Putting Risk Factors in Context: an Anti-Oppression Approach

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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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