Objective One: In the assessment of clinical problems that might present differently in men and women, maintain an inclusive differential diagnosis that allows for these differences (e.g. women with coronary artery disease, depression in males).”

Let’s dive right in to cardiovascular concerns. According the Heart & Stroke Foundation 53% of heart attack symptoms go unrecognized in women. This is a big deal – that’s a lot of misses!

Even more importantly while there is a lower incidence of cardiovascular disease in women overall, the consequences to those affected are often worse than their male counterparts. Women typically have both higher mortality and a worse prognosis after acute cardiovascular events.

Because of this under-recognition and worse outcomes, the Heart & Stroke Foundation has been working on promoting awareness of cardiovascular disease in women. Remember presentation can be variable and include any of the following : Chest discomfort including pressure, squeezing, fullness, pain, burning, or heaviness, Sweating, Upper body discomfort including neck, jaw, shoulder, arms, and back pains, nausea, shortness of breath and light-headedness.

That’s a lot of possible symptoms that can also point you in some very different clinical directions. The take home though is simple – know that these symptoms can be signs of cardiac disease and keep this on the differential as you work your patients up.

An interesting paper that discusses some of the differences in cardiovascular disease risk profiles and presentations between men and women is the 2019 paper by Gao, Chen, Sun, and Deng which we will link in the show notes.

They highlighted that coronary heart disease and stroke both tend to occur at older ages in women. Post-menopausal women also appear to lose some of the earlier protection they had to cardiovascular disease. For example, the risk of AAA increases after menopause, even though the main risks for this condition are age, being male, and smoking.

This study also reviewed that while there are common risk factors for cardiovascular disease for both sexes, some of these risk factors may play a more important role for men or for women. They suggested that smoking, diabetes, high triglycerides and low HDL may play a stronger role for women’s risk, while hypertension, age, and elevated total and LDL cholesterol may be stronger risk factors for men.

Some additional female specific risk factors you should be thinking about on your history when considering cardiovascular disease in women are :

1. Is this patient post-menopausal which increases risk,
2. Do they have a history of PCOS, Premature Ovarian Insufficiency, Pre-eclampsia, Gestational diabetes, or gestational hypertension all of which can impact risk profile.

Before we turn our attention briefly to stroke, I think it is also worthwhile highlighting two studies from 2018 and 2019 that discussed out of hospital cardiac arrests. These studies found that when an out-of- hospital cardiac arrest occurs in a public setting, males have a 29% increased odds of surviving compared with females, in large part because they were more likely to receive bystander CPR.

There were various reasons cited as to why this may be the case, ranging from sexualization of women's bodies, fear of causing injury, and misperceptions of an acute medical condition in women. All of these ultimately result in a lack of bystander CPR provision which impacts outcomes.

Both these studies are a good read and will be linked in the show notes and I think really highlight what we are talking about today – that sex and gender matter both to whether you are perceived as sick and what interventions you will receive.

Okay, let's briefly run through a few other common conditions where we can see sex-related differences. First up, is stroke.

Stroke

Stroke is an interesting one. Before age 85 men are more affected and have a higher mortality from stroke. After age 85, women predominate. Stroke etiology seems to differ between men and women as well, with women being more likely to have cardioembolic strokes while men are more likely to have ischemic strokes due to carotid stenosis. Men are also more likely to benefit from endarterectomy procedures.

The American Stroke Association has guidelines for the prevention of stroke in women. Let's run through some of the key risk-factors they discuss.

First up is hypertension. There is big benefit to primary prevention by treating hypertension in BOTH men and women. Other risk factors that equally impact men and women are the presence of obesity as well as depression and psychosocial stress.

Some risk factors that are more important, or exclusive, to the female population include a state of pregnancy as well as a history of pregnancy complications including gestational

diabetes, gestational hypertension and pre-eclampsia. Migraine with aura doubles the risk of ischemic stroke. This is important as a female risk factor because 1. Women are 4x more likely to have migraines than men and 2. The risk of stroke in the presence of migraine with aura is increased if there is also OCP use or the patient is smoking.

The presence of atrial fibrillation is a big risk factor for stroke, increasing risk by 4 to 5 times. Simply being female is a risk factor for stroke with atrial fibrillation.

Before moving on from stroke, a key condition to keep on your differential for headache in the younger patient is Cerebral Venous Thrombosis. We are including it in our discussion today because women account for over 70% of the cases and this tends to affect young women, in their 30s.

Risk factors are once again a pregnant or post-partum state and oral contraceptive use. Additional risk factors are having a thrombophilia or a condition that promotes thrombus formation such as cancer or infection. We won't dive into management here, but just a good diagnosis to keep on your radar for that unusual and severe headache.

Okay, so we've focused a lot on conditions where women may be forgotten or at risk of missed diagnoses. Now, let's turn to a few conditions, where it is men who may be being underdiagnosed or treated.

Breast cancer

First off is breast cancer. Obviously, there is a huge difference in risk here. Lifetime risk for women is 1 in 8, whereas it is 1 in 1000 for men, so it is understandable why we don't talk much about male breast cancer. But that being said, it should not be forgotten.

Reasons to suspect male breast cancer in a patient are the presence of a painless, retroareaolar lump, bleeding from the nipples, skin ulceration, and any palpable axillary adenopathy.

Risk factors for breast cancer in males include : age, black race, genetic markers including BRCA 1 and BRCA 2, history of radiation exposure, Klinefelter's syndrome – which actually increases risk by 50 time, gynecomastia, liver disease, obesity, and testicular abnormalities.

Osteoporosis

Moving on to Osteoporosis. Cawthorn had an interesting 2011 article on the topic of gender disparities here outlining that while women were more likely to suffer fractures, the outcome were often worse in men.

Following a hip fracture the 1-year mortality risk for men was double that of women at 18%. Men were also less likely to receive treatment following a fracture, both in hospital and primary care.

In hospital treatment was low for both groups with treatment initiation for 8.9% of women and 2.2% of men. However, in primary care 75% of women were started on treatment compared to only 27% of men.

We are not going to review the Osteoporosis Canada guidelines here, but you should be familiar with them and know that they state that women AND men over 50 should be assessed for risk of osteoporosis and fracture and ANY INDIVIDUAL over the age of 50 who has experienced a fragility fracture should be assessed.

Depression

Last up, before moving on to objective two, is depression. We have included this one because it was mentioned specifically in the CCFP objectives.

According to the WHO, there is doctor bias when it comes to diagnosis and management of depression. They reported that even when standardized measure are being used, females are more likely to be diagnosed with depression than males even if they have a similar symptom presentations and scores.

Furthermore, female gender alone was a significant predictor of being prescribed medications.

Another interesting 2009 study by Daneilsson et al. explored ways in which depression can present in males and females and discussed that men may have more of a “struck by lighting” storyline while women may present with a more “slowly suffocating” storyline. By this they meant, that men might describe their symptoms as occurring all of a sudden and due to external factors such as unemployment, crisis, or violation, whereas for women they may emphasize more internal features such as self-blame, personal shortcomings, constant tiredness, or low self-esteem.

Being on the lookout for depression in males is important, particularly when we consider that while women are twice as likely to be diagnosed with depression, men are 4 times as likely to die by suicide than women. In Canada, the highest rates of suicide are among rural men.

So ultimately, the big take homes from Objective One are try not to let your own biases about what a specific illness script looks like and who it applies to fool you into missing diagnoses or under-treating patients. We’ve only talked about a few select conditions and there are many more out there – so be vigilant, be suspicious, and take that full history and physical -always!

Objective Two : "As part of caring for women with health concerns, assess the possible contribution of domestic violence."

So we are not going to spend much time here, the objective says it all – "think about domestic violence" – so please, now that we've mentioned it, think about it!

Here are some risk factors to make you more suspicious to inquire about intimate partner violence. There are higher rates in rural as compared to urban areas. Younger women are at higher risk, with those age 25-34 reporting the highest rates of violence. And those living with disability are at twice the risk of those without to suffer violence.

Alright, so there is a lot more to domestic violence, but that's not today's focus. Please refer to episode 38 where we review this topic in depth. A few things to briefly mention though are.

One : Common screening and assessment tools exist and include the Danger Assessment Tool and the HITS questionnaire, but you can also just take the approach of asking anopen-ended questions about abuse or conflict in the home.

Two. Connect your patients to resources as needed. Be familiar with local and national help lines. We will include a few links to resources in the show notes such as sheltersafe.ca, and the Canadian Women's Foundation so you can explore these topics more on your own. And

three, my last soap box item on this topic, strangulation is a risk factor for vertebral artery dissection and a predictor of more severe violence or homicide to come. If this is disclosed to you ensure appropriate medial workup and try support these patients to get safety plans in place.

Objective Three : "When men and women present with stress-related health concerns, assess the possible contributions of role-balancing issues (e.g. work-life balance or between partners).

Again, this is another "think about it" objective, where I don't have too much more to add. I did however peruse some WHO resources regarding mental health, a few of which we will highlight here, mostly so you feel like I haven't simply read the objective to you, which I know you are very capable of doing on your own!

According to the WHO, some gender-specific factors that can disproportionately impact women are : gender-based violence, which we touched on above in the domestic context but can include violence outside of the home environment as well, socioeconomic disadvantage, low income or income inequality, low or subordinate social status, and the unremitting responsibility to care for others.

Remember that mental health is intersectional and influences on mental wellbeing can relate to many other features in a person's life including disability status, sexual identity, race or ethnicity, or a history of trauma, colonization, migration, or immigration. All of these should be explored and recognized when evaluating mental health concerns.

Finally, explore protective factors. Again, the WHO discusses three main protective factors and it should be recognized that the ability to experience these protective factors can be gendered, racialized, or impacted by socioeconomic status.

These factors include :

1. Having enough autonomy to exercise some measure of control when faced with severe events,
2. Having access to material resources that offer someone the ability to make choices in the face of severe events – we only have to think of the pandemic to think of lots of examples of disparity here be it from inequitable vaccine distribution to the luxury of who can work from home or isolate in the home – and
3. having psychological support from others be it family, friends, or health providers.

This might be impacted by how the individual or their support network perceive mental health.

In summary, think about all those external factors that can lend themselves to stress-related health concerns and recognize that the prevalence and impacts of these factors can be gendered.

Objective Four : "Establish office policies and practices to ensure patient comfort and choice, especially with sensitive examinations (e.g. positioning for Pap, chaparones for genital/rectal exams)"

Alright so this is back to the basics and you should hopefully remember correct procedures for sensitive exams from your training in medical school. Please follow them.

Beyond this, I took the objective to mean that we should be practicing trauma informed care with every patient during every encounter.

For anyone who does not feel familiar with trauma informed care there is an excellent Trauma-Informed Practice Guide which we will link in the show notes put together by the Centre of Excellence for Women's Health. Alberta Health Services also has a 6-module training session which covers the basics.

The key principles of trauma-informed care is that patient choice, safety, and control are at the centre. It recognizes that trauma can take on many forms from a single incident to complex or repetitive traumas to historical traumas. Patients' should feel empowered. We should be educating patients about why specific exams are recommended, explain how they will be performed, ask consent prior to proceeding and offer chaperones.

Sensitive exams can be particularly triggering if there have been prior experiences of sexual assault, previous traumatic examination, or if they don't identify with the body part being examined.

Creating an inclusive practice environment also extends to helping patients of different backgrounds, abilities, and sexual orientations feel comfortable and like they can access care. TranscareBC has some great resources around inclusivity as it pertains specifically to LGBTQ2 populations.

Objective Five : "Interpret and apply research evidence for your patients in light of gender bias present in clinical studies (e.g. ASA use in women)."

Okay, I'll admit I found researching for this last one a bit challenging.

Briefly, what I could find on the ASA story is that the indications for primary ASA prevention differ between sexes, whereby you could consider ASA as primary prevention for stroke in women and for primary prevention of coronary heart disease in men. However, when it comes to secondary prevention ASA was recommended equally across both sexes. As always, the benefits must be weighed against the risks, which in this case is bleeding.

The American Heart Association did mention that when it comes to treatment of hypertension that there were no sex-based differences in response to anti-hypertensives but women may have more side effects such as electrolyte abnormalities with diuretics, cough with ACEi, and edema with CCB.

Statin therapy is another area where women were excluded in early trials. More recently trials have shown benefit in terms of secondary prevention for women and in fact they may even benefit more than their male counterparts!

Once again though, women may have more side effects which can impact compliance.

So that wraps it up for the CCFP objectives regarding gender specific issues, but I find it hard to leave this topic without at least briefly touching on considerations for LGBTQ2 populations in primary care.

We won't take a deep dive here, but for anyone who is interested we will include links to the following resources that are some great self-study tools :

- TranscareBC's Primary Care Toolkit on Gender-affirming Care for Trans,
- Two-spirit and gender diverse patients in BC and
- UBC's continuing professional development modules on gender-affirming primary care and optimizing care for gay, bisexual, and other men who have sex with men.

These are definitely great resources to check out even if you have no plans to be specifically providing transgender care. These resources review methods of making your practice environment more inclusive including language for gendered body parts

Arguably this fits into Objective Four : establishing patient comfort and choice

Absolutely! These resources also review some trans-specific health concerns related to tucking, binding, drug interactions, and hair loss. And finally, the Canadian Cancer Society has guidance on cancer-screening policies for breast, cervical, and prostate cancer in trans-women and trans-men as it relates to any surgeries or hormones an individual may have undergone or utilized. Check these out, make sure people get the screening they need and be mindful that health issues and screening procedures for body parts with which an individual does not identify can pose their own challenges and special considerations or preparations may be needed to maximize patient comfort.

Alright, so small diversion there, but that warps it up for today! Thank you again for tuning in. While this week's topic was a lot more about general awareness of blindspots and practice considerations to simply "think about" we hope you still got some useful takeaways. Of course we did not explore all the possible areas for bias in medicine so please feel free to reach out and share with us on this topic via our usual avenues : email Hello@thegenerehlist.ca, twitter, or Instagram.

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RESOURCES:

Osteoporosis Canada Guidelines https://osteoporosis.ca/clinical-practice-guidelines/

TranscareBC Primary Care Toolkit
http://www.phsa.ca/transcarebc/Documents/HealthProf/Primary-Care-Toolkit.pdf

UBC-CPD Gender-Affirming Primary Care https://ubccpd.ca/learn/learning-activities/course?eventtemplate=101-genderaffirming-primary-care

UBC-CPD Optimizing Care for Gay, Bisexula, and other Men who have Sex with Men (gbMSM)
https://ubccpd.ca/learn/learning-activities/course?eventtemplate=37-optimizing-care-for-gay-bisexual-and-other-men-who-have-sex-with-men-gbmsm

Cancer Screening in LGBTQ2 Communities. Canadian Cancer Society
https://cancer.ca/en/cancer-information/find-cancer-early/screening-in-lgbtq-communities

AHS Trauma-Informed Care Modules
https://www.albertahealthservices.ca/info/page15526.aspx

BCCEWH Trauma-Informed Practice Guide https://bccewh.bc.ca/wp-content/uploads/2012/05/2013_TIP-Guide.pdf

IPV – Canadian Women's Foundation https://canadianwomen.org

IPV – US Resource on Safety Planning https://www.thehotline.org/plan-for-safety/create-a-safety-plan/

IPV – Finding a Shelter Near You https://sheltersafe.ca/get-help/