THE UTAH WOMEN'S HEALTH REVIEW

SPECIAL ISSUE

The Center of Excellence in Women's Health
UNIVERSITY OF UTAH

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Introduction

In 2024, women's health status and women's access to appropriate healthcare appears to be more precarious than they have been in about 30 years. In 2005, the University of Utah was awarded a National Center of Excellence in Women's Health Demonstration Project grant for the U.S. Region VIII. This award allowed us to create a number of projects that linked to women's health with the idea that women's health should be considered across the lifespan and include more than reproductive health. Consequently, the University of Utah Center of Excellence (COE) in Women's Health was launched and is still operational in 2024. Leveraging partnerships with faculty, students, and staff across campus and with community partners, the COE (1) developed the 7 Domains of Health, (2) launched an interdisciplinary graduate certificate in women's health for students interested in focusing on women's health from a multidisciplinary lens, (3) created the Circle of Health survey to allow women to determine their healthcare needs and to share these needs with their primary care providers, (4) launched a journal (Utah Women's Health Review, UWHR), and (5) published articles and a book. The 7 Domains of Health were developed by an intensive review of the scholarly literature that discussed women's health, healthcare, and health needs in a broad context: emotional, environmental, financial, intellectual, physical, social, and spiritual.1-3 The 7 Domains of Health are the content areas in which articles for UWHR are based.

Purpose of this Issue:
The purpose of this issue is to update selected domains of women's health in the U.S. in the second decade of the 21st century. Research findings have been changing in all 7 domains. Based on current research and intellectual reflections about political and social decisions, this issue brings together a number of poignant topics that are in the national landscape. This issue is designed for practitioners in a variety of health and allied fields to review information in their discipline and consider how other practitioners view women's health. We hope this type of multidisciplinary view will support an interprofessional lens for the delivery of accurate and needed healthcare for women.

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Pregnancy as a Window to Women's Future Health: An Essay

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It has long been recognized that optimal pregnancy outcomes, namely an uncomplicated full-term vaginal delivery for mother of a normal healthy child, are most likely to occur in the maternal age decade from late teens through late twenties. It is not by accident that this is also the decade at which humans are at their cardiovascular and musculoskeletal prime. Women in this age window are optimally likely to tolerate the multiple physiologic changes that occur during pregnancy. The placenta, which is a fetal structure, secretes large quantities of hormones into the mother's bloodstream, which produce these maternal adaptations (Table 1).

Although most pregnant women successfully adapt to these changes, serious complications for mother and child still occur. These complications are more common when co-existing maternal medical complications are present and when maternal age gets further away from the optimal window.

The current paradigms for prenatal care aim to identify those pregnancies at increased risk for serious pregnancy complications such as stillbirth, premature delivery, preeclampsia/eclampsia, or life-threatening hemorrhage. This concept of risk prediction is an established and accepted practice in clinical medicine and is now widely utilized in efforts to reduce the burden of the chronic non-infectious diseases of adulthood such as diabetes, hypertension, heart disease, and kidney failure. A pioneering contributor to this concept is the Framingham Heart Study. Launched in 1948, the study has demonstrated the utility of clinical and laboratory findings to identify common factors or characteristics that contribute to heart disease and has evolved into a multigenerational study of family patterns of cardiovascular and other diseases.[1] An important further contribution of the Framingham Study has been its successful efforts to follow a large cohort of individuals, and now their descendants, across multiple decades to confirm the association of their initial data from decades before with the presence or absence of subsequent chronic disease. Given the complex natures of modern societies and the generally fragmented nature of healthcare systems, such long-term prospective follow-up studies remain challenging but uniquely valuable.

Several other early landmark studies have helped focus our current attention on pregnancy as a window to the future health of both the mother and her offspring. In 1964, Mahan and O'Sullivan described the association of abnormal glucose metabolism in pregnancy with the subsequent development of diabetes over the ensuing eight years.[2] Of historical interest, this manuscript

Table 1. Selected Physiologic Changes During Pregnancy	
Cardiac Output and Blood Volume	↑ 30-50%
Blood Flow to Kidneys	↑ 50-80%
Air Flow Through the Lungs	↑ 30-50%
Increased Insulin Requirements	↑ 50-80%

provided no information on pregnancy outcomes or complications. Perinatal complications with gestational diabetes were only described in detail in the following decades.[3]

In the 1980s, David Barker began a series of studies looking at the outcomes of children born of pregnancies complicated by low birth weight and found higher incidence of ischemic heart disease in surviving children.[4] The subsequent "Barker hypothesis" is an association between fetal adaptations to placental insufficiency and subsequent chronic diseases of adulthood.

These studies, and others, have led to an increasing recognition that pregnancy complications identify a subset of women and children at increased risk for long-term adverse health outcomes. With this increasing recognition of the long-term effects of pregnancy complications, optimal strategies to screen women at-risk for adverse health outcomes throughout adulthood are the subject of active investigation. Below is a description of health-related issues that can serve as the windows to women's future health.

Gestational Diabetes (GDM)

As mentioned, pregnant women who develop gestational diabetes are at increased risk for type 2 diabetes. Women who are diagnosed with GDM early in pregnancy, who require medical treatment, who are obese, or have an immediate family history of type 2 diabetes are at higher risk for this complication (Table 2). Many of these women will develop overt diabetes within the first five years after delivery, at least in part because some of them had undiagnosed type 2 diabetes preconception. This issue emphasizes the importance of periodic postpartum blood glucose assessment for women with GDM, particularly if they have additional risk factors (Table 3). Women with GDM who also have other components of the metabolic syndrome are at additional increased risk for subsequent cardiovascular disease (Table 3).

Hypertensive Disorders of Pregnancy (HDP

Hypertensive disorders of pregnancy, defined as gestational hypertension (BP > 140/90 mmHg without proteinuria), pre-eclampsia (BP >140/90 mmHg plus proteinuria, with or without other laboratory abnormalities or symptoms), or eclampsia (seizures in a pre-eclamptic woman without other obvious cause), are common pregnancy complications, complicating about one in eight (13.0%) pregnancies in the United States.[5] HDP are more common in non-Caucasian, older (esp. age >35), and obese women. Women with any history of HDP are at increased risk for cardiovascular disease and type 2 diabetes later in life, presumably because the physiologic stresses of pregnancy unmask the underlying predisposition many of these individuals have for subsequent microvascular disease(s).

Table 2. Conditions Associated with Increased Risk of Subsequent Type 2 Diabetes on Women Diagnosed With Gestational Diabetes (GDM).
GDM diagnosed in early pregnancy
Requirement for medical treatment (oral hypoglycemics or insulin)
Preconception obesity
Immediate family history of type 2 diabetes

Table 3. Clinical Metabolic Syndrome Components[12]
Abdominal obesity
Abnormal serum lipid levels: (↑triglycerides, ↓HDL cholesterol)
Elevated fasting glucose
Hypertension

There is also evolving evidence that a history of HDP predisposes to dementia, particularly vascular dementia, later in life.[6] Thus, women with any history of HDP, but particularly those with the aforementioned risk factors and/or HDP in more than one pregnancy, are candidates for early screening for evidence of evolving or progressive microvascular disease (Table 3).

Preterm Birth (PTB)

Preterm birth, defined as delivery prior to 37 weeks gestation, may be either spontaneous or indicated. Medically indicated PTB may be the result of either maternal or fetal indications but is generally undertaken at such point in pregnancy as either the mother is better off not being pregnant or the fetus can be expected to fare as well, or better, in the (intensive care) nursery than in utero. These two scenarios cover a broad range of maternal and fetal/placental conditions and complications. Many of these conditions are associated with systemic inflammation and vascular senescence. These same underlying mechanisms have also been associated with spontaneous preterm birth and with early cardiovascular disease.[7,8]

Fetal Growth Restriction (FGR)

Fetal growth restriction, frequently defined as the lowest decile of birthweights for a given gestational age and fetal sex, can result from maternal medical conditions, placental dysfunction, or intrinsic fetal abnormalities. The "Barker Hypothesis" mentioned above generated multiple subsequent observational studies that confirmed the increased risk of adult-onset microvascular diseases for both the child and the mother.[4]

Infertility

The previous conditions all reflect an increased risk of subsequent microvascular disease in women who suffer various pregnancy complications. It should be noted that the inability to achieve a wanted pregnancy (infertility) has also been associated with an increased risk of cardiovascular disease.[9,10] Much of this association is mediated by the presence of polycystic ovarian syndrome (PCOS), the most common cause of infertility in women. Of note, in addition to increased risks of cardiovascular disease, women with infertility related to PCOS are at elevated risk for endometrial cancer.[11]

Fetal Origins of Adult Disease

Another impact on women's health in later life is linked to the fetal origins of adult disease. While this section is focused on long-term maternal health consequences of pregnancy complications, it must be emphasized that children born of these pregnancies are also at increased risk of non-infectious chronic diseases of adulthood. These risks are due in part to genetic predispositions but are also enhanced by the in utero environment associated with these pregnancy complications. This concern is widely referred to as epigenetic influences.

Management Strategies for Women Following Pregnancy Complications

Pre-conceptional obesity increases the risk for the aforementioned pregnancy complications (and also for infertility). Postpartum weight reduction programs (diet, exercise) should emphasize the benefits of weight reduction for decreasing the risks of subsequent diabetes and hypertension. That said, sustained weight loss is both difficult to achieve and to maintain. Consideration of a household-focused lifestyle change may well be required. In refractory cases, especially in the presence of additional co-morbid conditions, medical and surgical weight management interventions may be considered. Additionally, if these women are smokers, they should be provided with every option to stop. Women with these concerns should be particularly encouraged to breastfeed their infants. Breastfeeding, particularly if exclusive and for at least six months, can decrease cardiovascular risks both for mothers and for their children.

In addition, women who have experienced these pregnancy complications should be followed for pre-symptomatic evidence of evolving microvascular disease. As mentioned, many women who develop GDM will become overtly diabetic within a few years after delivery. Likewise, women who experience HDP are more likely to have evidence of underlying microvascular disease even within a few years following delivery. Identification of these risk factors can allow early intervention that can improve these individuals' health over their subsequent lifespan.

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Impact of COVID-19 on Women's Mental Health and What It Taught Us

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The COVID-19 pandemic presented new and unique challenges in many areas of life. Women in the US were impacted differently than men in some of these areas, including work-life changes, home and family changes, and responsibility for problem-solving. The purpose of this section is to explore how these changes affected women's mental health. We focus on young and middle-aged adults because the literature supports that this group faced multiple significant changes during the pandemic, and there is a significant quantity of research about this age group.

Various reports have suggested increased mental health challenges during the pandemic. Though they disagree about the extent of this change, sources agree that changes were most significant within specific subgroups of the population.[1-3] Specifically, studies report a modest worsening of overall mental health, anxiety, and depression for women, older adults, parents, sexual minority groups, and college students. Those with pre-existing illnesses were also found to be at an increased risk for worsened mental health during the pandemic.[3]

Though women and non-binary individuals had a higher prevalence of mental health needs and insufficient care prior to the pandemic, these gender-based disparities became particularly evident during this time. Non-binary and other-gender individuals reported the most significant increase in adverse mental health outcomes compared to men, followed by women (Figure 1).[2] Women also experienced a plethora of other changes as a result of the pandemic, including an increase in overall stress and intimate partner violence, increased responsibilities and stress at home, and changes in the workplace and to work-life balance.[4-6]

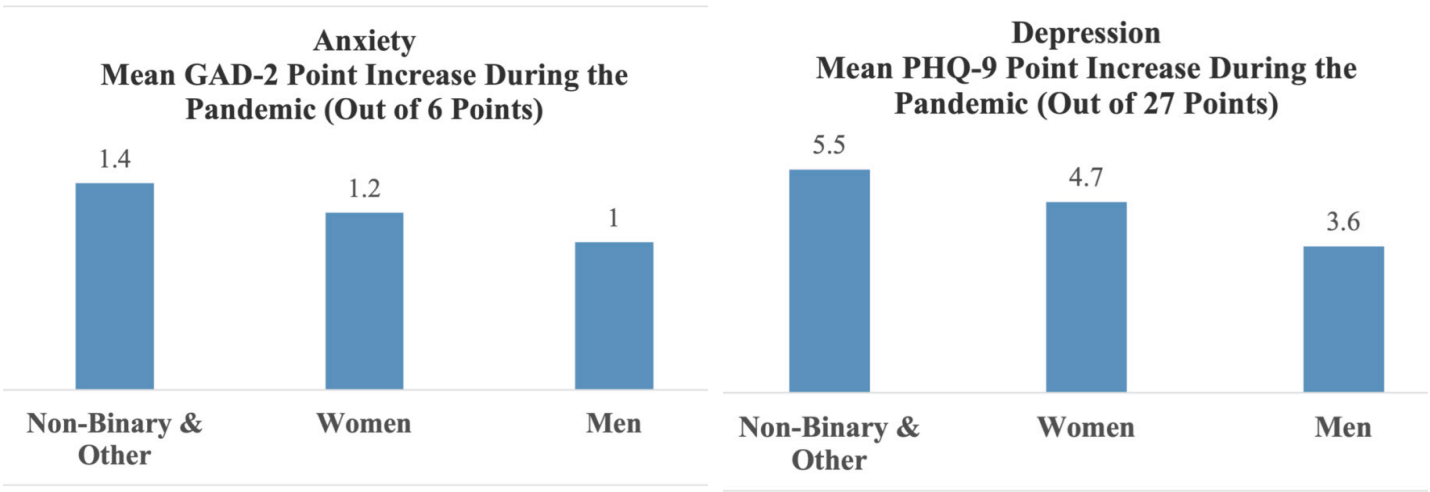

Figure 1: Mean score increase in anxiety and depression questionnaires during the pandemic.

Note. The PHQ-9 (Patient Health Questionnaire) is a validated measure of depression, and the GAD-2 (Generalized Anxiety Disorder-2) is a validated measure of anxiety.

Data adapted from: Seens, H., Modarresi, S., & Grewal, R. (2023, November 30). The Role of Sex and Gender in the Changing Levels of Anxiety and Depression during the COVID-19 Pandemic: A Cross-Sectional Study. *Women's Health*, vol. 17. https://doi.org/10.1177/17455065211062964

The relationships between mental health, stress, social factors, physical health, and other factors are often quite complex. This complexity can be further increased during unanticipated adverse events such as a global pandemic, as conditions change rapidly and dramatically, and many people struggle to adapt to and manage these changes. For young and middle-aged women, responsibilities at work and home changed, and this had a major impact on their mental health as they worked to balance the new demands. Effective strategies and interventions employed in these areas can positively impact the mental health of women in this age group.[7]

Connections to Work

As a function of existing gender constructs and the historical roles of women in society, (1) women were more likely to be employed in occupations that were significantly impacted by the pandemic, (2) women were more likely to work in low-paying jobs and take on unpaid labor both inside and outside the home, and (3) the pandemic exacerbated existing gender-based disparities in the workforce.[6,8] Many couples had to decide which partner would quit their job to stay home with children or elderly family members, and the lower earner (usually the woman in a heterosexual couple) often had to reduce hours or quit altogether.[8] These choices produced long-term losses for women, such as reduced opportunities for career advancement and wage growth throughout their careers, and lessened contributions to retirement and Social Security.[9] These losses are concerning since reduced financial security has been shown to negatively affect mental health.[10]

Many companies have been hesitant to allow employees to work remotely, but the pandemic forced companies to consider new ways of working. Three and a half years after the start of the pandemic, 58% of Americans are now able to work from home at least one day a week, and many of them are. In fact, 87% of those offered the chance to work remotely choose to do so.6 Most studies conclude that remote work improves work-life balance and benefits both the employer and employees.[11] The benefits are especially strong for women and for racial and ethnic minorities (Figure 2), which may be because these groups experience fewer microaggressions and other negative experiences online compared to in the office.[12] Remote work also has the possibility to alleviate the "identity labor" required by women and racial and ethnic minorities to fit into a world created by White men. Remote work could support efforts toward equity, diversity, and inclusion.[11] On the other hand, some women experienced increased exposure to domestic violence during the pandemic because more people were at home while the ability to report these occurrences privately was hampered.[13]

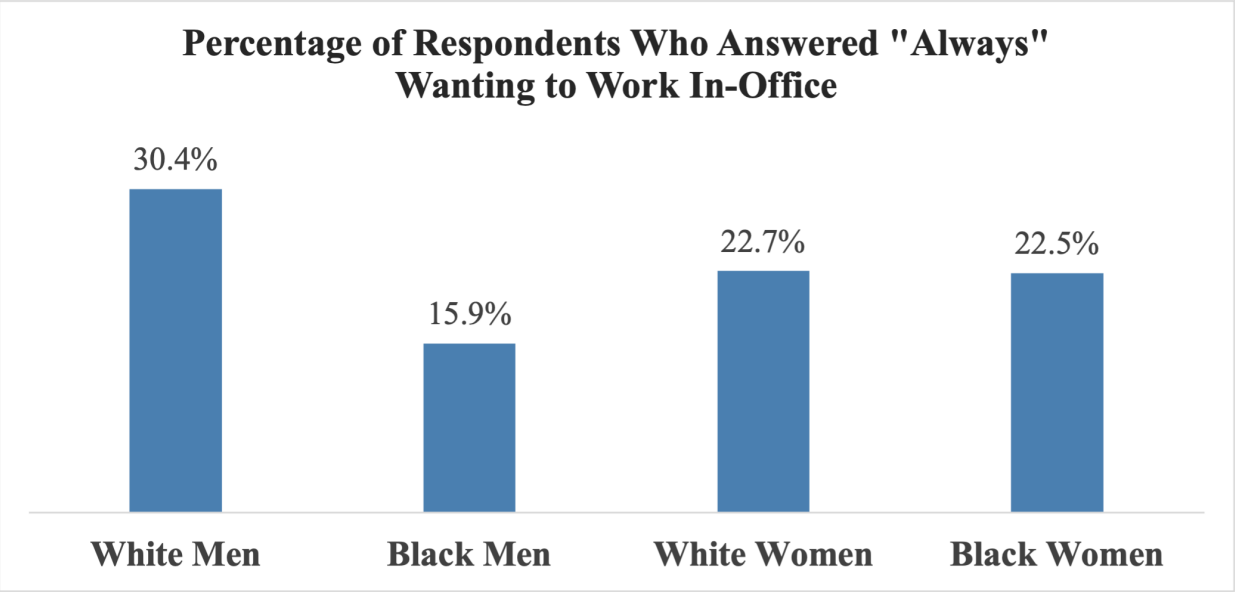

Figure 2: Preference for in-person work by race and sex

Data adapted from: Puzio, A. (2021, August 11). *Who Wants To Return To The Office?* FiveThirtyEight. https://fivethirtyeight.com/features/why-post-pandemic-offices-could-be-whiter-and-more-male/

While flexible work arrangements can enhance gender equity for women who take advantage of the flexibility to further their career goals – as is typical for men – women often face societal pressures to use this flexibility for increased housework and childcare. Women who choose the latter path may find that increased flexibility decreases gender equity rather than increasing it.[14] An effective strategy might allow women to choose whether and how much to work remotely.

Given that the majority of employees have a preference for at least some remote work, care must be taken not to create new inequalities for those whose jobs cannot be performed remotely.6 One strategy is to allow employees who must work in person other types of flexibility in their job, such as flexible work hours, as schedule control can be particularly useful in creating work-life balance.[14] When considering lessons learned from the pandemic, companies should be cognizant of individual differences, the unique needs of female employees, opportunities for choice, and work-life balance. Flexible work has never been more possible or available than it is now, and attention to these practices can allow for better support of employees' mental health.

Connections to Home, Family, and Social Supports

Women in the US spend almost double the amount of time caring for children compared to their male counterparts.[15] When the pandemic began, children were sent home from school for what was anticipated to be only a few weeks, but in many cases, stretched to over a year. Already experiencing disproportionate caregiving responsibilities, women were further burdened with the additional physical and emotional requirements of adapting to the pandemic, as well as providing emotional support for family members.[16] The increased burden of acting as a teacher, parent, employee, and support person affected parents regardless of gender, but women were disproportionately burdened by these tasks.[17] An April 2020 poll of more than 1,200 American adults reported that mental health was significantly worse for mothers compared to fathers (Figure 3).[18]

While the pandemic increased family and home life burdens for women, what we learn as a result has the potential to decrease burdens long-term. The pandemic demonstrated our continued societal reliance on the unpaid work of women in caring for children and older adults.[19] The best chance for positive societal change is to purposefully and proactively put in place changes that improve women's mental health at home. For instance, researchers have shown that child tax credits reduce poverty, prevent developmental disruptions for children, and protect women's health.[20] Utilizing lessons learned during the pandemic may present benefits that include healthier families, men being more involved in their children's lives, a more egalitarian society, and improved mental health outcomes for women.[19]

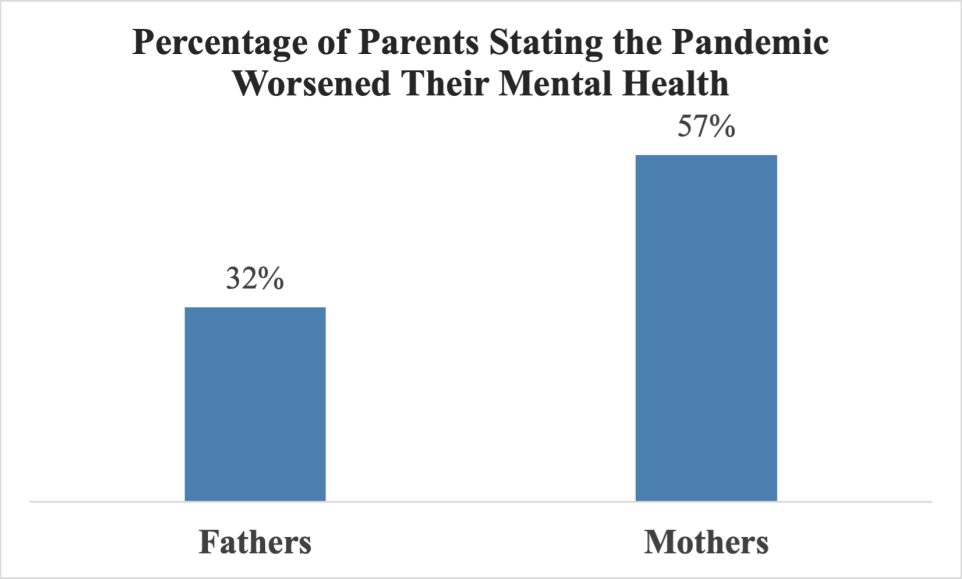

Figure 3: Self-reported prevalence of worsened mental health.

Data adapted from: Hamel, L., & Salganicoff, A. (2020, April 6). *Is There a Widening Gender Gap in Coronavirus Stress?* Kaiser Family Foundation. www.kff.org/policy-watch/is-there-widening-gender-gap-in-coronavirus-stress/

While young and middle-aged adults faced increasing demands on their time and energy during the pandemic, some of the most significant struggles for older adults' mental health were isolation and loneliness. For many, this was true even before the pandemic and was only intensified by these adverse events, shifts in social interactions, and a lack of access to resources.[21] Researchers have emphasized the significant influence of social interaction and support on the outcomes of older adults, particularly during hardships like the pandemic.[22] Because this group was also at a higher risk of COVID-19, it was difficult at times to find the balance between minimizing exposure risk and maximizing the health benefits of social interaction.[23] Improved use of telecommunications is one way that social interactions were successfully maintained during the pandemic, and their continued use can provide social support in times when in-person connection is more difficult.[6]

Conclusions

Women were among the groups who had relatively worse mental health impacts during the COVID-19 pandemic. This life-changing event we experienced, both as individuals and as a society, has served to highlight and reinforce social inequities and demonstrate why we must address them. A number of lessons learned about mental health during the pandemic can be encouraged as ongoing best practices, while others are perhaps unique to the disruptive setting of an emergency. In the former category, remote work and flexible work hours have the potential to improve work-life balance for women, as well as minimize the stressor of "identity labor."[11] Still, more work is needed to understand how women can negotiate toward a more equitable distribution of unpaid labor at home.[8]

With regard to emergency situations, the pandemic highlighted how acute stressors can impact mental health, with worsening anxiety and depression more pronounced among women and sex and gender minorities relative to men.[2] Furthermore, while women reported more negative mental health impacts than men, the underlying reasons were often related to life stage. Children, adolescents, and older adults experienced challenges related to isolation, while young and middle-aged adults experienced the challenges of taking on more responsibility for both daily life activities and the social, emotional, and mental health of people in their immediate and extended social networks.[1,21,16] Enhanced communication platforms that were developed in response to the pandemic can be utilized in future emergencies to improve mental health surveillance, health education, and treatment options, as well as to provide remote treatment options and opportunities to socially connect isolated individuals. However, concerns raised about reporting and intervention for exposure to domestic violence have demonstrated that additional work is needed to consider ways to respect individual privacy in the setting where home, school, and work are co-mingled.[13] Finally, it is important to consider the impact of unique combinations of risk and protective factors that different women may experience, as women with multiple risk factors had an increased risk of mental health challenges during the pandemic. Women's mental health is also inextricably linked to the other domains of health, and lessons from the pandemic can inform strategies for improving women's health across the 7 Domains of Health.

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Introduction

Interpersonal violence is a global phenomenon that cuts across the life-course – child abuse, intimate partner violence (IPV) and elder mistreatment – with both public and private implications for almost one in three women, and countless other victims worldwide.[1] In the U.S., the domestic violence movement emerged in the media, law, policy, research, and activism. Widely known cases such as Gabby Petito, Lauren McCluskey, Zhifan Dong, and Nicole Brown Simpson, have propelled IPV, victims and perpetrators alike, into the public sphere as a social, political, and public health concern. IPV is understood as the physical aggression, controlling behaviors (psychological abuse), financial exploitation, stalking, sexual coercion, or violence perpetrated by a current or former intimate partner in heterosexual and queer relationships.[2] IPV and family violence can be deadly when weapons are involved. Men are more often harmed by offenders who are other men, including strangers and acquaintances; however, for women, the harm from injuries and death most often come from intimate partners or other family members, and the vast majority takes place in the home of the victim.[3] Across adult ages, including mid and later life, female injury and death can be considered "femicide" – since the perpetrators of domestic violence homicide and intimate partner homicide-suicide (IPHS) are most often current or former male partners. Due to lax restrictions, the U.S. population has the highest access to lethal means and the greatest firearm-caused mortality in the developed world.[4] Globally, the vast majority (92%) of women's and children's (age 0-4) (97%) firearm deaths take place in the U.S.[5] Laws, policies and their enforcement represent the public response (or lack thereof) to the crisis of IPV.

Interpersonal Violence in Childhood

Adversity and trauma exposures during childhood are common and often involve interpersonal violence experiences (IVE) such as child abuse and witnessing partner violence between adult caregivers. The landmark work on Adverse Childhood Experiences (ACEs) Study fostered an understanding of how adversity, including IVE, during childhood is associated with lifelong health.[6] Our understanding of the effects of IVE on children has its roots in the neurobiology of trauma. The understanding of human development and disease across the lifespan, i.e., the "ecobiodevelopmental framework," has been called the new "basic science of pediatrics."[7] This perspective illustrates the complexities and intricacies of the combined effects of nature and nurture in the development of individuals and emphasizes the importance of relational health in building resilience.[8]

Ecology

The physical and social environment of a child plays an important role on the development of brain structure and function.[9,10] This period of development is important in laying the foundations for a child's cognitive, physical, and socioemotional responses to stress.9 The brain's neuronal organization in response to a child growing up in a safe, stable, nurturing home may be very different from one growing up in a chaotic, violent home.[11] These extrinsic environmental influences on brain development may help to explain why behaviors seen as maladaptive may actually be adaptive, but not necessarily healthy, responses to that

child's experiences.[10]

Biology

Working in conjunction with the environmental influences on child development are the intrinsic factors unique to that individual. Advancement in the science of epigenetics, neurodevelopment, and developmental psychology provides plausible biological pathways between early experiences and future health and development.[8,7] Timing, duration, and types of IVE mediate the risk for future adverse health impacts.[12,13] IPV exposure (i.e., witnessing) is a powerful disrupter to child health and development. Childhood exposure to IPV, irrespective of other adversity experiences, has been found to be a major factor to poor health outcomes over a child's lifetime.[14-16]

Biology

The science of neurobiology and the brain and body's response to stress has aided in the elucidation of the link between IVE in childhood to current and future poor mental and physical health.[16,17] These experiences also increase the risk for social disruptions, such as the adoption of high risk health behaviors (e.g., substance use, disordered eating, physical inactivity, suicidality) and being involved in unhealthy relationships later in life, which can further augment the negative impacts to social, emotional, and cognitive development.[6,14,18-23]

The evidence is clear, childhood adversity is an important preventable factor of lifelong morbidity and mortality in adults.[17] Our ability to utilize this knowledge in prevention and intervention efforts will be critical in enhancing the life trajectory of children.

The 1974 Child Abuse Prevention and Treatment Act (CAPTA) was first federal legislation enacted to address this problem. The policy has defined child maltreatment and required mandatory reporting of child abuse, neglect, and exploitation, also identifying important services and resources for victims.[24]

Interpersonal Violence in Adulthood

IPV impacts people across the life-course; however, adults 18 to 49 years old account for 90% of the victims of IPV.[2] The physiological implications of IPV are multiple. In a study that analyzed data from the National Violence Against Women Survey (NVAWS) of women and men aged 18 to 65, it was found that physical IPV victimization was associated with "increased risk of current poor health; depressive symptoms; substance use; and developing a chronic disease, chronic mental illness, and injury."[25] Victims of IPV experience physiological and psychological stress impacting their abilities and capacity to cope in everyday life. Other physiological impacts of IPV include physical injury, increased risk for sexually transmitted diseases, pregnancy complications, and death.[26] In a survey of 2,535 women ages 21 to 55 years, abused women experienced an increase in gynecological, central nervous system, and stress-related problems, when compared to their non-abused counterparts.[27] Screening for IPV in family practice settings increases documentation of abuse and positions healthcare providers to prevent future violence, thereby reducing morbidity and mortality.[28,29]

The social impact of IPV on victims and survivors is evident in their primary needs – such as housing. Housing is a pressing need for survivors of human trafficking, from emergency, to transitional, to permanent, where the conditions to leave an abusive environment is predicated on a person's ability to find safe housing.[30]

Recognizing that IPV impacts people across race, gender, class, and sexuality, influences how it materializes for communities and people varies. For example, for lesbian/gay/bisexual/transgender/queer (LGBTQ) survivors of IPV, perpetrators may threaten to disclose a victim's identity as a way to attack and isolate them, a form of psychological manipulation and coercion.[31] Research shows that Black, Indigenous, and People of Color (also commonly referred to as ethnic minorities, communities of color or racial minorities) have lower levels of help seeking behaviors compared to their white counterparts and underutilize resources (Lispky et al., 2006).

The social impact of IPV is most apparent in the ongoing challenges with reporting. Barriers include fear of retaliation or abandonment, feelings of loyalty, stigma, and other social and psychological constraints.[32] In addition to the social impact, IPV is costly for survivors and society. Domestic violence costs societies an estimated $8.3 billion. Although the costs vary, it is widely recognized that abusers economically control,

financially exploit victims, and sabotage victims' employment.[33]

Federal policy aimed at IPV, titled Violence Against Women Act (VAWA), was first enacted in 1994, has been reauthorized in 2000, 2005, 2013 and 2022. Vulnerabilities and victim rights are identified and some funding for resources are provided to prevent and address victimization.[34]

Interpersonal Violence for Elder Populations

The 2023 Census Bureau data noted several changes in the U.S. population, such as a rise in the median age and increasing overall diversity.[35] Adults in the "third age" are also affected by IPV, but the patterns do not necessarily mirror those of other age categories. Developmentally, they are in another stage of life. Ageism may contribute to the dialogue, playing a role in how society perceives abuse in this age group.

Challenges exist when attempting to define abuse, neglect, and exploitation of "vulnerable adults," definitions, which vary by state and can include those over 60 or 65 years of age or older and adults with developmental disabilities. It may be more difficult to diagnose evidence of abuse in the older adults due to the greater chance of chronic health conditions. Functional and cognitive limitations and characteristics of aging, such as the thinning of skin, may result in discolorations which mimic the appearance of bruising. Victims often have more reluctance to report abuse, compared to other adult age categories. Like other vulnerable populations, they may protect their abusers or have a fear of police involvement. Poor neighborhoods may lack access to adequate emergency response, shelters, or other resources. Medical examiners are less likely to conduct autopsies when an older adult dies. Documented cases show evidence of an abused or neglected older body transferred directly from a care facility to a funeral home without an investigation regarding the cause of death.[36]

The offender-victim relationship pattern may differ in later life abuse. For example, unlike their younger counterparts, elder victims of intimate partner homicide were less likely to attempt to leave the relationship before they were murdered. In addition to partners, adult children and grandchildren may also carry out physical attacks on their mothers or grandmothers. No one is immune from family and partner violence, but for older women, the people who should love and care for them are also those who are the most likely to be the offenders.[3]

Older adults may also engage in neglect or abuse of themselves, due to physical and cognitive decline. The most serious type of self-abuse is suicide. White men experience a suicide peak in their later years. The Baby boomer cohort has had higher suicide rates than previous cohorts, and aging increases the lethality. Younger generations have also continued this pattern. Later life suicide of men is concerning, because of the link to domestic homicide-suicides, which are over 90% male perpetrated.[36]

"Caregiver stress model" is one motive which is commonly identified to be associated with elder adult mistreatment. For many who provide care, the duties are overwhelming and a caregiver might take out the frustrations on the vulnerable spouse, parent, or even adult child. Our society does not provide enough resources for those who are in these difficult positions.[37,38] Pillemer (2016) emphasizes that the predominant pattern is that a "dependent abuser" is typically an adult child or grandchild with substance abuse or other problems, who does not provide caregiving to the parent, but rather, lives in their home, financially exploits them and may also be physically and/or emotionally abusive.[39,40]

Psychological or emotional abuse is also common in later life in households, aging services, or care facilities. Infantilization involves the child-oriented treatment of older persons, and often includes the use of baby-talk, reprimands, and nicknames. In addition, older individuals may be subjected to deference obligations and privacy violations.[36]

In 2010, the Elder Justice Act (EJA) was passed as part of the Affordable Care Act. However, opposition to "Obamacare" led the legislation to be severely underfunded. It was not until the fatal vulnerability, neglect, and abuse of elders during the COVID-19 pandemic, that the CARES and American Recovery Acts contributed more funds toward the already established framework of the EJA.[36]

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Understanding Menopause and Sexual Function from the Biological and Hormonal Perspective

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Background

Sexual health, as defined by the World Health Organization (WHO), is a "state of physical, emotional, mental and social wellbeing related to sexuality; not merely the absence of dysfunction or infirmity."[1] Sexuality, an expression of our sexual health, is an inherently human trait and a basic human right that applies to all individuals. Unfortunately, female sexual health is an area in medicine that is frequently dismissed and often overlooked due its complexity and multifactorial nature. Additional barriers exist for aging women to access information and professional help regarding sexuality, resulting in inadequate treatment. Unfortunately, these barriers frequently involve inadequacy on the part of healthcare providers, including lack of time during the clinic visit, lack of sexual education, lack of confidence in one's own ability to diagnose and treat, worry about causing offense in addressing sexual health concerns, in addition to personal discomfort among providers.[2] Moreover, it takes a multidisciplinary team and further medical training to address a multitude of symptoms and concerns while providing comprehensive evaluation and care.

Sexual concerns and symptoms worsen during midlife. Midlife is the stage in a woman's life when dynamic changes in sex steroid hormones (estrogen, progesterone, and testosterone) occur leading to a complete cessation of their production by the ovaries once a woman reaches menopause. Sex steroids play a major role in positively regulating sexual behavior, mood, emotion, and cognition throughout a woman's lifespan. Declining levels of sex steroids during perimenopause, and extremely low levels in postmenopause, are associated with deleterious consequences on overall health and sexual well-being. It is understood from the Study of Women's Health Across the Nation (SWAN) and others that sexual function declines with advancing menopause status and begins in the menopausal transition or perimenopause, including in women who have hysterectomies.[3] The most frequently reported concerns related to sexual health at midlife include low sexual desire (40–55%), poor lubrication (25–30%) and dyspareunia (12–45%), one of the complications of genitourinary syndrome of menopause (GSM).[2] These concerns cause sexual dysfunction (SD) at this time in a woman's life that stem from deeply-rooted factors, including biological, psychological, emotional, and socio-cultural origin and thus, a biopsychosocial assessment must be performed. In this section, the focus will be on the biological factors and hormonal influences.

The association between androgen levels and sexual function

It is worth noting that sexual dysfunction is more than just related to estrogen deficiency, which has always been an area of focus in earlier studies in menopause and sexual function. However, estrogen and androgen have been found to have a synergistic relationship and stimulatory effect on the female sexual response, promoting sexual desire on the brain reward systems through a complex network of neurotransmitters and dopaminergic pathways involving excitatory and inhibitory signals.[4] Recent preclinical and clinical molecular studies have identified androgen's pivotal role as a regulatory hormone of female sexual function. Androgen or testosterone decline, as it relates to sexual dysfunction, is due to natural aging and is independent of menopause. The production of testosterone's

precursor hormone, dehydroepiandrosterone (DHEA), by the adrenal glands progressively declines as one ages. But, despite a high production of DHEA in the ovaries, DHEA is not able to prevent the sexual dysfunction concerns that affect women. Young women who have undergone removal of both ovaries surgically, causing surgical menopause, have double the risk of developing low sexual desire compared to women with natural menopause.[5] This change is explained by the abrupt decrease in serum testosterone levels observed in young women since bilateral oophorectomy or surgical removal of both ovaries is associated with lower total and free testosterone levels than natural menopause. Thus, the type of menopause plays a role in sexual dysfunction, but no serum testosterone concentration correlates with the presence or absence of low sexual desire or its severity. Furthermore, sexual function is inversely correlated with the severity of menopausal symptoms such as vasomotor symptoms (hot flashes, night sweats), which is commonly understood among healthcare providers providing menopausal care and is widely supported in the research literature.[6]

Is there a role for testosterone therapy in women?

The role of testosterone in the management of low sexual desire is not completely understood but research and clinical evidence support a beneficial effect of testosterone therapy on sexual desire when premenopausal physiologic levels of testosterone are maintained. According to the Global Consensus Position Statement on the Use of Testosterone Therapy for Women, testosterone therapy is recommended for treatment of low sexual desire or Hypoactive Sexual Desire Disorder (HSDD) in postmenopausal women after a full biopsychosocial assessment has been performed and other conditions, such as dyspareunia or pain with intercourse, fatigue secondary to vasomotor symptoms, anemia, thyroid disease, anxiety and depression, medication side effects, and relationship issues, that contribute to low desire are concurrently addressed including.[7] Candidates for testosterone therapy are postmenopausal women presenting with a decline in sexual interest with or without diminished arousal that causes sufficient personal or interpersonal concern (distress).[7] Women who are deemed not good candidates for testosterone therapy are those with signs of clinical hyperandrogenism or androgen excess (i.e., acne, hirsutism, voice deepening, androgenic alopecia) or are using an antiandrogenic medication (i.e., finasteride, dutasteride).[7] Testosterone therapy for women with a history of hormone-dependent neoplasia should only be recommended in consultation with the woman's oncology team providing cancer care.[7]

Vulvovaginal changes with normal aging and Genitourinary Syndrome of Menopause (GSM)

Women experience vulvovaginal changes with age due to decreasing collagen production and loss of elasticity and moisture, influenced by loss of sex steroids. The vulva and vagina house both estrogen and androgen receptors and with the decline of these hormones, atrophy and inflammation of the vulvovaginal tissues result. Women experience changes in the vulva including thinning and paleness of the labia majora and minora, narrowing of the introital opening and vaginal canal, graying of pubic hair, and loss of lubrication. There may also be a decline in blood flow to the clitoris, causing it to be less sensitive to touch and stimulation leading to decreased sensation and arousal. Pelvic floor muscles that support the uterus also weaken as women age and may cause less intense and pleasurable contractions, leading to decreased orgasms.

It is worth noting that it is not just the vulvovaginal tissues that are affected by the decline in sex steroids but also the urethra and the bladder, causing concerns related to Genitourinary Syndrome of Menopause (GSM). GSM, previously referred to as vulvovaginal atrophy, encompasses the vulvar, vaginal, urethral and bladder symptoms that affect ~27%-84% of postmenopausal women.8 The urethra and vestibule can also exhibit pallor and thinness with overlying erythematous blood vessels owing to thinning of the mucosa surrounding these areas.8 Outgrowth of the urethral meatus, also known as a caruncle, is a commonly seen lesion with GSM.[8] The inner vaginal mucosa loses its folds called rugae and becomes pale and increasingly friable and thin. These changes result in painful pelvic exams, pain with vaginal penetration, dysuria, frequent urinary tract infections (UTIs), and discomfort with activities of daily living.

Treatments for Genitourinary Syndrome of Menopause (GSM)

There are a variety of treatments for GSM that can be categorized as non-hormonal and hormonal. Please see Tables 1 and 2 for a detailed description of each option. Treatment options depend on a woman's health history, personal risk factors, and preferences. This care involves an individualized approach and a discussion that prioritizes shared decision making.

Table 1: Hormone-free topical treatments[8]

	Purpose	Common Dosing	Types	Advantages	Disadvantages
Personal lubricants	Reduce friction with penetrative acts	Use liberally as needed on both the vulva and object to be inserted (eg, dilator, finger, penis, sex toy)	Water-based Oil-based (including coconut or olive oils) Silicone-based	Safe to use with latex condoms Unlikely to be irritating, natural oils are inexpensive Safe to use with latex condoms	Can "dry up" quickly, requiring reapplication, but can "reactivate by spraying water on genitals Erosive to latex condoms, can be messy and stain sheets Expensive, cannot use with silicone dilators or sex toys
Vaginal moisturizers	Bioadhesive-containing solution that holds water to improve moisture in treated skin and mucosa	Use 2-3 times per vaginally, can also apply to external vulva	Hyaluronic acid Polycarbophil	Longer lasting than lubricants, can be used in addition to lubricants	Can be expensive and messy

Table 2: Hormone-containing treatments (FDA-approved in the United States and Canada)[9]

Type	Composition	Product name	Commonly used maintenance dose	Topical serum estradiol level (pg/mL)
Vaginal creams	17B-estradiol 0.01% Conjugated estrogens Estrone 0.1%	**Estrace vaginal cream** **Premarin vaginal cream** **Estragyn vaginal cream**	0.5-1 g/d twice weekly 0.5-1 g/d twice weekly 0.5-4 g/d, intended for short-term use; progesterone recommended	Variable Variable Variable
Vaginal inserts	17B-estradiol inserts Estradiol hemihydrate tablets Prasterone (DHEA) inserts	**Imvexxy** **Vagifem, Yuvafem** **Intrarosa**	1 insert twice/wk 1 tablet twice/wk 1 insert twice/d	4 micrograms, 10 micrograms 5.5 5
Vaginal ring	17B-estradiol	**Estring**	Replace ring every 90 days	8
Oral tablet	Ospemifene	**Osphena**	1 tablet by mouth/d	N/A

Conclusion

Healthcare providers play valuable roles in addressing and managing sexual health concerns among midlife women. There are many safe and effective treatment options to manage the biological and hormonal factors that cause sexual dysfunction in women. The choice of formulation must be individualized after thoroughly assessing a woman's concerns, health, medical history, preferences, and treatment goals. Engaging a woman in healthcare decision-making is warranted to improve sexual health outcomes that will improve patient sexual satisfaction and quality of life at midlife and beyond.

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Impact of Nature on Women's Spiritual Health and Well-Being: Nature as Resistance for Women in Fostering Spiritual Health and Well-being

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"I believe that there is a subtle magnetism in nature, which, if we unconsciously yield to it, will direct us aright."

-Henry David Thoreau

Historically, spiritual health is often linked to religiosity. However, in this article, we have chosen to distinguish spiritual health from religion, making the case that spirituality is about being at peace with the internal self rather than being compelled by external influences. Michaelson et al (2019) contended spiritual health is comprised of four domains: 1) connections to self; 2) others; 3) nature; and 4) a transcendent or larger meaning of life.[1] We would add that 'meaning of life' includes having a sense of purpose and self-worth and that spiritual health also embodies having inner peace and resilience, and presence of mind.[2] Holistically, spiritual health is a balance of the body, mind, and spirit and a sense of connection with other people, things, and the natural world.[3] Because of the holistic nature of spiritual health, it underlies many other of the dimensions of health and well-being. Research has found links between spiritual health and mental, emotional, and psychological health,[4] suggest that spiritual health is foundational to other dimensions of wellbeing.

Because of the breadth of spiritual health, this could be an exceptionally long chapter. But in the interest of keeping things concise, we focus our discussion to the impact of nature on spiritual health. A growing body of research suggests that time spent in nature can significantly impact mental wellbeing and spiritual

Figure 1. Composition of spiritual health

health.[5,6] Results consistently show that time spent in nature improves mood, increases energy and attention, and reduces feelings of anger, sadness, anxiety, and stress.[6–8] In a review of the role of nature exposure in wellbeing, Naor and Mayseless (2020) found that time spent in nature facilitates self-reflection, thus illuminating our understanding of our internal and external environments and enriching our individual self-concepts.[9] Furthermore, improved sense of self that results from being in nature is associated with a greater connection to the world around us and affords greater connectedness with others.[9]

Louv (2005, 2012) contended that natural settings foster contemplation of a greater purpose and meaning in life.[10,11] When we are in nature, we slowdown from our otherwise busy lives, and disconnect from devices and external pressures that drain us and lead to cognitive and attentional fatigue. With the restoration of mental faculties, we become more cognitively creative, inspired, and engaged.[12,13]

Recent reviews of nature interventions for health and wellbeing suggest that restoration from time spent in nature does not require long-term, immersive experiences consisting of having to hike into the backcountry for days on end. While immersive experiences do yield positive outcomes, there are also data that support owning a houseplant improves affect and that having a view of nature outside of a window reduces post-operative recovery time, and academic performance.[14-16] On average however, going on a walk anywhere from 30-120 minutes per week has been shown to yield significant benefits on health and wellbeing.[17-19] Despite the benefits nature has the potential to yield, not everyone has equitably access to it.

Women in Nature

In his review of wilderness in American culture, Nash (2014) described how time spent in nature (specifically wilderness) was suited to the development and demonstration of "true" [white] masculinity.[20] Early American conceptions of nature were that it was to be conquered, tamed, and civilized. Success in a primitive environment required that one "must be sound of body and firm mind, and must possess energy, resolution, manliness, self-reliance, and a capacity for self-help" so that they could be turned from "a weakling into a man."[20] The benefits gained by white men in the narrative of their mastery of wilderness are plentiful, whereas women are mostly absent.

The erasure of women's relationship with wilderness and nature in early American culture has a greater implication than simply situating women indoors in both reality and the American psyche; it also neglects to include the diverse perceptions that women of color, indigenous women, and those who identify as women may have of nature and wild places. Positioning nature as a well from which all women can draw spiritual well-being must first begin with acknowledging that all women may not have a favorable view of nature. Black women enslaved to tame the land have been glossed over as "resident workers," and the violent and barbaric accounts of the lynching of Black women in the forests of the antebellum south cannot go unmentioned in the framing of nature as a place of refuge.[21,22] We must also recognize how violence against Native women has been leveraged to dispossess them of their land—land that could then be "tamed" by white colonial men, land that still comprises the places that many Americans flock to for their spiritual benefits.[23]

Acknowledging these dark historical roots allows us to understand the complex relationships that women, and those who identify as women, have with nature. While nature can provide a way for women to connect to their spirituality, it may also pose threats of violence and vulnerability. Fear of objectivation, harassment, and violence are all factors that women must navigate while recreating outdoors.[24,25] These fears are informed by the patriarchal and white supremacist ideals that have contributed not only to the historic violence against women but also the race and class stereotyping women should fear.[25] These incremental and often concealed forms of power, referred to as "slow violence," shape the experiences of all women, especially women of color. The insidiousness of this kind of discrimination makes it practically invisible, and infiltrates almost any space women occupy, thus limiting the potential spiritual and health benefits of nature spaces for women.[26] However, (re)claiming a space can be an act of resistance, and a powerful exercise in the development of all the dimensions comprising spiritual health.

Nature as Resistence

This positioning of the outdoors in American psyche has greater implications. The outdoors is not simply a space that is off limits to women, but women and nature are conceptually linked within Western society as subordinate, inferior individuals and spaces to be conquered by dominant actors in society. As previously discussed, nature has been historically viewed as the realm of men, a space in which they can demonstrate their masculinity through the conquering and domination of nature. Moreover, nature and women have been conceptualized of similarly; both being inferiorized.

Take for example the feminized terminology used in describing women and nature. Women are often described in animal terms (e.g., cow, fox, chick, old bat, etc.) while nature itself is described in the same terms as we discuss the treatment of women in society, often connecting to sexual references (e.g., nature is conquered, controlled, land is raped, we cut virgin timber, and till fertile soil).[27] This language that feminizes nature inextricably links women to nature in a pattern of domination and subordination.

As such, by engaging with nature, especially in ways that do not align with the narrative of domination (e.g., engaging in the "enjoyment" of nature, in immersive, or contemplative experiences, or simply going for a walk in nature) women resist not only their own standing in society, but the relationship between society and nature itself. Following Foucault's notions of power and resistance, power is created, recreated, and legitimated through individual interactions in society and maintained through self-surveillance and individual adherence to social norms. Thus, social norms and macro-structures that are meant to control the behavior of members of society can be deconstructed at the individual level through micro-level actions of and interactions between individuals.[28] By engaging with nature in ways that embrace it by immersing within versus seeking mastery over nature, women are able to produce counter-narratives that rewrite the societal discourse established by the dominant normative behavior Nash (2014) described.[20] Importantly, these acts of transgression disrupt, but do not overwrite existing ways of being.[28] In doing so, women open the door for more individuals to engage with nature in new ways, rather than limiting the experiences of nature as the dominant discourse historically has. This resistance thus expands access for all rather than reappropriating the space for a different limited few.

Key to this resistance and, ultimately, to fostering spiritual well-being, is reexamining the ways in which we can interact with nature. Centering less dominant, but existing counter-narratives that move away from the white, masculine focus of exploitation and domination of nature gives voice to a new narrative that can more fully embrace nature's unique ability to support and enhance spiritual well-being. For example, examining the range of perspectives native people have of nature uncovers a balanced view whereby nature and humans are equal in status.[29] This view endorses a protection and respect for the natural world that has demonstrated a reciprocal benefit supporting the health of the natural world while also fostering individuals' spiritual, and overall, well-being.[30] Likewise, varied religious and spiritual groups have endorsed the importance nature plays in spiritual growth and well-being calling for a respect and reverence for nature that defies normative viewpoints.[31] Further, embracing nature in our built settings (Ulrich, 1984) rather than viewing it as separate from and inferior to humans allows nature to transcend built boundaries and enables any setting to embrace the varied benefits of nature.[32] Maybe no example of this resistance encompasses these ideas more thoroughly than the expedition of Mina Hubbard.[15] In 1905, Hubbard undertook an expedition to map unknown territory in Labrador. This act alone, a woman engaging in a mapping expedition, flew in the face of normative behavior. When she succeeded, and outperformed a rival all-male expedition, she succeeded in being the first non-indigenous individual to traverse the route, but also shifted the narrative on how to partake in such an expedition. Her engagement of indigenous guides and a focus on immersion into and enjoyment of nature rather than the conquest of what was rarely traversed land set her apart from contemporary views of the inferiority of nature and the superiority of (white, heterosexual) men.[33]

Summary

In this chapter, we suggest that spiritual health is comprised of five primary domains: 1) connection with self and others, 2) meaning and purpose for life, 3) presence of mind, 4) inner peace and resilience, and 5) connection to nature. Exposure to and time spent in nature can positively impact all of these dimensions. However, nature has historically been characterized as a domain reserved primarily for (white) men; where masculinity is developed, honed, and practiced. Women have subsequently been taught to take caution in nature, if not avoid it altogether to avoid putting themselves at risk. By intentionally seeking nature however, women, and people of color, resist cultural norms, and can reap the benefits that nature has to offer spiritual health, and the other dimensions of health that spiritual health supports. Each time women and diverse groups enter nature, their simple act of resistance rewrites the discourse on what society deigns as appropriate ways to engage with and reap the spiritual benefits of the natural world.

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7 Domains of Women's Health: Ovarian Cancer Landscape Post Roe v Wade

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With the overturning of Roe v Wade by the Supreme Court on June 24, 2022, patients, advocates, clinicians, and researchers have braced themselves for the long-term negative impact on women's health. The public and political discussion typically turns to abortion access and reproductive rights, with seldom consideration and conversation regarding how this decision may negatively impact the incidence of gynecological cancers, including ovarian cancer (OC). OC is defined as cancer of the ovaries and/or fallopian tubes and is the most lethal gynecological malignancy with a low five-year survival rate of ~29%-50% depending on the stage of diagnosis and subtype.[1] Unlike cervical and breast cancers, OC currently lacks screening tools for early detection, contributing to late-stage diagnosis.[2] Once diagnosed with OC, patients face substantial hurdles, including a lack of available treatment options and subjection to unnecessary side effects, due to a fundamental lack of understanding of this disease, resulting in ~70% of patients relapsing within three years.[3] In general, cancer deaths in the US have slowly declined over the past few decades due to advances in research, medicine, and technology.[4] However, it is feasible to presume that OC (and other gynecological cancers) mortality rates will increase due to the overturning of Roe v Wade, which will likely lead to decreased access to women's health and reproductive health centers, a reduction in reproductive health education, fewer quality OBGYN's and gynecological oncologists, and costly healthcare.

Access to women's health and reproductive health centers will become severely limited, particularly in abortion restrictive states.[5,6] States that limit abortion access are apt to limit funding and/or shut down key organizations, such as Planned Parenthood, that provide affordable women's healthcare.[6] Beyond abortion access, Planned Parenthood offers annual checkups and screenings, immunizations, STI testing, birth control, education, primary care, cancer screenings, and more. Eliminating and/or limiting access to these healthcare centers will make it more challenging for women to seek fundamental healthcare and turning to general primary care doctors who may not be as well versed in women's health and associated diseases. These organizations play a key role in prevention and initial access to OC diagnosis and treatment, which will suffer due to limited funding and resources, resulting in a higher OC mortality rate. Importantly, women's health centers provide access to affordable oral contraceptive methods, which have a protective effect against OC.[7] With decreased access to oral contraceptive methods, women will be at a higher risk for developing OC. Additionally, these centers provide access to genetic testing for patients with a family history of cancer, such as the BRCA mutation, which is associated with OC and breast cancer.[8] Detection of a germline BRCA mutation at early ages can inform women, allowing them to take preventative measures, such as lifestyles changes, bilateral salpingo-oophorectomy (surgical removal of the fallopian tubes and ovaries), and double mastectomy (surgical removal of the breasts). These preventative measures can aid in decreasing the incidence and mortality rate of OC and breast cancer.[9,10] With limited access to women's health and reproductive health centers, women will be less likely to receive genetic screening for the BRCA mutation, which will negate their ability to make informed preventative choices about their body, and ultimately result in a higher OC mortality rate. Additionally, women will likely be less educated about available genetic cancer testing and oral contraceptive

methods in a post Roe v Wade world.[5]

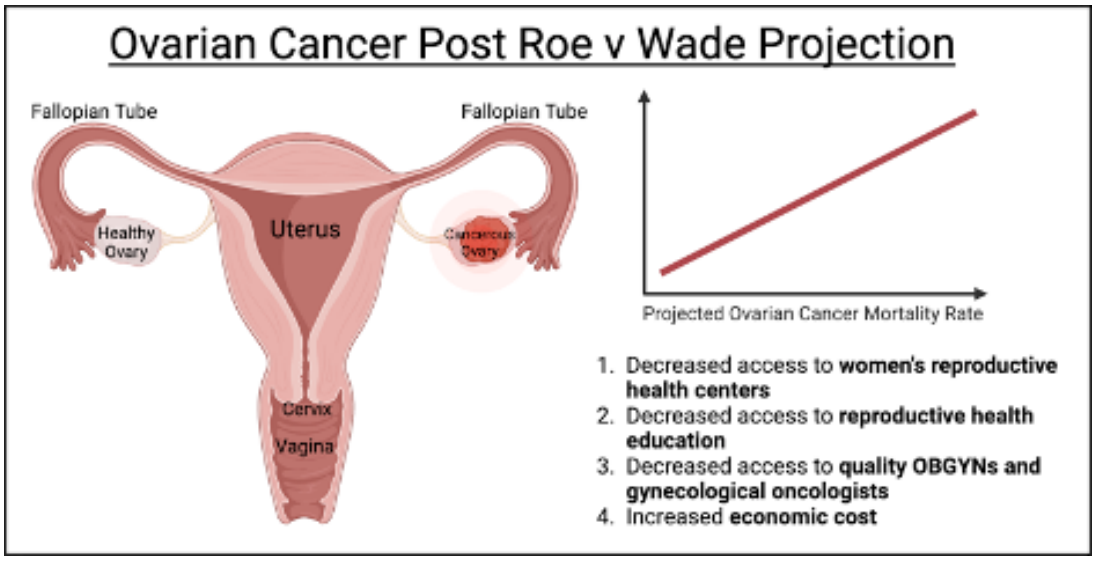
Access to reproductive health education for patients, nurses, and clinicians will also likely decrease. Abortion restrictive states are censoring early education on reproductive biology due to political and religious agendas, creating challenges for women to make informed decisions about their bodies and to know when to seek care. Prior to the reversal of Roe v Wade, there was already an alarming lack of knowledge of the female anatomical system, with many Americans being unable to identify the number and location of the ovaries and/or fallopian tubes in women.[11] Without having a basic understanding of the female anatomy, women face difficulties knowing when to seek help if they start displaying OC symptoms, especially not knowing what or where an ovary is! This is particularly problematic for vulnerable communities of women who already have limited opportunities and access to education.[6] In Utah, high religious practice and cautious sexual attitudes have been associated with a negative intent to vaccinate children for HPV, which will likely increase cervical cancer incidence in the future.[12] This same ideology may be translational to OC as parents may presumably impede on their children's reproductive education and autonomy over their own bodies. The reversal of Roe v Wade will likely push female anatomy and reproductive health out of the health conversation for young children in abortion restrictive states and communities, negatively affecting their ability to make informed decisions for seeking care for OC diagnosis and treatment at later ages. This is further compounded by the increasing stigma surrounding women's health in a post Roe v Wade landscape that may impede women speaking up and advocating for their health.

Access will be further thwarted by quality OBGYN's and gynecological oncologists leaving or avoiding abortion restrictive states and moving to abortion protective states.[13] In addition, it is predicted that medical and nursing staff will receive less formal training and education on women's health in abortion restrictive states, which may negatively impact OC.[6] This will increase the cost and distance that women have to travel to receive quality care as well as limited access to clinicians. Due to the complexities of OC, patients' outcomes can be highly correlated to the expertise of their gynecological oncology specialist. Late-stage diagnosis of OC is attributed to asymptomatic or vague symptoms, such as abdominal fullness, bloating, abdominal pain, and GI symptoms, which can be commonly misdiagnosed by healthcare providers with proper identification of symptoms occurring in ~59%-93% of OC cases.[2, 14] With fewer available women's health clinics and specialists in rural abortion restrictive states, it is reasonable to believe that women will be misdiagnosed and less likely to receive initial OC diagnosis, delaying treatment and ultimately increase the mortality rate of OC.

The economic cost and burden on patients to access OC diagnosis and treatment in abortion restrictive states will increase following the overturn of Roe v Wade. OC treatment costs ~$100,000 in the first year following surgery and predominately serves Non-Hispanic White (NHW) women who on average have the highest socioeconomic status, which is attributed to racial disparities in the US.[15, 16] The overturning of Roe v Wade will increase the associated costs of OC treatment and widen the inequities for accessing OC diagnosis and care, increasing the OC mortality gap across groups of women. This will particularly negatively affect marginalized communities of women, such as Black women, who already have a ~18-29% higher OC mortality rate compared to NHW women.[5, 15] Prior to the overturning of Roe v Wade, women were already traveling hundreds of miles from around the mountain west states to see specialists at the Huntsman Cancer Institute at the University of Utah for OC diagnosis and treatment. Women will now have to travel greater distances for access to quality OBGYN's and OC specialists, and many of whom do not have the means to.[17] This will place more of a financial burden on abortion protective states and create long wait times to see specialists, delaying subsequent OC diagnosis and treatment.[17] Furthermore, the emotional and time consuming demands of the influx of patients on quality OC healthcare providers in these areas may negatively affect their ability to diagnose and treat patients.[17] Finally, advancements in OC research will decrease due to a lack of funding opportunities in abortion restrictive states. OC is a disease with a tremendous unmet need for new treatments and a further lack of funding as an outcome of Roe v Wade will severely affect future OC developments.

Reversing Roe v Wade has negative implications on abortion access for women across the country making every aspect of women's health less accessible

and more vulnerable, including OC. OC mortality rates will likely increase, especially in abortion restrictive states, due to decreased access to women's health and reproductive health centers, a reduction in reproductive health education, fewer quality OBGYN's and gynecological oncologists, and costly healthcare. These negative outcomes will have a stronger effect on vulnerable communities of women who already have a higher risk of OC mortality.[15] To overcome these challenges, it is paramount that researchers and clinicians work tirelessly to raise funding, increase education, and awareness of this disease as well as work with policy makers to protect women's reproductive health, especially in vulnerable communities of women and in abortion restrictive states such as Utah.



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At What Cost? The Impact of Overturning Roe v Wade: A Personal View

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I was 14 years old when I got my first period, 18 years old when I started taking birth control, 22 years old when I got my first IUD, and 28 when Roe v Wade was overturned. Ironically, I had just landed abroad in Switzerland and was on a high-speed train when I connected to the Wi-Fi and the messages started flooding in about the news. The passengers looked at me cautiously as I impulsively cursed. As I looked out at the beautiful Swiss scenery, the existential dread washed over my body and mind as I pondered all the possible implications this decision would have on women's health.

I personally know numerous women who have benefited from abortions. Young women, who were not ready to be mothers and had no intention of becoming pregnant, are many of those individuals. Each decision was unique and difficult for them to make, but ultimately it was their decision, as it should be. I vehemently believe women should have autonomy over their reproductive rights to make whatever decision they think is best for them. However, what worries me even more about the overturning of Roe v Wade is the drastic impact this will have on women's health for future generations.

I was privileged to grow up in a community where I had access to reproductive health education and birth control options, so that I could make informed decisions about my body and prevent unwanted pregnancy, evading the need for an abortion. However, I fear that this will become less common with the overturning of Roe v Wade, especially in abortion restrictive states. For example, due to strong religious practices and sexual stigma in Utah, many young adults grow up here without being educated on how pregnancy biologically occurs, let alone how to prevent it from happening. This lack of information is a huge disservice to young adults and results in less birth control use and a higher incidence of unwanted pregnancy. Without abortion access, women may be forced to have children before they desire to, which takes a huge toll on their emotional, mental, and physical health.

The abortion debate is often approached as "pro-choice" or "pro-life," which is an oversimplification, as decreasing abortion access has enormous ramifications for women's health. When states shutdown organizations such as Planned Parenthood, they not only eliminate access to abortion, but remove access to birth control, reproductive health education, sexually transmitted infection (STI) testing, cancer screening, vaccinations, affordable healthcare, yearly obstetrics/gynecology (OBGYN) checkups, and much more. These changes mean that unwanted pregnancies will increase due to a decrease in birth control use, reproductive health education will decrease, preventable STIs will increase, gynecological cancer incidence and mortality will increase, vaccination rates will decrease, and women's healthcare will become much more expensive and inaccessible, especially for vulnerable communities of women. Therefore, the overturning of Roe v Wade comes at a significant cost to women's health beyond the abortion discussion.

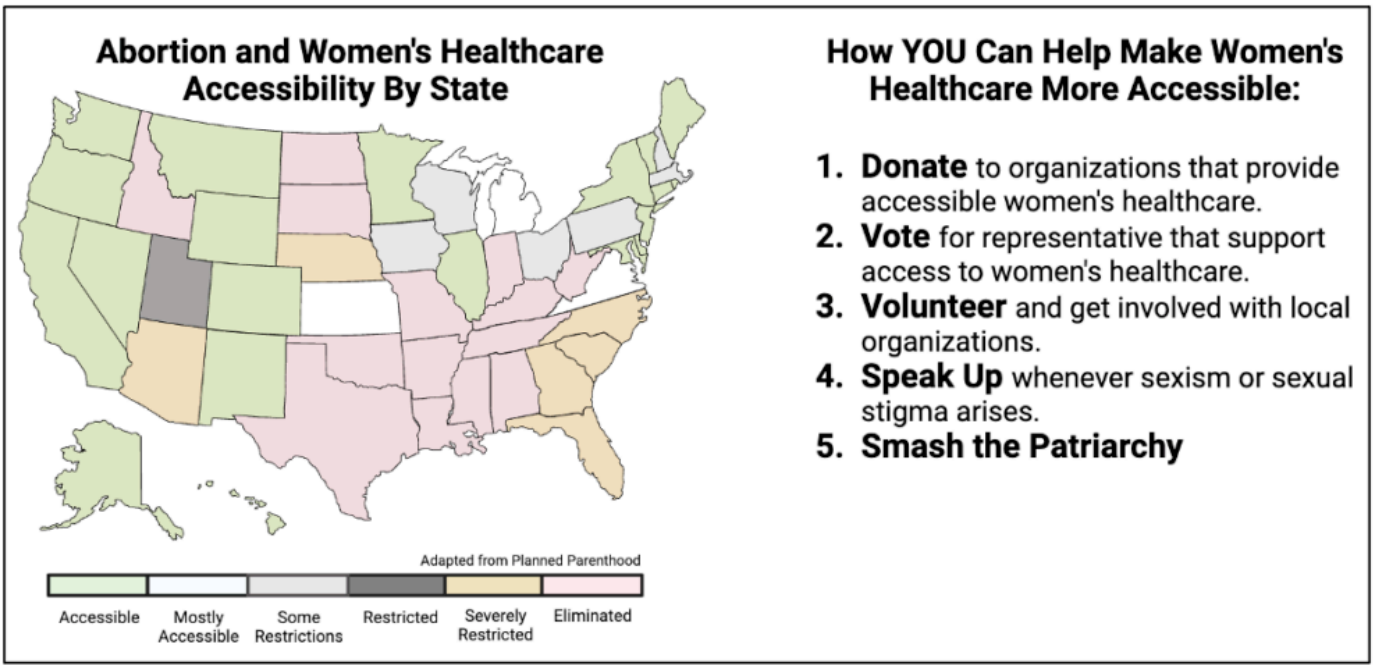
The irony of making abortions less accessible means that women will have less access to birth control options and be more likely to become pregnant, potentially needing an abortion. If we want to decrease the need for abortions, then we should be funding (not defunding) these critical organizations that provide education and access to birth control options to prevent unwanted pregnancy in the first place. Many women

become pregnant due to a lack of education, resources, and access to affordable birth control, and yet states are cutting funding for and access to these critical organizations that offer these services. I believe that we should reframe the conversation from "pro-choice" or "pro-life" to access to women's fundamental healthcare to evade the political and religious nature of the abortion debate. If we can provide access to education, resources, and affordable birth control, then in theory we could avoid the need for most abortions in the first place and thus this abortion debate.

After I heard about the U.S. Supreme Court ruling on that train ride, I was happy to take a break from the U.S. and work abroad for the summer. When I returned to my graduate studies at the University of Utah, I realized that I couldn't just sit back and wallow, especially living in Utah. I signed up for the STEM Ambassador program, a public engagement training program that promotes open-minded exchange between members of the public and the scientific community. As part of our training, we had the opportunity to run an outreach program with a community of our choice. I chose to run an educational series on birth control and STIs for the women at House of Hope, a nonprofit organization in downtown Salt Lake City that provides treatment for women and mothers with substance use disorders.

On March 30th, I arrived at House of Hope with feminine supplies, a $600 donation, craft supplies, and my presentation ready to go. In the first session, I sat in a circle with about 30 women representing a diverse array of ages and backgrounds. We got started and I was astonished by the level of engagement. The women had so many questions and valuable insight to add. It became an open dialogue in lieu of a "lecture." We all started sharing personal stories about our experiences with certain birth control methods or STIs. It was empowering being in a room full of women who felt comfortable sharing very intimate details about their experiences. Many of them already have children, so they were a wealth of information. Collectively learning alongside one another as women made this experience impactful and special. This experience taught me the importance of getting out into the community and how impactful and empowering education can be – especially for vulnerable communities of women.

It's easy to wallow in disgust towards this decision, like I did, but that unfortunately doesn't make any impact. We must remain hopeful and continue fighting for women's autonomy. It is imperative that we find ways to negate the negative implications this decision has on women's health. Increasing funding and access to women's health centers, increasing women in positions of power, increasing reproductive health education, and increasing access to birth control are just a few of the ways we can help ensure women's reproductive health. Here are a few ideas on how to help (adapted from Planned Parenthood, 2023):



1. Donate to organizations such as Planned Parenthood and the Utah Abortion Fund, which mail free reproductive wellness kits that include plan B, condoms, and pregnancy tests.

2. Vote for representatives that support abortion and access to women's healthcare.

3. Volunteer your time and get involved with local women's health organizations.

4. "**Speak up** whenever sexism or sexual stigma arise."

5. "Smash the Patriarchy." Be fearless in challenging the dominant patriarchal norms in our society to work towards equity and reproductive healthcare.

I envision a future where Roe v Wade will be overturned again, and women will have access to the reproductive health and education they rightfully deserve, so that they can make the best choice for their bodies.

Depression and Anxiety in Women

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The emotional health and wellness needs of women vary throughout their lifespan. Symptoms related to and diagnoses of anxiety and depression are core components of mental health. In this article, we will focus on anxiety and depression among women during adolescence, the childbearing and reproductive years, and the perimenopausal, menopausal and postmenopausal period. Understanding how the presentation of anxiety and depression can differ throughout a women's life is critical for directing women and their providers to evidence-based resources and treatment options necessary for minimizing burden and stigma and maximizing mental health.

Children and Adolescents

Introduction

Child and adolescent mental health refers to children and adolescents' emotional, psychological, and social well-being. It encompasses many factors contributing to a child's overall mental state and behavior, including emotions, thoughts, and interactions with others. Childhood and adolescence are critical times for rapid brain development and also involve various factors that can influence a child's mental health, such as genetic predispositions, in-utero exposures, family dynamics, societal influences, traumatic experiences, and environmental stresses. These developmental stages provide critical periods for prevention, early detection, and intervention.

A landmark study documented the profound impact of adverse childhood experiences on later adult health outcomes [1], and subsequent research has clarified that this lifelong effect is due to significant changes in the nervous, endocrine, and immune systems from prolonged exposure to the stress response [2]. In short, health across the lifespan is impacted by early childhood experiences.

Depression & Anxiety

As we consider depression in biological females, it is essential to consider the prevalence and timeline of depression in children and adolescents. In childhood, the diagnosis of depressive disorder is uncommon in both genders (estimated to be between 0.5% and 2.5%) [3]. Comparatively, depression and anxiety prevalence rates increase significantly in adolescents with lifetime prevalence of these conditions through adolescence estimated to be 15.9% and 38%, respectively [4]. The incidence of new female cases of depression is approximately twice that of males during adolescence [5].

Gender differences in vulnerability to depression in adolescence have been widely investigated [6,7,8,9,10]. Adolescent females have a higher incidence of major depressive disorder and a more chronic course than males when followed up at 30 years of age [11]. A younger age of onset has been found to be the strongest predictor of severity in the course of depression in females [11]. This suggests that there is a more substantial long-term impact of childhood depression in females than males [11].

Female adolescents are in crisis. Nearly 57% of girls reported feeling persistently sad or hopeless in 2021, up from 36% in 2011 and the highest levels seen in the past decade [12]. The reasons for the significant increase need to be clarified. Social media? School shootings? Change in parenting style? Climate change? No one knows for sure, and it is likely multifactorial.

One of the factors to consider is the trend of female puberty beginning at earlier ages. Scientists are still trying to parse out why puberty is happening earlier. In the 1800s, girls began their periods around age 16; in the 1900s, it was around age 15; and in 2020, the average age was 11 [13].

Anxiety among adolescents has become a prominent and concerning issue in recent years, drawing significant attention from mental health experts and educators alike. The adolescent stage, characterized by rapid physical, emotional, and social changes, often becomes a breeding ground for various forms of anxiety. This period marks a critical developmental phase where young individuals navigate increasing pressures related to academics, social interactions, identity formation, and future uncertainties. Similar to depression, the prevalence of any anxiety disorder among adolescents is known to be higher in females (38.0%) than males (26.1%) [4].

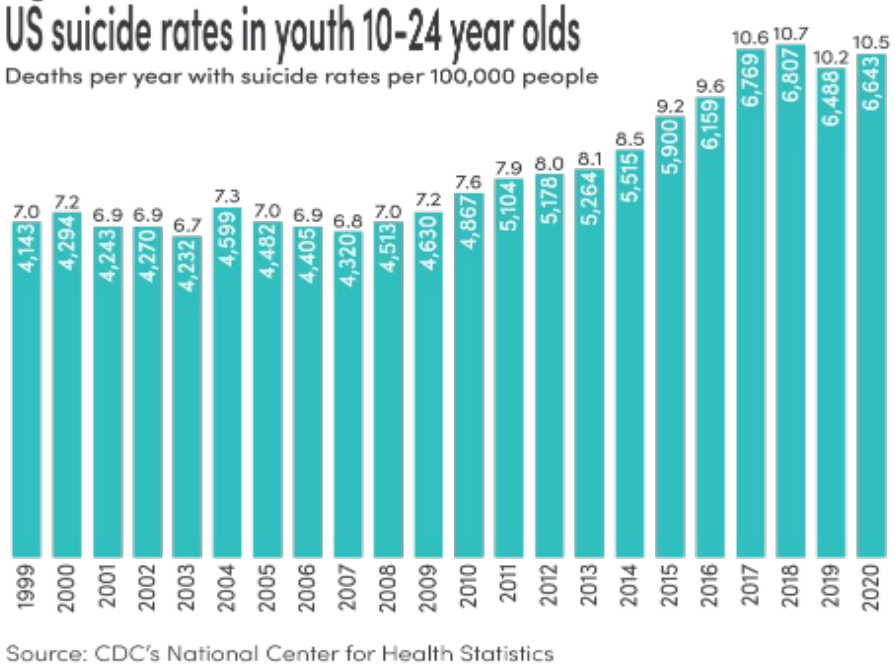
Suicide

In recent years, there has been a rise in the suicide rate among adolescents, particularly among females. The most recent and comprehensive data is from the Youth Risk Behavior Surveillance System (YRBSS; [14]), a CDC study conducted every other year that surveys thousands of high school-age children from public and private schools from grades 9 to 12 across all 50 U.S. states and the District of Columbia.

According to the CDC YRBSS, suicide is the 11th leading cause of death overall in the United States and the third among U.S. high school students from the ages of 14 to 18, which accounts for one-fifth of all deaths among this age group. The rate of death by suicide in people aged 10-24 years increased by 57.4% from 2007 to 2018 [14]. More recently, the number of teenage girls experiencing suicidal thoughts and behaviors increased during the second year of the COVID-19 pandemic (Figure 1).

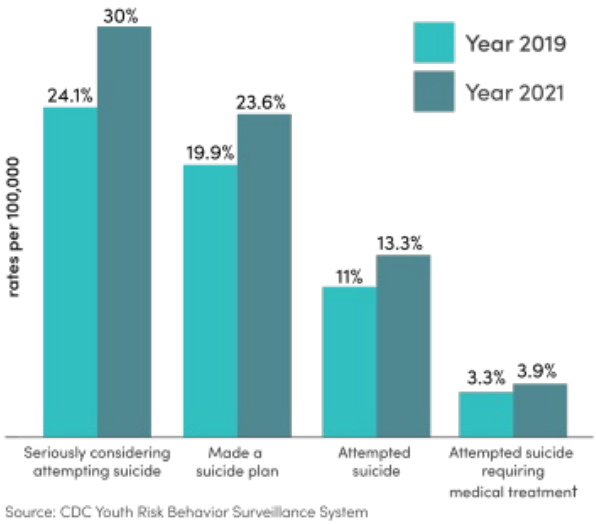
During the pandemic, the percentage of high school female students who seriously considered attempting suicide also rose, from 24.1% in 2019 to 30% in 2021 (Figure 2; [12]). In addition, differences in the frequency of suicidality are seen by students' ages, race/ethnicity, and gender identity (Table 1). In 2021, Black female students were nearly 1.5 times more likely than white female students to report having attempted suicide. Additionally, LGBQ+ students reported having attempted suicide more frequently than heterosexual students, according to the CDC. Those identifying as lesbian or gay, bisexual, or questioning were found to have nearly 1.9, 3.3, and 1.5 times higher rates of suicide attempts compared to heterosexual students, respectively.

Figure 1



Source: CDC's National Center for Health Statistics

Figure 2
Teen Girls Experiencing Suicidal Thoughts and Behaviors
United States, 2019 – 2021



Source: CDC Youth Risk Behavior Surveillance System

Table 1
2021 Mental Health and Suicidality
United States, 2019 – 2021

2021	Persistent Feelings of Sadness or Hopelessness	Poor Mental Health	Seriously Considered Attempting Suicide	Made a Suicide Plan	Attempted Suicide	Injured in a Suicide Attempt
Sex: Female (F), Male (M)						
PAIRWISE COMPARISON	F > M	F > M	F > M	F > M	F > M	F > M
Race and Ethnicity: American Indian or Alaska Native (AI/AN), Asian (A), Black (B), Hispanic (H), Native Hawaiian or other Pacific Islander (NH/OPI), White (W), Multiracial (MR)						
PAIRWISE COMPARISON	A<H,W,MR H>A,B,W MR>A,B,W	A<H,W,MR B<H,MR	A< B,H,W,MR	MR > A	B>A,H,W A<AI/AN,B,H,MR	A<B,H AI/AN<B,H,W,MR W<B,H
Sexual Identity: Lesbian, Gay, Bisexual, Questioning, Other Non-heterosexual Identity (LGTBQ+), Heterosexual (H)						
PAIRWISE COMPARISON	LGBQ+ > H	LGBQ+ > H	LGBQ+ > H	LGBQ+ > H	LGBQ+ > H	LGBQ+ > H
Sex of Sexual Contacts: Opposite Sex Only, Any Same Sex (S)						
PAIRWISE COMPARISON	S > O	S > O	S > O	S > O	S > O	S > O

Source: CDC Youth Risk Behavior Surveillance System

LGBTQ+

The LGBTQ (Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning) community faces unique challenges that can significantly impact mental health, with depression being a prevalent concern. Members of this community often encounter societal stigma, discrimination, and a lack of understanding, leading to increased vulnerability to mental health issues such as depression. The struggles associated with self-acceptance, familial rejection, and societal pressures can contribute to higher rates of depression among LGBTQ individuals compared to the general population. Understanding these challenges is crucial in providing effective support and fostering a more inclusive and accepting environment for mental health within the LGBTQ community.

A significant amount of evidence exists affirming the mental health challenges common within the LGBTQ community. The Trevor Project's 2023 US National Survey on the Mental Health of LGBTQ Young People found that over half of trans or nonbinary youth had seriously considered attempting suicide in the previous year [15]. About 20% had attempted suicide in the last year, and about 3 in 5 transgender or nonbinary youth who wanted access to care were unable to get it.

Assessment and Treatment

Assessing pediatric depression and anxiety is a complex process that requires a multifaceted approach. Professionals use standardized questionnaires (e.g., Beck Depression Inventory, Patient health Questionnaire-9, Behavior Assessment System for children, Child Behavior Checklist, Hamilton Anxiety Scale) and interviews to gather information about the child's mood, thoughts, and behaviors. Observing the child's interactions and social behavior provides valuable insights into their emotional well-being. Furthermore, involving parents, teachers, and caregivers in the assessment process can offer a more comprehensive view of the child's daily functioning and emotional struggles. It is crucial to consider cultural and environmental factors influencing a child's experience. Overall, a thorough assessment of child depression and anxiety involves a combination of clinical interviews, behavioral observations, input from multiple sources, and culturally sensitive approaches to diagnose and support the child's mental health needs accurately.

Treatment of childhood and adolescent depression and anxiety consists of psychotherapy, pharmacotherapy, or a combination of these. The American Psychiatric Association and the American Academy of Child and Adolescent Psychiatry recommend that psychotherapy always be a component of treatment for childhood and adolescent depression [16]. They recommend psychotherapy as an acceptable treatment option for patients with milder depression and a combination of medication and psychotherapy for those with moderate to severe depression.

Consensus guidelines recommend fluoxetine (Prozac), citalopram (Celexa), and sertraline (Zoloft) as first-line treatments for moderate to severe depression in children and adolescents [17]. A Cochrane review found that fluoxetine was the only agent with consistent evidence (from three randomized trials) that it is effective in decreasing depressive symptoms [18]. Treatment with fluoxetine alone or in combination with cognitive behaviors therapy (CBT) accelerates the response. Adding CBT to medication enhances its safety. Taking benefits and harms into account, the combined treatment appears superior to monotherapy as a treatment for major depression in adolescents [19].

Childbearing and Reproductive Years

Depression and Anxiety

Depression and anxiety disorders represent significant global public health concerns, affecting individuals across the lifespan. In addition to the impact on quality of life and contributions to comorbid health concerns, depression, and anxiety disorders are estimated to cost the U.S. economy more than $300 billion per year in lost productivity, healthcare expenses, and other direct and indirect costs [20]. Emerging evidence suggests that the prevalence, presentation, and impact of depression and anxiety may vary between men and women in adulthood. The 12-month prevalence of major depressive disorder and anxiety disorders in U.S. adults is approximately 7% and 19%, respectively, with even higher lifetime prevalence. Epidemiological studies indicate that women are about twice as likely to experience both depression and anxiety compared with men and that rates of both disorders have increased in recent decades [4,21,22].

Symptoms Between Men and Women

Many variables contribute to differences in the frequency and presentation of anxiety and depression between men and women, including biological, psychological, and sociocultural influences. Hormone differences, especially the hormonal fluctuations that occur during the menstrual cycle, perinatal period, and menopause, have been implicated in a higher prevalence of mood disorders among women [23]. Women are more likely to report atypical symptoms of depression characterized by feeling excessively tired, increased appetite, and heavy feelings in the body and limbs, called leaden paralysis [24]. In contrast, symptoms of emotional distress in men are more likely to present with somatic complaints, such as headaches, digestive issues, and muscle aches [25].

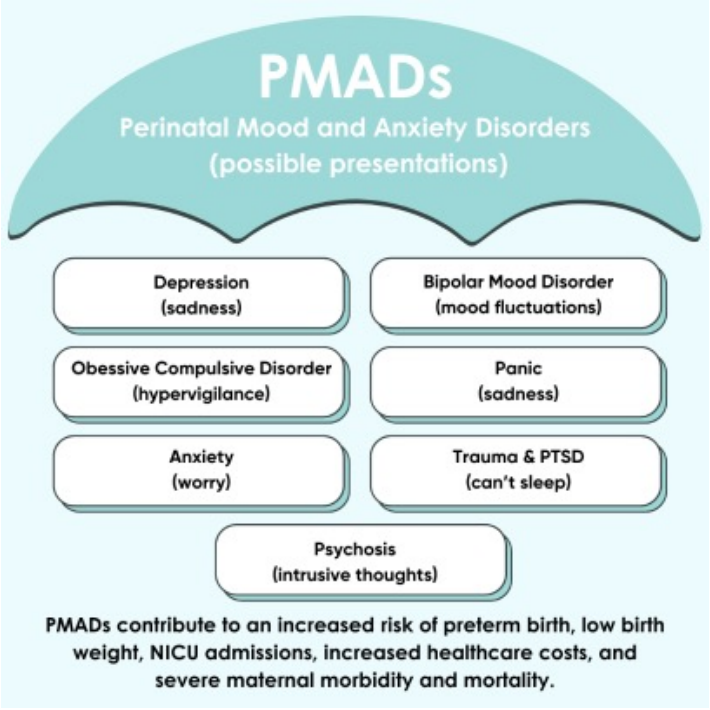
Coping Styles

Men and women often have different coping styles in response to stressors, with women tending to internalize stress (symptoms of sadness, worthlessness, and guilt), leading to an increased susceptibility to depression and higher comorbidity with eating disorders. In contrast, men may exhibit externalizing behaviors (symptoms of irritability or anger), contributing to more risk-taking and higher rates of comorbid substance use disorders [26,27,28]. Social expectations, gender roles, and stigma surrounding mental health issues further influence the recognition of emotional distress by shaping how men and women express and seek help, contributing to gender disparities in depression and anxiety [29].

Perinatal Mood and Anxiety Disorders

Perinatal mood and anxiety disorders (PMADs; Figure 3) represent a spectrum of mental health conditions affecting women during pregnancy and the postpartum period. The burden of PMADs extends into maternal health outcomes, fetal health and wellbeing, maternal-infant bonding, childhood development, and overall family dynamics. Medical scientists and healthcare professionals are shifting toward the use of terminology that allows for recognition of the broad spectrum of mental illnesses that may occur during the peripartum period.

The term PMADs creates an umbrella that includes disorders of depression, bipolar disorders, anxiety, panic, obsessive-compulsive disorder, trauma and post-traumatic stress disorder, and psychosis. Approximately 1 in 5 women will experience a PMAD during the peripartum period [30]. In addition to the burden of mental health symptoms and impacts on functioning, PMADs contribute to an increased risk of preterm birth, low birth weight, NICU admissions, increased healthcare costs, and severe maternal morbidity and mortality [30]. Although women have lower rates of suicide and suicide attempts in the peripartum period compared with the general population, suicide is considered one of the leading causes of maternal mortality



in the first 12 months postpartum [31].

Treatment Approaches

Treatment approaches for both depressive and anxiety disorders typically involve a combination of psychotherapy, medication, and lifestyle changes (Figure 4). Psychotherapy, such as CBT, is often considered to be the first-line treatment for depression and anxiety. Medication approaches for depression and anxiety are often similar as well, with selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) being considered a first-line pharmacologic approach to address imbalances in neurotransmitters in the brain. Lifestyle changes, including regular exercise, a healthy diet, proper sleep, and stress management techniques, such as mindfulness, also play an essential role in symptom management.

The Perimenopausal, Menopausal, and Postmenopausal Period

Transitions

Advancing age and the transitions that often accompany later life, including retirement, financial hardships, increased isolation, deteriorating physical health, worsening medical problems, and death of friends and loved ones, can be risk factors for both depression and anxiety in older adults. Recent cohort studies and systematic reviews indicate that older women have an increased risk of major depression, as well as higher levels of depression and anxiety symptoms than men [32]. Untreated depression and anxiety in older adults can lead to worsening symptoms of medical illnesses and memory problems, excess disability, premature institutionalization, more extended hospital stays, and increased mortality, including suicide in the individual, and significant economic costs to individuals, their families, and society in general.

Adults aged 65 and over are the fastest-growing segment of the US population and will continue to experience a "boom" in growth over the next few decades. Current general estimates of depression and anxiety are 20-25% and 14-17%, for ages 65 and older respectively. Prevalence rates are likely underestimated because detection and diagnosis of both depression and anxiety in later life are complicated by medical comorbidity, cognitive decline, and differences in the way older adults report symptoms [33,34]. Additionally, prevalence rates increase in settings such as hospitals and long-term care settings where medical comorbidity and disability are higher.

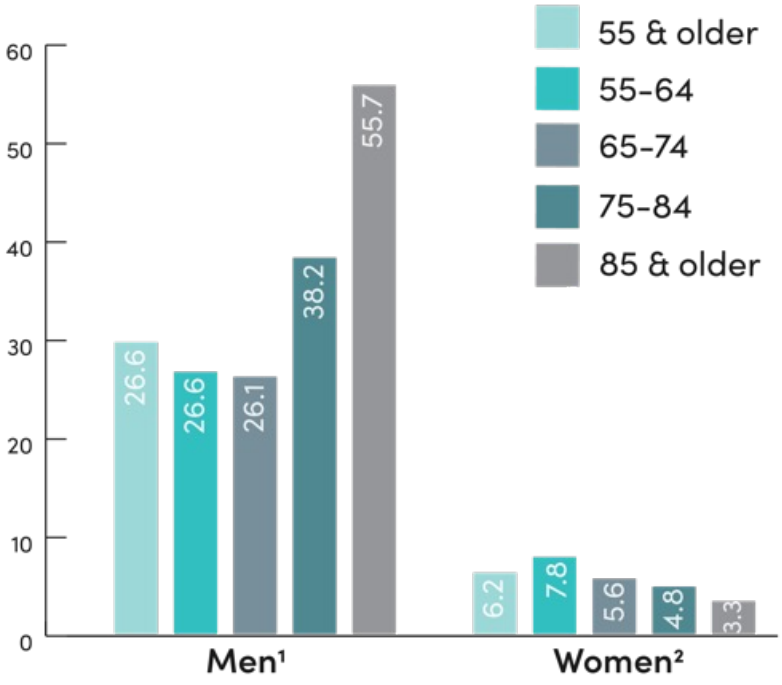
Stigma and Suicide

Due to stigma about mental health or misconceptions about aging, older adults will more often deny feelings of depression or anxiety when asked directly. Instead, they will more frequently present with vague or non-specific physical symptoms. Often, depression and

Figure 3

Suicide rate among adults age 55 and older

by age group and sex: United States, 2021



¹Rates for men were significantly higher than rates for women for all age groups, p <0.05.
²Significant linear treand by age group, p <0.05
NOTES: In 2021, the overall U>S> suicide rate was 14.5 per 100,000 population. Suicide deaths ware identified using International Classification of Diseases, 10th Revision underlying cause of death codes U03, X60-X84, and Y87.0.
Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db483-tables.pdf#1.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

anxiety symptoms may be overlooked in the context of multiple or more acute medical problems. However, despite being less likely to report suicidal thoughts spontaneously, older adults are more honest when asked directly. This is clinically significant since older adults, particularly those aged 75 years and older, have among the highest suicide rates (20.3 per 100,000) compared to the general US population (14.5 per 100,000). Among adults aged 55 and older, men maintain consistently higher suicide rates than women as they continue to age. Comparatively, suicide rates in older women tend to decrease with increasing age. Still, suicide rates for men significantly increase with increasing age, reaching nearly 17 times higher in the age 85 and older group compared to women (Figure 5). Hence, older adults must be regularly screened for symptoms of depression and anxiety and asked directly regarding suicidal ideation and behaviors.

Depression

In older adults, depression can present as either a lifelong recurrent illness or as a new onset disorder. Depression in later life is often strongly related to other chronic health conditions. With the gender gap somewhat narrower in later life, particularly those over age 85, rates of depression appear to continue to be higher in older women than in older men and more significant than the two-fold difference seen across the rest of the adult lifespan [35]. Depression is also one of the most common causes of pseudodementia, which is a treatable and reversible cause of dementia that should not be missed.

Anxiety disorders in later life are often comorbid with other mood and substance use disorders. Generalized anxiety and specific phobias (often fear of falling) are the more common anxiety disorders in later life. Prevalence rates for anxiety in later life tend to decrease when compared with younger age groups. Still, many of the current screening tools are not validated in the more medically complex older adult population, which may drastically underestimate rates [32]. However,

trends for higher prevalence rates for anxiety in women compared to men continue to hold into later life.

Treatment Approaches

In older adults, the first approach to the management of depression and anxiety should be to rule out any existing medical condition(s) or medication side effect(s) that may be exacerbating symptoms of depression or anxiety. When considering pharmacological treatment options, SSRIs are considered first-line for both depression and anxiety. Non-pharmacological options include psychotherapy, specifically CBT, with or without the concurrent use of medications. Electroconvulsive therapy can also be a very effective treatment for older adults with severe decompensated depression and multiple medication sensitivities. Clinical depression and anxiety disorders in later life should not be considered a normal part of aging, and successful treatment can dramatically improve outcomes and quality of life.

Conclusion

Throughout life, women need to prioritize self-care, seek support from friends, family, or mental health providers when needed, and practice coping strategies to manage stress and maintain emotional well-being.

Across the lifespan, women tend to experience higher rates of depression and anxiety then men and the presentation and symptoms of anxiety and depression differ based on gender. The preferred treatment approaches such as cognitive behavioral therapy and pharmacological treatment options may be consistent across age yet a woman's response to treatment may differ depending on the timing of the treatment and chronicity of her depression and/or anxiety. Providers are critical in educating women about the symptoms of depression and anxiety and helping with their identification and treatment. Promoting awareness of depression and anxiety, reducing stigma, and preventing suicide in women remains priority areas for improving women's health across the lifespan.

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