high case counts and positivity rates.[2,3]

A number of high profile incidents of racial violence have also occurred in the past year, leading healthcare providers to declare racism a public health crisis.[4] Most notably, many of our members may have watched the recorded murder of George Floyd by a police officer in Minnesota or the abuse of Joyce Echaquan by nurses before her death in a Quebec hospital; some may have also experienced individual and collective trauma related to anti-Black, anti-Indigenous and anti-Asian racism and/or witnessed the same in their patients. While the names and numbers of those lost to racism, poverty, police violence, and inequitable policy in both Canada and the United States are too many to list here, their lives and deaths are a call to action for all healthcare providers.

Naturopathic doctors are well aware of the impact of the social determinants of health, which account for 85% of Canadians' risk of illness.[5] Naturopathic philosophy and principles guide us to treat the whole individual person, and to identify and treat the underlying causes of disease. Our members are well trained and positioned to provide effective preventative dietary and lifestyle guidance and overall health promotion. However, what do we do when the barriers to good health for our patients are structural, institutional, and systemic in nature? How do we proceed if, like one of my patients noted in an intake form, the biggest barriers to achieving their health goals are racism and homophobia? Acknowledging the negative health impacts of systemic oppression asks us to become not only naturopathic doctors, but also advocates and political activists.[6,7] Within this context, engaging in the work of environmental and social justice becomes an essential aspect of public health and the provision of quality naturopathic healthcare to all Canadians.

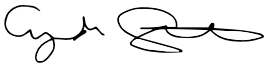
This issue presents evidence to guide clinicians in concrete, actionable, and accountable steps they can take as part of naturopathic best practices to address health inequities. First, Garcia and Onah provide an overview of perinatal mortality in Black, pregnant individuals, including prevalence rates, risk factors, and recommendations for monitoring. They stress the important role of naturopathic doctors in establishing therapeutic doctor-patient relationships, screening for risk factors, providing effective referrals, and engaging in patient education. Their article also highlights how the lack of race and ethnicity data collected in Canada results in invisibility of inequities, and thus inaction. That is, if we don't first collect the data necessary to identify health inequities, we then cannot help guide legislative change or health policy or practice guidelines that meet the needs of Canada's diverse populations.

Our next article discusses the inequitable burdens faced by patients in larger bodies. Psihogios, Baggio and Clouthier review the health consequences of weight bias in clinical practice, as well as how to reduce weight bias, stigmatization, and discrimination in public-facing communications. Lastly, Arlie Millyard and myself discuss the importance of talking about risk factors within their systemic, sociohistorical contexts. We argue that listing social demographics such as race, ethnicity, gender, sex, or sexual orientation as risk factors may serve to perpetuate stereotypes and prevent appropriate care.

All this said: one themed issue on health equity is truly only a starting point for a deeper conversation. The naturopathic profession has much work to do so we don't continue to perpetuate bias and stigma or simply highlight a problem without taking action to create significant change. Noticeably absent from this issue are explorations of decolonization and reconciliation with Indigenous Peoples and Nations, as well as common manifestations of socioeconomic, religious, age, and ability bias in naturopathic practice.

Here at *CAND Vital Link*, we are proud to report that our editorial board is diverse and increasingly representative of the demographics of our profession as a whole. We are also committed to supporting editors and authors from equity-seeking groups and look forward to publishing articles that champion the principles of health equity in our forthcoming editions, especially as we make the digital transition later this year.

Finally, we would like to welcome the following new additions to our editorial board for 2021: Andrew Vargo (CCNM-Boucher), Baljit Khamba (Bastyr), Kathryn Harbun (CCNM-Boucher), and Safiya McCarter (USA). All have been heavily involved in ND didactics and/or ongoing research, and we are excited to have a more internationally-based team guiding us as we move towards our new, more public-facing format.



Cyndi Gilbert, ND
Associate Editor

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Update from the Chair and Executive Director

Mark Fontes, ND, Chair and **Shawn O'Reilly,** Executive Director

Dear members,
We hope that you and your loved ones have been keeping well. As we move into Spring of 2021, we wanted to take this opportunity to provide an update on the most recent work the CAND has been engaged in on behalf of the profession.

Firstly, we would like to remind you of the Annual General Meeting on June 19, 2021 from 1PM to 3PM (EDT). Once again, due to the ongoing pandemic the AGM will be online and available to all members. We will report on the work of the past year in more detail and share ideas and our plans for future initiatives.

We have been working with Hill + Knowlton on continuing to expand our communications and engagement strategy, *Better Health, Together,* focused on pro-active positive messaging about our profession and the important role we have in the health care system. The campaign continues to build momentum. During the month of April, our Facebook post reach increased by 34 percent with post engagement up 187 percent. Twitter had over 190 impressions per day during the month and on Instagram, our account's reach increased by 1.7 percent with content interactions up 18.6 percent. Help us keep the momentum going by liking, sharing and re-posting content.

Our *ND Perspectives* spots outlining why members are proud to be an ND have been very successful on social media and have now highlighted the collaborative work of seven naturopathic doctors. *ND Perspectives* are posted on the CAND website for public access.

We continue our work with our core customer groups. Areas of focus have been our engagement with the Public Health Agency of Canada (PHAC), Health Canada, and the Ministry of Finance, improving communications with our membership, engaging with our corporate partners, and supporting the work of provincial and territorial jurisdictions. For this year's Naturopathic Medicine Week, May 16 to 22, we worked with Hill +Knowlton on the creation of new, fresh graphics and social media posts; new this year were several posts in French. Focusing on the *Better Health, Together* message, materials were uploaded for member use on the members' portal of the CAND website. A report on public engagement will be provided following the conclusion of NMW. We encourage all members to join our Instagram page at *canadiannaturopathicdrs* or Facebook page at *Canadian Association of Naturopathic Doctors* for the latest messages to follow, share and re-post.

Federally we continue to provide input to PHAC and Health Canada and the Ministry of Finance with respect to the COVID – 19 pandemic. We continue to reinforce the importance of an integrated approach to treatment and the utilization of natural substances. It is an uphill battle, as to date PHAC and Health Canada have shown little interest in the existing and ongoing research into the use of NHPs. Regardless we will persist in putting our message forward at every opportunity. Our engagement with the Ministry of Finance ensures that NDs continue to have access to the various critical COVID financial aid benefits.

In addition to the work outlined above, the CAND has participated in several meetings and consultations with the Natural and Non - Prescription Health Products Directorate (NNHPD) with respect to plan language labelling, as well as product licensing, good manufacturing and compliance issues. The NNHPD recently held a meeting of stakeholders to review the Auditor General's Report and the steps they will be taking to address these identified issues. Overall, the Auditor General noted that Health Canada has approved Natural Health Products appropriately based on evidence and safety, but found gaps in oversight of quality, monitoring of labels and advertising, and compliance and enforcement of marketed NHPs. The issue of non-compliant products advertised and sold online has been a long-standing complaint of the CAND, as well as other stakeholders, as it puts the public at risk. The NNHPD has committed to prioritizing this issue moving forward.

The CAND also sits on a number of boards and advisory councils on behalf of the profession in Canada. Recently, we have represented the profession at meetings of the Association of Accredited Naturopathic Medical Colleges (AANMC) and the North American Board of Naturopathic Examiners (NABNE), and provided input on proposed Council on Naturopathic Medical Education (CNME) Standards.

2021 continues to be a time of adaptation and change for Canadians and for the CAND as well. After almost thirty years, (the last fourteen with the CAND), Finance Manager Heather Fleck is

retiring. Heather's contributions to the profession have been numerous and invaluable. Her steadfast dedication, support and hard work on behalf of naturopathic doctors right across Canada has made a lasting impact and helped move the profession forward. During her tenure with the CAND, Heather has been a key member of the team, always willing to go the extra mile and available to the Board, other staff and members whenever needed. Heather's last day in the office will be May 28. While we will miss her terribly we wish Heather all the best in her retirement.

On behalf of the CAND Board of Directors and staff, we thank all of our members for your continued support. We look forward to speaking with you virtually at the AGM!

Thank you,

Dr. Mark Fontes ND
Chair

Shawn O'Reilly
Executive Director,
Director of Government Relations

Exploring Black Women's High Maternal Mortality Rates & Naturopathic Medicine's Role

Amanda Daniella Garcia, BSc & **Racheal Adesuwa Onah**, BSc

Abstract:

Studies have shown that Black women report higher maternal mortality rates (MMRs) compared to any other racial group. Contributing factors that increase racial disparity amongst Black and White MMRs include cardiovascular comorbidities, pregnancy complications, genetic factors, socioeconomic status, racism, and poor healthcare management. While these factors have been identified in multiple research studies, there has not been any inquiry into what actions naturopathic doctors can take within their practice that can aid in decreasing Black women's MMRs. This paper incorporates recommendations given by Black mothers, and outlines how naturopathic doctors have the unique opportunity to decrease MMRs through patient education, informed consent, screening, prevention, and strong relationships built on trust.

Racial disparities in survival rates of pregnant women are a growing concern. Race-based information on MMR provides vital information concerning trends that identify issues surrounding maternal deaths and can help guide policies, practices, and mortality reduction targets.[3] In Canada, the MMR is 9 deaths per 100,000 live births.[1] The causes of death are certified by the attending physician or coroner, and the MMR from the Statistics Canada's Vital Statistics System is based on information on death certificates filed from provinces and territories.[2] However, Canada does not collect race-based information related to MMR. It has not initiated a national inquiry to review maternal deaths (MD), severe morbidity, or near misses, nor set a target for mortality reduction.[3] Without race-based data on MMR, healthcare practitioners and policymakers in Canada cannot address racial health inequalities that can lead to MD. As a result, naturopathic doctors (NDs) must rely on patterns and data observed in the United States (US).

In 2020, statistics from the US reported that Black women have a three- to four-fold greater MMR compared to White women.[4,5] MMRs are also higher in Indigenous women, Latina, and Asian/Pacific Islander women, however, the ratio remains the highest in the non-Hispanic Black demographic.[6,7] Therefore, it is important to address factors contributing to MDs in the Black population, as well as apply alternative ways to care for women during their pregnancy.

The World Health Organization (WHO) defines maternal mortality (MM) as "The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes." [8] Current research on MMR examines factors contributing to high mortality rates and preventative measures that can limit the risk of pregnancy-related deaths.

Health Risk Factors and Pregnancy-Related Complications

Cardiovascular disease (CVD) has emerged as the leading cause of MD in North America, as it accounts for 30% of pregnancy-related deaths.[4,6] CVDs which contribute to MM include coronary heart disease, hypertension, atherosclerosis, and cardiomyopathy.[5,6,9,10] Risk factors for CVDs are diabetes mellitus, obesity and overweight, hypertension, dyslipidemia, and familial hypercholesterolemia.[6,9]

In Canada (excluding Quebec), the top causes of MM are ectopic and molar pregnancy, abortive outcome, antepartum hemorrhage, placental abruption, placenta previa, hypertension complicating pregnancy, childbirth, postpartum hemorrhage, major puerperal infection, obstetric embolism, diseases of circulatory system, and other indirect causes.[1] In the United States, the top five causes of MD in all women have been identified as hemorrhage, cardiomyopathy, cardiovascular, and other coronary conditions.[5] In Canada and the US, hemorrhage is the most common major complication of childbirth.[11] It is also the most preventable cause of MM.[11] Although there is no race-related data on MMR in Canada, it is important to note that Canadian Black women and men have higher rates of hypertension than their White counterparts.[12] Pre-existing CVD could theoretically be the cause of higher cardiovascular complications in Black MMRs.[13]

In the US, researchers have been better able to extrapolate racial differences in MMR. For instance, MMR is increased with maternal age for all women, but Black women over 40 years of age had the highest risk of dying from pregnancy complications.[5,14] Cardiomyopathy was the most common cause of death for Black women but ranked 5th among White women in the US.[5] Also, the timing of death significantly differs between Black and White women in America. 14.9% of Black women's pregnancy-related deaths occurred 43-365 days postpartum, while 10.2% of White women's pregnancy-related deaths occurred during the same period.[15]

To avoid adverse postpartum outcomes, it is suggested that women with hypertensive disorders have a blood pressure evaluation no later than 7-10 days after delivery.[16] As primary care practitioners, it is vital that NDs play a role in perinatal care for their patients. Blood pressure monitoring for patients shortly after delivery is a great way to screen for new mothers at risk for maternal mortalities and morbidities.

Women with no pre-existing history of CVD also experience pregnancy-related cardiovascular (CV) complications.[17] CV complications include embolism, amniotic fluid embolism, preeclampsia, eclampsia, peripartum cardiomyopathy, placenta abruption, hemorrhage, blood clots, and reduced placental perfusion.[6,10,14,15,18,19,20,21]

Preeclampsia and embolism were the third and fifth most common cause of death among Black women in the US, but were not among the top five causes of death for White women.[5,6,10] The risk factors of preeclampsia are similar to CVD risk factors seen in Black women before pregnancy, such as type I or II diabetes mellitus, chronic hypertension, renal or autoimmune disease.[6,20] Furthermore, placental abruption in the US is much higher amongst Black women, and it has a five-fold risk for Black women with chronic hypertension, and an eight-fold risk for Black women with preeclampsia.[19] CVD has a huge role in pregnancy complications that can lead to high mortality rates.

Studies have shown that pre-existing cardiovascular conditions can predispose a woman to cardiovascular complications during pregnancy. Women may also develop a new cardiovascular disease during pregnancy because of the complex hormonal and physiological changes during pregnancy.[13] Iftikar & Biswas found that women may undergo physiological changes as early as 5 weeks into their pregnancy due to the attachment of placenta to the uterine walls.[13] Therefore, NDs should be monitoring women early into their first trimester to screen and prevent the development of CVDs.

Other non-cardiovascular causes of high MMR amongst Black women in the US are pulmonary edema, renal failure, disseminated intravascular coagulation (DIC), hysterectomy, cesarean deliveries (C-sections), anesthesia complications and blood transfusions.[11,14,15] Even after adjusting for socio-demographic and comorbidities, Black women are twice as likely to experience these complications leading to maternal mortality and morbidity.[11]

Caesarian sections are a surgical procedure that can lead to high-risk cardiovascular disorders such as hemorrhage and blood transfusion complications.[11] In the US, Black women have the highest rates of C-sections amongst all races and/or ethnic groups.[11] The greater ratio accounts for both elective and emergency C-sections.[22] Factors which contribute to high C-section rates for Black women in the US include the number of previous pregnancies, obesity, gestational age, suboptimal care or lack of access, patient preference, and hospital-based preferences.[22] According to the WHO, "C-sections are only medically necessary once vaginal delivery might pose a risk to the mother or baby - for example due to prolonged labour, foetal distress, or because the baby is presenting in an abnormal position."[23] NDs have the opportunity to inform their patients on the risks of elective C-sections for both the mother and the baby, and in turn prevent future CV complications and deaths.

Genetic Risk Factors

Genetic-focused studies in the US and UK have explored ABO O gene and protein-creatinine ratio in relation to Black women's increased pregnancy-related mortality risk (PRMR). Although the following studies outline different observations, it is important to remind audiences that race and ethnicity are social constructs that can influence an individual's health status, quality of life, education, employment opportunities, housing, environmental conditions, and access to health care.[5]

One medical hypothesis explored how the ABO O gene can potentially be linked to the expression of the von Willebrand factor, a blood glycoprotein involved in the clotting process, and consequently play a role in obstetric hemorrhage.[24] It was found that Black women have a higher ABO O gene frequency in comparison to White women, and while hemorrhaging is not the only contributing factor to MMR it is one that progresses very quickly. This study highlighted the need for additional research within North American populations to further quantify and discover links to other conditions contributing to MMRs.

Pre-eclampsia, another condition that lends to MMRs, has historically been diagnosed using proteinuria. The differing protein-creatinine ratio cut offs for Black and non-Black women resulted in 41.4% of Black women being incorrectly classified as non-proteinuric, and went on to not receive additional care to reduce their chances of developing this condition. It also implied that 4% of non-Black and 7% of Black women would have been erroneously classified as proteinuric, leading to unnecessary clinical interventions.[25] Fortunately, proteinuria has been dropped as a diagnostic feature by the International Society for the Study of Hypertension in Pregnancy and the American College of Obstetricians and Gynecologists.[20] The scientific community has had difficulty defining standards and risk associated with pre-eclampsia because its pathology remains unknown. Pre-eclampsia was previously believed to be on a spectrum with gestational hypertension since both are hypertension related, until a case control study of Black women participants identified

separate and specific groups of serum metabolites associated with each condition.[26] This discovery concluded that pre-eclampsia and gestational hypertension have distinct pathways, and are not on a spectrum.[26] Distinguishing between these two conditions by looking at specific metabolites has the potential to aid in the their diagnosis and management and consequently lowering MMRs.

Socio-economic Factors

Socioeconomic status (SES), race, and ethnicity play an important role in racial disparities in MMR.[27] It is hard to separate social identity and the potential risk factors associated with racial bias because of structural discrimination and intersectionality.[28] SES includes income, educational status, financial security, social status, and social class.[29] In spite of the challenges of delineating individual social factors, it is crucial to understand which of these factors are the greatest contributors to the disparity in MMR.

Studies have shown that racial disparities in MMR persist across all income levels and all education statuses.[5,6,27] Therefore, high income and education do not protect Black women from maternal mortality (MM). Hence, we should look at other socioeconomic factors that may contribute to the high mortality rate in pregnant and postpartum Black women. The difference in mortality rates between Black and White women are based on other social determinants of health, including institutionalized racism, barriers to accessing healthcare, marital status, social supports, and employment status.[30,31]

A study conducted by Li et al. found that Black women do not have control over most of the risk factors they are exposed to that lead to MM and morbidity.[30] Unmodifiable factors found in this study were that Black women were less likely to be married, employed, and were much younger than White women.[30] Other factors include presence or absence of social support, which play a role in the survival rates of both the mother and infant after birth.[32] Studies have shown that a lack of perceived social support during pregnancy is associated with negative maternal and infant outcomes.[32] Conversely, positive social networks during pregnancy for young and/ or single mothers may reduce the rate of pregnancy-related mortalities.[32] Psychological stress and emotional experiences may also be a factor that contributes to high MMR in Black women. Black women are more likely to experience unintended pregnancies and births and report lower levels of happiness during their pregnancy.[31]

A common misconception is that modifiable lifestyle factors such as tobacco and alcohol use are at least partially responsible for postnatal health disparities, however research suggests the opposite. The study by Li et al. found that Black women were actually less likely to engage in modifiable factors like smoking tobacco and using alcohol during pregnancy compared to White women, but Black women still experienced higher mortality rates.[30] The researchers emphasized how White women had higher levels of modifiable health-eroding behaviours, but still have better maternal outcomes compared to Black women.[30]

Currently, studies have shown that Black women are less likely to attend prenatal visits due to difficulty getting time off of work.[5] Perinatal visits are important for pregnancy health and managing chronic disease. Without timely follow-ups and health management, many underlying diseases and disorders may remain undetected until complications arise.

In Canada, standard prenatal care is publicly funded in all Canadian provinces and territories. Without provincial healthcare coverage, there are costs associated with prenatal care. However, a study carried out in Manitoba, Canada, showed that even within the publicly funded single-payer system, inadequate prenatal care still occurs.[33] Heaman et al. found that Indigenous families, recent immigrants, single parent families, those having less than 9 years of education, or those living in areas with the lowest average household income had the highest rates of inadequate prenatal care.[33] Hence, SES has a major impact on the quality of care amongst pregnant women. Due to the lack of data conducted in Canada regarding race-related disparities, it is imperative that healthcare professionals work together with governments, provinces, and territories to determine key determinants of health that contribute to MMR.[3] Not only would race-based data identify key indicators affecting health, but it would also guide new health programs, policies, and initiatives in naturopathic medicine and other medical fields.

Healthcare-Related Factors

Providing adequate prenatal care is imperative to address the issue of high MMRs for Black women. The difference in accessibility of prenatal care for Black women is highlighted by the low numbers of Black women using doula or midwife services, and the following two US studies showcase this problem. In the *Giving Voice to Mothers* study, fewer women of colour had prenatal care by midwives (eg. 59.9%) compared to white women (76. 5%); in the Central Hillsborough Healthy Start Program which provided doula services to at-risk pregnant women, of whom 77% were Black, all indicated that having a doula was a good experience for them.[34,35] While more people are being made aware of the benefits of having a doula and/or midwife during their pregnancy, for Canadian women these services are not covered by Canadian Medicare, while for American women only some healthcare insurances may cover the costs. Thus reserving these services for women who can afford them, leaving the women who cannot — to miss out on a support that can enhance their pregnancy experience and reduce their MM risk due to the comforting social aspect of having someone to guide them through the experience.

Reduced accessibility to doula and/or midwifery services aren't the only missing links in prenatal care. Additional barriers exist which negatively impact the level of screening and education in populations who struggle with opioid use. One US cohort study found that with women who had opioid use disorder, Black women were significantly less likely to use any medication for treatment during pregnancy compared to White women.[36] Therefore, more Black women did not receive the support necessary to treat their disorder for the betterment

of their and their child's health, thus placing them at higher risk for complications. The study did not provide information regarding whether the women in the study experienced any complications, nor did they identify reasons to explain the discrepancy between the two groups although practitioner bias, access, and other health factors may have played a role.

Compounding the barriers to accessing various forms of prenatal care, is inadequate access to postpartum care. Nearly half of Black MDs that were linked to cardiomyopathy occurred after delivery.[5] The lack of follow up, especially with monitoring heart function and heart-related issues, can be detrimental to their survival postpartum. One retrospective cohort study done in the US showed that over the course of a year, Black women were less likely to return for a postpartum visit, thus increasing their risk of having a medical condition go undetected.[16] This study focused solely on data, and did not explore potential explanations for its findings; as previously mentioned it could be due to a multitude of factors including lack of access, support, discrimination, income, and more.

Although little research has been conducted on potential associations between racial discrimination and MMRs, some preliminary studies point to the relationship between discrimination, allostatic load, physiological stress response, and pregnancy-related morbidity and mortality.[37] A US study done with 96 pregnant Black women measured plasma levels of several cytokines, depressive symptoms, and self-reported discrimination during their second trimester, found increased IL-4 and IL-6 cytokines in 53.1% of women who experienced one or more instances of racial discrimination.[38] The most frequently shared experiences of racial discrimination that the women told were while they were in a store or restaurant, getting a job, on the street or another public setting, and from police or in courts.[38] A cohort study in the US that consisted of 24 Black pregnant women also told their stories about the racialized pregnancy stigma they experienced, and how it impacted their ability to complete any tasks without scrutiny and how it weighed on their mental health.[39] Even though the shared experiences did not involve their healthcare provider, it is important to note that implicit bias exists and contributes to negative health outcomes.

Current Recommendations and the Role of Naturopathic Medicine

Within the naturopathic profession we understand and educate around the need to take preventive measures to ensure optimal health is maintained. Inside the realm of standard medical care this is not prioritized, especially during pregnancy, a time of rapid growth and change. In the *Listening to Women* study, 22 women of color (of whom 36% were Black) were interviewed about their birthing experience and provided recommendations that could be implemented. Recommendations on an individual healthcare provider level included: spending quality time, relationship building and making meaningful connections, individualized person-centered care, and partnership in decision making.[40] Health-systems level recommendations included continuity of care, racial concordance with providers, supportive healthcare system structures to meet the needs of women of color, and implicit bias trainings and education to reduce judgment, stereotyping, and discrimination.[40]

Another survey-based study, *Giving Voice to Mothers*, had 2138 participants that had at least one pregnancy between 2010 and 2016. The survey looked at indicators of verbal and physical abuse, autonomy, discrimination, failure to meet professional standards of care, poor rapport with providers, and poor conditions in the health system.[34] Results showed that rates of mistreatment for women of colour were consistently higher, which can be linked to the issue of implicit bias in health practitioners.[41] The mistreatment can be coming from an unconscious place, but outwardly influencing the quality of care given. There needs to be focused educational courses that bring awareness to implicit bias, and supply practitioners with the necessary tools to embark on the life-long commitment to consistently practicing awareness in order to provide better care to a constantly diversifying population.[42]

More research is needed to investigate how 'living while Black' influences Black women's MMR. Hopefully, the Preventing Maternal Death Act of 2018 that allocated 12 million dollars annually to do research in the US, will uncover more information about this inequity over time.[6] On the other hand, Canada has a longer way to go with allocating time and money to present specific information on Black populations. The 1998 *Safe Motherhood* campaign underlined an important aspect of this data availability discrepancy, and how it may be a result of racial composition. At the time this article was published, it stated there was a 12% Black population in the US and 2% in Canada, 20 years later these percentages have only increased a little over 1% and may skew the evidence that shows the US having a higher Black women MMR.[2]

In the meantime, there are many things that can be done to improve maternal health today within the naturopathic realm and scope. Since atherosclerosis is among the top five causes of MM in the US and a compilation in Canada, it is important to assess a woman's risk of atherosclerosis while pregnant.[1,6] NDs can provide optimal adjunctive perinatal care for expectant and new mothers by screening for CVDs early in their first trimester, and performing in-office blood pressure measurements within a week of delivery.[4,13]

Other protective practices NDs can perform are lipid screening, and educating about cardiovascular health and birthing options. Mszar et al. found that Black women in the US are less likely to report a prior lipid screening or be aware of how their levels may impact their pregnancy compared to White women.[9] Educating patients on factors that contribute to atherosclerosis such as dyslipidemia, diabetes, cigarette smoking, hypertension, and genetic abnormalities, can allow NDs to provide their patients with effective treatment plans to prevent disease processes from occurring.[43] It is also imperative for NDs to talk with their patients about the risks associated with elective C-sections, and the opportunities available to gain more support throughout their pregnancy via low-cost doula services and timely referral to a registered midwife or obstetrician.

At its core, naturopathic medicine is about providing individualized care, and longer appointments allow for the establishment of meaningful relationships with open communication and shared decision making. As outlined by the *Listening to Women* study participants, specific ways to be successful at building these relationships are through asking questions, providing resources, and making patient notes available to reduce transmission of biases.[42] This can be done by creating a patient portal, exploring ways to mitigate stress with healthy coping mechanisms such as meditation and journaling, and educating on the importance of adherence to a DASH diet to combat hypertension especially in at-risk populations.[44] While these recommendations are actionable steps naturopathic doctors can take, it is also crucial to recognize that within our current healthcare reality of living within a pandemic there may be new or previously identified factors that can further increase Black women's MMR. Therefore, it is the duty of every healthcare provider to be aware of new information or mitigating factors, and how these may influence the health of our patients. By constructing a more supportive, educative, and non-judgemental space for patients, naturopathic doctors can directly impact Black women's high MMRs and bridge the gaps in accessibility and care.

GLOSSARY OF TERMS

Black woman
A woman who self-identifies as a person from African or Caribbean descent, and does not self-identify as Hispanic

White woman
A woman who self-identifies as a person from Caucasian descent, and does not self-identify as Hispanic

*Although not defined in the research cited, the terms 'woman' and 'women' likely refer exclusively to cisgender women. More research is needed to understand pregnancy-related mortality rates in people who are transgender and non-binary.

Adapted From:
https://www.crrf-fcrr.ca/en/resources/glossary-a-terms-en-gb-1 and https://www23.statcan.gc.ca/imdb/p3Var.pl?Function=DEC&Id=45152

PRMR
Pregnancy Related Mortality Rates

MMR
Maternal Mortality Rates

MM
Maternal Mortality

MD
Maternal Death

CVD
Cardiovascular disease

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The Weighty Burden of Inequity Experienced by Patients in Larger Bodies: Fostering Equitable Treatment in the Naturopathic Community

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Abstract:

Individuals identified as overweight or obese (people in larger bodies) often endure poor health equity as a result of pervasive stigmatization and discrimination due to their weight, in both social and healthcare settings. Often referred to as 'weight bias', people in larger bodies are differentially, and inequitably, treated specifically due to their weight. This inequitable treatment results in deleterious health effects, such as poorer mental health, increased risk of mortality, avoidance to seek care, social isolation, and disadvantageous physiologic changes (e.g. elevated C-reactive protein). In an effort to foster equitable, inclusive, and fair treatment of all patient groups accessing naturopathic care, this critical reflection and narrative literature review was undertaken in order to explore important considerations specifically for people in larger bodies. Further, it may serve as a guide for naturopathic doctors (NDs) to appreciate the sensitivity of terminology, the complexity of weight-related research, the caution that must be taken with social media use and the unintentional, but likely, harms of hyperfocusing on weight. A call for actionable changes is relayed in order to provide the ND community with tangible and achievable goals to consciously work towards in order to foster equitable care and treatment of all patients, regardless of body size.

Introduction

People identified as obese or overweight, hereinafter equitably referred to as 'people in larger bodies', face pervasive stigmatization due to their weight, jeopardizing their mental and physical health.[1] As a result of weight bias, this group experiences negative peer attitudes, blame, worsening psychological health, and poorer healthcare quality. These observations signal both a social justice and public health issue.[1]

Discrimination experienced by people in larger bodies is a pervasive issue in healthcare. A 2019 scoping review (21 studies) of weight bias and healthcare utilization, identified 10 prominent themes among larger bodied people, including 'disrespectful treatment', 'attribution of all health issues to excess weight', 'low trust and poor communication', 'avoidance/delay of health services' and 'ambivalence'.[2] Weight discrimination, *regardless* of an individual's weight, is associated with poorer mental health, increased food intake, exercise avoidance, weight gain, heightened long-term cardio-metabolic risks and increased risk of mortality.[3] Physicians spend less time during appointments and provide less education to individuals in larger bodies compared to their thinner counterparts.[3] Furthermore, it results in avoidance of future care, poorer treatment outcomes, compromised cancer screening participation, and deficits in health insurance coverage.[3] During the COVID-19 pandemic, weight bias is implicated in the reluctance to seek necessary medical care,[4] exacerbation of associated inequities (e.g. racism.),[4] intensification of weight discrimination in social media (e.g. 'quarantine 15'),[5] and psychological distress (e.g. stress caused by disproportionate media coverage/focus on obesity and COVID-19 outcomes).[6]

In the interest of providing equitable naturopathic care, it is imperative that naturopathic doctors (NDs) are mindful of non-discriminatory approaches to treatment. This critical reflection/narrative review will explore important considerations for the equitable, inclusive, and fair treatment of people in larger bodies. A narrative review methodology was implemented, accessing initially systematic synthesis work, followed by the application of a branching search approach to identify additional relevant literature, without systematic searching, which is beyond the scope and intent of this reflection.

I. Concepts & Terminology

Language that is accurate and non-discriminatory is essential for achieving health equity. Below, relevant terms are defined and explored. Language is constantly evolving, and words gain new meaning, often reclaimed over time by the marginalized groups that were affected by them. As language is shaped by humankind, real-life examples were accessed where applicable to capture current anthropological uses of certain words by the users themselves (people in larger bodies).

Obese

Obesity is often defined as a body mass index (BMI) above 30.[7] The term 'obesity' has been widely used in the medical and research community.[1]

BMI

Calculated by dividing weight (in kilograms) by square of height (meters).[8] Intended to be used for weight category screening but is not diagnostic of adiposity or indicative of health status.[7] First developed in the 1800's by Adolphe Quetelet (termed the Quetelet Index until 1972 when Ancel Keys renamed it), who was an astronomer, mathematician and sociologist[9]. BMI accuracy is limited according to the totality of research, and is often a poor predictor of diagnosing obesity, especially in non-white populations.[10-12]

Fat

A descriptor being reclaimed by the body-positive community, specifically those members who are in larger bodies. Fat is intended as a neutral descriptor but is still used in negative/harmful ways by straight-sized people and medical professionals.[1]

Straight-size

Individuals who are not at risk of discrimination due to weight.[13] This word is used instead of 'thin' because not everyone identifies with being thin. This word is used instead of 'average' because the average size in Canada is not 'straight size', and would be considered 'overweight.'[13,14]

Individual in a larger body

This term is intended to be neutral.[15] Like many terms used to describe oppressed groups of individuals, it is imperfect. Some individuals feel that this phrase is still offensive, some feel that it makes them sounds like they are a thin person 'trapped' in a larger body, and some value the attempt at political correctness but find it overly wordy.

Fatphobia

Previously defined as 'fear of fatness' within the context of disordered eating or body dysmorphia. However, the word has evolved to describe discrimination against people in larger bodies. This includes paying larger people less money, providing less comprehensive medical care, charging additional fees on an airplane.[16]

II. Research Concepts & Considerations

Health Consequences of weight-specific discrimination

Weight specific discrimination *in and of itself* is associated with poorer outcomes. The *Health and Retirement Study* (HRS) (n=13,692) and the *Midlife in the United States Study* (MIDUS) (n=5079) indicate that weight discrimination itself is associated with an almost 60% increased risk of mortality, not attributable to physical and psychological factors; HR: 1.57; 95% CI: 1.34 - 1.84 (HRS) and HR: 1.59; 95% CI: 1.09-2.31 (MIDUS).[17] Weight stigma is also associated with impaired ability to make healthful changes. Stigmatizing someone about their weight can trigger unhealthy eating patterns (e.g. skipping meals), binge eating, *increased* food intake, and reduced motivation to adopt 'healthier' dietary behaviors.[18] Weight stigma has also been associated with physiological changes, such as elevated levels of cortisol, oxidative stress, and C-reactive protein.[19] Qualitative research has also described the negative effects of weight stigma. Patients enrolled in a commercial weight management program (n=425) who were still feeling distressed from prior weight stigmatizing events (58%) reported that 1) it shaped their self-perception, 2) they blamed themselves for the consequences of weight bias and 3) they often ruminated on memories of weight discrimination.[20] Stories from people in larger bodies from narrative inquiry reveal that their behavior, such as health promoting action avoidance and social isolation, are common responses to weight discrimination.[21] Taken all together, inequitable treatment due to pervasive, yet avoidable, weight discrimination causes people in larger bodies to experience poorer overall health. NDs should be aware that weight discrimination experiences are likely affecting the health and overall wellbeing of their patients in larger bodies.

Social determinants of health

External societal and environmental factors greatly determine one's health, particularly the social determinants of health (SDOH). Obesity can be considered as a possible sequela of inequity (e.g., poverty), which requires social intervention, not weight loss.

Socioeconomic status (SES) is a strong determinant of health for a multitude of endpoints, including obesity. A 2019 meta-analysis of 21 observational studies (n= 1,233,438) found that low neighborhood SES increased the odds of being overweight by 31% (OR: 1.31; 95% CI: 1.16-1.47, p<0.0001) and the odds of being obese by 45% (OR: 1.45; 95% CI: 1.21-1.74, p<0.001).[22]

Racism has also been observed to increase the risk of obesity. An important equity study, the *Black Women's Health Study*, found that those in the highest category of experienced every day or lifetime racism had a significantly increased risk of obesity, compared to those in the lowest category, in both 1997 (1.69; 95% CI: 1.45-1.96, p<0.01) and 2009 (1.38; 95% CI: 1.15-1.66, p<0.01).[23] We conjecture that additional weight discrimination would only worsen this health equity discrepancy.

Non-heterosexual individuals face pervasive inequitable treatment,

increasing the risk of certain health related outcomes. A study accessing data from the *Behavioral Risk Factor Surveillance System* (BRFSS) surveys (n=716,609) found that compared to straight adults, women who identified as lesbian had a significantly higher odds of being overweight (OR: 1.33; 95% CI: 1.17-1.53), as well as being obese (OR: 1.49; 95% CI: 1.31-1.70). Bisexual women, compared to straight adults, also had significantly higher odds of being overweight (OR: 1.21; 95% CI: 1.10-1.34) and obese (OR: 1.43; 95% CI: 1.29-1.59).[24] Interestingly, this association did not exist for men identifying as either gay or bisexual when compared to straight counterparts.[24]

Patterns of Association Between Weight and Health Outcomes

U-shaped associations and confounding variables are two important, and complementary, concepts in weight-related research that are essential for deciphering the association between obesity and health outcomes.

The association between weight and health outcomes are generally observed to be 'U-Shaped', with negative effects primarily occurring at the two extremes (underweight and very overweight), with null effects observed in the middle ('normal' weight to slightly overweight).[25] This association is consistently observed between BMI and mortality.[26] A cohort study (n= 346,500) spanning 56 years, observed that the association between mortality and BMI was steady over the study period, with only those at the two extremes experiencing an increased risk.[27] This U-shape association is also found for diseased patient groups, where a meta-analysis of 14 prospective cohort studies (n= 46,794) found that people with heart failure with a slightly higher BMI (> 28 kg/m2) had better survival, whereas those who were underweight or severely overweight (BMI > 37 kg/m2) faired worse.[28] This U-shaped weight/BMI association has also been observed for all-cause mortality in patients with diabetes,[29] risk of depression,[30] prevalence of dysmenorrhea,[31] and all-cause mortality and disability among the elderly.[32]

The importance of metabolic abnormalities rather than BMI

The presence of comorbidities can result in meaningful confounding, rendering BMI status alone to be a poor predictor of current health, future risk/adverse events and who would benefit from weight los.[33] In general, the risk of type II diabetes, cardiovascular disease and all-cause mortality is more so influenced by the number and severity of metabolic abnormalities present (e.g. insulin resistance), rather than the isolated occurrence of obesity alone.[33] It is also notable that health improvements occur *in the absence of weight loss*, with a Cochrane review on exercise and type II diabetes indicating that physical activity improved glycemic control, reduced visceral adipose tissue, and triglycerides, *even without weight loss.*[34] Encouraging exercise for improving health rather than for weight loss, both addresses important disease endpoints while avoiding the chance of stigmatizing a patient about their weight. Furthermore, there is evidence of an absence of benefit for weight loss for people in larger bodies who are otherwise healthy (absence of comorbidities). A meta-analysis of 26 prospective studies tracking mortality after weight loss by means of lifestyle found that the evidence does not support advising people who are overweight or obese, who are otherwise healthy, to lose weight to reduce mortality (no benefit).[35]

TAKEAWAYS:

1. Be mindful of the negative impact of weight specific discrimination and the possible unconscious ways you may be engaging in it
2. Always consider and explore SDOH associated with weight status
3. Understand that the association between weight and health outcomes is complex, with thresholds existing at both ends for negative outcomes
4. Communicate to your patients that 'thinner' does not equal healthier, and often the opposite is true, especially when comorbidities are unaddressed/absent.

III. Social Media Marketing & Messaging

Social media (SM) accounts, especially those that promote 'health', are associated with worsening body image, disordered health behaviours (e.g. strict dieting), and health focused disordered eating/obsessions ('orthorexia nervosa').[36] An identified culprit for this association is 'SM influencers' who perpetuate unrealistic body types and suggest that weight is entirely in the control of the individual.[37,38]

Evidence suggests that up to 90% of medical doctors use SM for personal use and 65% use it for professional activities such as communicating with patients.[39] With more health care providers using SM for professional purposes, additional ethical questions arise around boundaries, confidentiality, informed consent, duty of care, privacy, and patient over-dependence.[40]

It is publicly observed that NDs use SM to market to a broad audience. While it is beyond the scope of this review to describe/quantify the current online behavior of NDs, like any healthcare profession, the naturopathic community is vulnerable to weight bias. As it is ineffective to only respond to health inequities only once they have been formally described, to both address current issues and prevent future propagation of oppression, we will present hypothetical examples for consideration. This will allow 1) NDs who are unknowingly using stigmatizing messaging to reflect and improve and 2) aid those looking to use SM in the future to make equitable decisions.

IV. The Responsibility of the ND Community

It is the responsibility of the ND community to consider their choice of words and actions — in person and online — and the effects it has on the person on the receiving end. Health is not binary. To '*do no harm*' we must remember that a person's health, including their weight, is shaped by a multitude of dynamic factors. We identify that a person's weight, on both extremes, can impact their health.

POSSIBLE PROBLEMATIC MESSAGES & EQUITABLE ALTERNATIVES

Example	Concern	Suggestion
"The true pandemic is obesity"	Minimizes the severity of the COVID-19 pandemic. Promotes victim blaming and weight shaming/vilification.	Discuss risk factors through a lens that empowers individuals to change modifiable ones. Avoid using the term "pandemic" to describe obesity prevalence which vilifies patients.
"Most people who have died from COVID-19 were overweight or had another major health concern"	Weight loss is not a short-term solution. This comment is mostly to comfort straight-sized people.	Acknowledge the many confounding variables and consider weight as more of a by-product of negative health exposures (poverty, food insecurity, racism, experienced discrimination, insulin resistance, etc.).
"War on obesity"	This term may be interpreted as a war on obese individuals. This phrase ultimately marginalizes larger individuals and may cause shame and feelings of failure if unable to lose weight.	Focus on the concerning health outcomes. Avoid using the phrase "war on…" when discussing individuals that belong to any group.
"Weight doesn't matter as long as you are healthy"	Promotes the idea that only healthy people/bodies are valid, which is both ableism and healthism.	Tie the health outcomes to the patient's goals. If they don't have metabolic goals this isn't relevant dialogue.
"Losing weight is part of treating the root cause…"	Weight is rarely the root cause of an illness. Because weight loss is a slow process, suggesting it as a treatment leaves people to deal with symptoms for extended time periods (if they end up losing weight at all). Focusing on weight removes focus from other, treatable causes of illnesses.	Consider how you would discuss a certain illness if a thin individual suffered from it. For example, knee pain may improve if a larger individual lost weight but that individual also deserves imaging, physiotherapy, anti-inflammatory supplements, etc.
"Your weight may be holding you back from living your best life"	Most people are aware of the size of their body and do not benefit from someone informing them that they are overweight/obese. This may make larger individuals feel unwelcome in naturopathic offices if weight loss is not one of their health goals. It implies that someone cannot have a "best life" if they are overweight, making weight a focus of their entire capacity to live and exist.	Focus on specific health goals and how to support those health goals in the short and long term.
Toxic body positivity: "Just need to love their bodies".	These messages blame the individuals for the oppression/discrimination they experience from society as a whole and suggests that their problems would be solved if they simply loved themselves.	Empower individuals through education to be their own health advocates. Identify yourself as someone who promotes healthy lifestyle changes without the goal of weight loss and works with individuals of all sizes.
Fear-based marketing	Fear-based marketing messages do not promote or encourage long-term health behaviours.	Place the emphasis on health-promoting behaviours. Instead of, "Being overweight or obese is a risk factor for diabetes. Book an appointment to address your weight and prevent diabetes", try "Lifestyle factors can play a role in your risk of diabetes. Book an appointment today to learn how you can adopt healthy habits". When they are in your office, you can discuss options such as a healthy diet, regular exercise, and supplements to mitigate their risk.

However, it is the responsibility of the ND community to consider their choice of words and actions - in person and online - and the effects it has on the person on the receiving end. To reiterate a point made earlier, regardless of a patient's weight they deserve rigorous assessment and compassionate care. Something to reflect on the next time this comes up in practice: Is the intent of my message or recommendation thinness or health?

Conclusion:

By acknowledging the detrimental effects of weight bias, stigmatization and discrimination, the naturopathic community can take conscious measures to both correct current unequitable behavior and prevent future unintentional harm. The intent of this review was not to vilify any individual ND nor to undervalue the care provided, but rather to remind us all that our patients often seek our care in hopes of a safe environment to explore their health/wellbeing, which can be undermined by weight bias and stigmatization. To achieve equitable care, we must interpret research judiciously, acknowledge the very real harms of weight bias, adapt terminology and messaging, and ensure that we foster a professional community void of fatphobia if our intent is to truly help people, and not weigh them down further.

CALL FOR ACTIONABLE CHANGE:

We call on all NDs to...

1. Consider whether discussing weight provides meaningful benefit to the patient that outweighs the known harms of discrimination.
2. Assess whether the goal of their recommendation is thinness or health.
3. Ensure marketing is inclusive, while keeping in mind important SDOH.
4. Avoid fear-based marketing strategies around weight or statistics suggesting weight is a single causative factor to any health outcome. Avoid absolutist ideas that weight loss "solves" health concerns.
5. Utilize equitable terminology based on available literature and input from those with lived experience. When in doubt, ask the individual what terminology they prefer.
6. Honour larger bodies and remove the goal of "fixing" them, while still supporting the patient's health goals.

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Putting Risk Factors in Context: an Anti-Oppression Approach

Cyndi Gilbert, ND, and **Arlie Millyard**

Abstract:

Risk factors can be useful tools for assessing patients and choosing interventions. However, discussions of social determinants (e.g. race, gender, sex, and sexual orientation) can portray those social categories as non-modifiable and biologically determined, erase the profound physiological effects of oppression, and support negative stereotypes or associations between marginalized groups and disease. In this paper we provide context to three commonly discussed social determinants of health to help clinicians avoid perpetuating stereotypes, better understand the root causes of disease, and provide appropriate naturopathic care and guidance for risk prevention.

Introduction

As naturopathic doctors (NDs), we frequently use our knowledge of risk factors to create both assessments and treatment plans. During clinical intake, we regularly ask about lifestyle factors such as diet, exercise, family history, past medical history, substance use, environmental exposures, and adverse childhood experiences. We also explore other social determinants of health such as race, ethnicity, gender identity, sex, sexual orientation, ability, socioeconomic status, body size, and age. Epidemiology is a critical part of medical education and clinical research, and risk stratification is often used to inform differential diagnosis and treatment approaches.

However, epidemiological discussions of certain social determinants (e.g. race, gender, sex, sexual orientation, and ability) of health have been approached as immutable, deterministic, and independent risk factors, taken out of their social and historical contexts. Too often, patient identity and demographics are confounded with, or used as a proxy for, genetics, socioeconomic status, education, behaviour, and/or enacted stigma and discrimination.[1] This can result in blaming both individuals and communities for enacted stigma and discrimination.

Medical curricula, including naturopathic medical curricula, textbooks, research databases and clinical studies are also responsible for presenting risk factors out of context.[1–6]

In doing so however, we fail to acknowledge the ways in which structural and institutional inequities, unequal distributions of power and resources, as well as interpersonal and internalized oppression constitute more fundamental root causes of health inequity that need to be addressed.

Collecting demographic data alongside prevalence and incidence data is critical from a research and public health policy perspective to assist in the identification of determinants of health and risk factors associated with specific health conditions to illuminate health inequities.[7,8] Without a clear understanding of who is disproportionately impacted, we cannot accurately set community-level healthcare priorities, change discriminatory practices and policies, and/or allocate resources and funding to address disparaties.[9]

However, when risk factors associated with demographics are directly applied in a clinical setting, it results in stereotyping, assumptions, misdiagnosis, reduced access to healthcare, and poorer health outcomes.[2,3,10–18] For example, risk factors presented out of context prime clinicians to view sickle cell disease as affecting only Black patients rather than as common in populations at risk for malaria or result in lower rates of cervical cancer screening amongst lesbian and bisexual women.[2,19–21] Without an understanding of the structural, institutional and interpersonal power dynamics as well as other intersecting factors contributing to the underlying causes of health disparities, clinicians risk perpetuating implicit bias and discrimination in their interactions with patients.[2,10,22,23]

Concerted efforts to identify and redress these issues, to provide more detail in definitions of risk factors and to place risk factors into sociohistorical contexts, are critical for naturopathic doctors, in particular because NDs pride themselves in addressing the root causes of disease (*tolle causam*) and teaching the principles of healthy living (*preventare*).

While changes to all of the above are needed, the focus of this article is to encourage current and future clinicians to think about root causes of disease, health promotion and prevention more critically.

A simple approach presented here, using the examples of race/ethnicity, sex/gender, and sexual orientation, based in the principles of anti-oppression and health equity, invites naturopathic doctors to avoid perpetuating stereotypes, better understand the root causes of disease, and provide appropriate naturopathic care and guidance for risk prevention and health promotion.

Race and Ethnicity

The predominant issue with employing race as an independent risk factor is that race has historically been misapplied to rationalize and justify chattel slavery and genocide. Medical doctors used pseudoscientific claims about biological differences between races to portray Black, Indigenous, Jewish, and other racialized people as sub-human and justify their slavery and genocide.[6,24–26] Although some of these more obviously erroneous claims are no longer presented, epidemiological information continues to discuss race as though it is a biologically-based risk factor. This is misleading and harmful for several reasons.

Like the claims of slavery-promoting and eugenicist doctors, it falsely portrays race as a biological category, despite it being a social category. Race is a social construct because it has social origins and implications, conflating distinct cultures and rationalizing differential treatment in colonial North America and Europe over the past several hundred years.[13,27] Because of this, mixed-race people are usually considered non-White despite having a White parent – a phenomenon called hypodescent.[28] This has, over the years, led to a complete divergence between the social concept known as race, and the biological concept of genetic ancestry. In fact, no genetic difference can be found between people of different self-identified races – the genetic variations that we can identify are based on ancestry, also known as genetic origin, rather than race.[27,29] Ethnicity, similarly, is a socio-political concept that refers to social groupings based on shared culture, language, history, nationality, and/or religion, but is also not a reliable marker for genetic origin.[30,31] Categorization of risk based on race and/or ethnicity often ignores the considerable genetic and sociocultural differences within social groupings and fails to account for people of mixed ancestry.[7] Unfortunately, much of the time, when race or ethnicity are reported

TABLE 1. EXAMPLES OF MISREPRESENTATIONS OF RISK ASSOCIATED WITH RACE/ETHNICITY

Condition	Commonly reported risk factor	Why the commonly reported risk factor is misleading	Root cause
Cardiovascular disease	Black Canadians are at a higher risk of dying from heart disease.	Reinforces the idea that race has a genetic or biological basis.[39]	Risk is due to combination of factors, including family history, genetic ancestry, and racism-related stress.[11,39,40]
Alcoholism	Indigenous Canadians are more likely to have an alcohol abuse disorder.	Perpetuates stereotypes that Indigenous people are alcoholics and can result in delayed care or refusal of care, appropriate assessments and treatment.[36]	Alcohol and other substance use is correlated to experiences of enacted stigma and discrimination, trauma (direct and intergenerational) associated with anti-Indigenous racism, land dispossession, residential schools, the Sixties Scoop, and inequitable access to substance use treatment programs.[41–44]
Diabetes	Indigenous Canadians are more likely to be diagnosed with diabetes.	Presumes that race has a genetic or biological basis.[45] Perpetuates stereotypes that Indigenous people make unhealthy diet and lifestyle choices.	Structural and institutional racism decrease access to affordable, healthy food. Other causal factors include socioeconomic status, food security, work-life balance, environmental exposure, and access to primary care.[46–50]
COVID-19	COVID-19 is more prevalent in BIPOC communities.	Perpetuates negative stereotypes that blame communities of colour for "not staying home" and therefore experiencing greater incidence of transmission of COVID-19.[51–54]	Increased risk is associated with exposure and living situations, ie. overrepresentation in precarious work/low-paid healthcare work/migrant agricultural labour/factory work, housing instability, poverty, and other pre-existing social and health inequities.[12,51–53]

as a biological risk factor, they continue to be treated as a proxy for genetic origin.[2,14,27]

However, much of the time, the reason that race is a risk factor for disease is actually racism.[2,3,5,10,22,32,33] Structural, institutional, interpersonal, and internalized discrimination and oppression have profound direct and indirect effects on human health. They can influence extremely impactful variables affecting both communicable and non-communicable disease risk, such as diet, exercise, socioeconomic status, housing, education, employment, and experiences of stress. Not stating this clearly when race is positioned as a risk factor leaves clinicians to approach health disparities as deterministic or biologically based, resulting in missed diagnoses, inappropriate treatments, and avoidance of efforts to identify and remove the causes of health inequities.[1,4,7,10,34] For example, studies show that Black and Indigenous patients are less likely than White patients to receive appropriate, guideline-concordant medical care, including pain management, clinical assessment, and thrombolysis after myocardial infarction.[23,35–38] Clinicians also arrive at the false conclusion that these health disparities are caused by poor diet and lifestyle choices, based on racial stereotypes, thus blaming patients for their disproportionate suffering.[3,35]

Framing that focuses on associations between race, risk, and lifestyle within an understanding of the complex historical and sociopolitical systems that have created and sustained these disparities is needed to better understand the complexities and nuances associated with social determinants of health. Race isn't at the root of risk — racism is.[2,5,13,33]

Sex and Gender

One of the most commonly reported risk differentials for disease is sex. However, there are a myriad of underlying factors that are necessary to specify in order to effectively assess a patient. Some of these factors have to do with socialization and cultural factors (i.e. gender), while others have to do with intrinsic biological factors (i.e. what is often referred to as sex). However, the use of sex as a risk factor, and using it interchangeably with gender (e.g. 60% of cases are in females, so women are at an increased risk) both conflates the very different concepts of sex and gender,[55] and upholds the idea of sex as a binary biological category, which it is not.[56]

TABLE 2. EXAMPLES OF MISREPRESENTATIONS OF RISK ASSOCIATED WITH SEX/GENDER

Condition	Commonly reported risk factor	Why the commonly reported risk factor is misleading	Root cause
Iron deficiency anemia	Increased risk in women of reproductive age.	Includes women age 18-50 who do not menstruate due to medication, lack of a uterus, medical conditions, pregnancy, etc.[61] Excludes people who are not women but do menstruate.	Increased risk in people who menstruate.[62]
Hemophilia A	Occurs in sons of a symptomatic father and a carrier mother. Rarely occurs in girls.	Excludes transgender and intersex individuals who have only one X chromosome but are not men.[57]	X linked recessive condition occurs when a child inherits one hemophilia allele on their only X chromosome, or, rarely, one hemophilia allele on each X chromosome.
Breast cancer	99% of cases are in women	Does not provide sufficient information to make assessments for patients who have varying amounts of mammary tissue and varying exposure to estrogen, regardless of gender.	Risk is a function of exposure to estrogen, genetic predisposition, and other risk factors normally considered in all cases of breast cancer.[63]
Atopic dermatitis of hands	Twice as frequent in women than men	Does not explain what causes this difference, making it difficult to address root cause.	Many aggravating factors are highly gendered, including hygiene and laundry products, food handling, hand washing, and glove wearing being more common in women.[64] Note that these are social differences, not biological differences.

We know that sex is not a binary category because there are at least 26 different conditions that lead to sexual development that does not fit neatly into "male" or "female" categories[57] - and as a group they are common enough that they can be considered normal human variation.[56] Many individuals with these conditions identify as intersex.[58]

There is also huge variation within the binary sexes, because of biological differences caused by life-stage differences (e.g. menopause), medications (e.g. hormone replacement therapy, 5α-reductase inhibitors), surgeries (e.g. hysterectomy, mastectomy), and health conditions (e.g. PCOS). There is even broad variation within the binary genders, due to cultural and individual variation,[59] and many people do not fall within the social categories of "man" and "woman".[60] All of this human variation is easily assessed by clinicians in one-on-one care settings and is vital to understanding the true likelihood of a condition in an individual patient.

Sexual Orientation

When learning about 2SLGBTQIA+ identities, we are often presented with lists of risk factors – diseases and mental health diagnoses associated with each identity. Without any context added to these statistics, this can be very harmful.

Historically, LGB identities were pathologized[65,66] and transgender, intersex, and asexual identities are pathologized to this day.[58,67–71] Because of this legacy of non-heterosexual, non-cisgender identities literally being considered mental health conditions, the discussion of mental health conditions as being strongly associated with these identities upholds the long-standing idea that not being heterosexual and cisgender is itself a mental health condition, or at least is inherently attached to mental suffering.

Linking sexual health concerns with sexual minority identities perpetuates commonly held beliefs that 2SLGBTQ+ people are sexually promiscuous, irresponsible, or even dangerous, again contributing to the pathologization of gender and sexual minorities.[72,73] Stigma related to sexual health and sexual orientation in a healthcare setting is a massive and well-documented barrier to healthcare access for 2SLGBTQ+ people.[74,75]

When the context and root causes for these links between sexual minorities and health risks are not provided, it erases the important role of enacted stigma (e.g. transphobia/homophobic bullying, employment inequity, medical discrimination, etc.) in the etiology of many of these disease risks in these marginalized populations. As with all of the categories discussed in this paper, failing to identify the true root cause of a condition in any given population means missing the opportunity to address that cause and reduce the risk for individuals and populations. Not all 2SLGBTQ+ people experience or are affected by enacted stigma in the same way. Assessing for protective factors such as supportive friends and families and a positive attitude about their own identity can help determine whether a 2SLGBTQ+ person is likely to be harmed by stigma to the extent that their health is affected.[74]

Sexual orientation is also often used as a proxy for sexual behaviour. Sexual behaviour is in fact much more useful information than sexual orientation for the clinician.[75] Knowing the actual behaviours that a person engages in enables the clinician to make much more specific assessments of risk, and suggest appropriate and applicable interventions to reduce risk, if applicable.

Other Risk Factors Requiring Critical Examination

In this paper we have reviewed the most commonly reported risk factors that are often erroneously treated as unmodifiable biological categories, rather than the complex, modifiable, or socially constructed categories that they are. There are certainly other claims made in medicine that require similar critical analysis.

One important issue to consider, although beyond the scope of this article, is the way that body size and BMI have been adopted as a proxy for overall health, leading to widespread fatphobia both in our culture at large, as well as in medicine. We highly recommend the article in this issue of Vital Link on this topic.

Another important factor to consider is socioeconomic status. There is a widespread belief that people of low socioeconomic status are personally at fault for not making more money and having better health.[18] However, research decisively shows that there are significant structural barriers directly impacting the health of those of lower socioeconomic status, including environmental, material, psychological, and behavioural factors.[85]

Getting to the Root Causes

Risk factors can be useful tools for assessing patients and choosing interventions. However, in order for these tools to be helpful and not harmful, they need to come as close as possible to explaining the true cause of the risk. Using identities or social categories as risk factors can reinforce false ideas of firm biological distinctions within heterogeneous human groups, erase the profound physiological effects of oppression, and support negative stereotypes or associations between marginalized groups and disease. Putting these risks in their sociohistorical context allows us to understand how specific biological influences and broader structural, institutional, and interpersonal stigma contribute to health inequities.

Clinicians should note that demographic information in research is a useful tool for assessing risk but is not able to capture the full social context and root cause associated with these increased risks. It is up to clinicians to determine whether or not risk factors based on social categories identified in research are applicable to individual patients. It is also important to avoid stereotyping patients based on risk factors or making assumptions and clinical judgments without taking a complete health history that examines all aspects of the determinants of health, including genetic ancestry, personal health history, sexual practices, life stressors, and experiences of enacted stigma and discrimination.

TABLE 3. EXAMPLES OF MISREPRESENTATIONS OF RISK ASSOCIATED WITH SEXUAL ORIENTATION

Condition	Commonly reported risk factor	Why the commonly reported risk factor is misleading	Root cause
Depression	LGBQ people are at higher risk for depression.	Suggests that LGBQ orientation is the cause of depression, or is itself a mental health condition with depression as a symptom, which was the official medical stance on homosexuality into the 1980s.[66]	Homophobia, both structural and interpersonal, is traumatic.[74]
Breast cancer	Lesbians are at higher risk for breast cancer.	The body of evidence assessing prevalence and incidence of breast cancer among lesbian women is extremely poor quality. However, some risk factor models show that a possible increased rate of breast cancer among lesbians is mostly likely due to other risk factors that are already considered in heterosexual women, including nulliparity and alcohol consumption.[76] Lesbians may be less likely to access health care due to worries about heteronormativity or homophobia from their care provider.[77] However, they are as likely as heterosexual women to follow through with screening if it is offered.[78]	There is likely no difference in susceptibility to known risk factors based on sexual orientation. All people with breasts should be offered breast cancer screening according to guidelines.
HIV	Gay and bisexual men are more likely to have HIV/AIDS.	Erases the history of systemic inaction against HIV based on homophobia.[79] Applies stigma associated with sexually transmitted infections to gay and bisexual men. Conflates HIV and AIDS, despite the fact that being HIV+ with access to modern care is not associated with AIDS. Has been used as justification for the criminalization of HIV which disproportionately targets gay and bisexual men and trans women, and for the ban on blood donation by men who have had sex with men.[80]	Because of extreme homophobia at the time of the initial spread of HIV in North America, the virus was intentionally allowed to become more prevalent among gay and bisexual men and other members of their communities, including trans women.[79] To this day, the stigma around HIV creates barriers within these communities to receiving care and communicating about risk.[81] HIV is most easily transmitted via anal sex without a barrier method, and may also be transmitted via blood or vertically.[82] Transmission cannot occur when HIV is undetectable in blood, which is the goal of treatment.[83]
Pregnancy	Sexually active heterosexual and bisexual women should be screened for pregnancy in the case of amenorrhea.	Excludes non-women (including transgender men and nonbinary people) who are experiencing amenorrhea and having receptive vaginal sex.[84] Includes heterosexual and bisexual women who are not having receptive vaginal sex and therefore cannot be pregnant.	Anyone presenting with amenorrhea who has had receptive vaginal sex since their last menstrual period should be screened for pregnancy.

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