

The Overarching Cost of Beauty in Mauritania

Melanie Konin*

This research paper outlines the risks women in Mauritania - including girls at the extremely young age of five years old - take to secure marriage and appear attractive to those who are male-identifying. Over time, the United States has become more inclusive with a broader spectrum of sizes that they carry in stores. However, not much long ago, the beauty standard in American society was to look as thin as possible (Wiseman et al., 1992). Girls in the United States would undergo dangerous diets, supplements, and bizarre exercises to stay thin, where in Mauritania, their beauty standard revolved around the complete opposite (Wiseman et al., 1992). Instead, girls in Mauritania grew up in environments where the standards of beauty perpetuated obesity. Mauritanian men claimed that skinny women looked like skeletons and they'd prefer not to sleep with "a bag of bones" (Esposito, 2022). Obesity in Mauritania was seen as a status symbol as many people believed larger women were wealthy because their husband had the financial means to gorge her on copious amounts of food. Therefore, women who were looking for potential suitors would try to become as large as possible to appear desirable to other men.

The consequences of this risky beauty tradition have experienced an uptick in the last few years, where the tradition of leblouh and gavage (force-feeding) has become more prevalent. While force-feeding has extreme health effects such as diabetes, kidney failure, and osteoarthritis, women are refusing to prioritize their health because the urge to stay beautiful and marry young is all-consuming in the eyes of many (Esposito, 2022). Most women have averted towards black market drugs like cortisone, apatamin - an appetite stimulant with a history of side effects - and even livestock medication with side effects of weight gain. These are real human beings, who are putting their lives on the edge to satisfy men. The abysmally underdeveloped education system in Mauritania along with minimal female involvement in government appear to make the odds of women choosing what they want to look like appear bleak.

Keywords

beauty standards • leblouh • gavage • force-feeding • Mauritanian women

*University of Michigan College of Literature, Science, and the Arts, mkonin@umich.edu

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History of Leblouh

Mauritania is a country in Northern Africa with a population of about five million people. It is one of the wealthiest countries in its region regarding natural resources, specifically iron and petrol. But for a country so saturated with natural resources, it's surprising that they haven't been able to make societal progress. According to WorldAtlas, Mauritania was recently ranked 159 out of 189 countries on the Human Development Index (HDI) - a standard measure of a country's development in terms of personal well-being, standard of living and education. Mauritania's poor ranking revealed failures in environmental protection, rampant poverty, poor education systems, and "rigid traditions with social stereotypes" (Sawe, 2019). One of the most concerning traditions in Mauritania is leblouh, or gavage, which translates to force-feeding. This isn't like the common practice of merely disregarding health and eating as many cheeseburgers as one wants until they are full. Leblouh involves bowls of couscous that have to be flushed down with camel milk - which has a high-fat content - for breakfast. A typical girl who is practicing leblouh blows through 3,000 calories for breakfast alone - which equates to twenty cheeseburgers. This lifestyle would allow girls to put on weight extremely fast. Their lunches and dinners revolve around greasy and heavy meals, all to repeat the next day. While the leblouh tradition is far more common in rural parts of Mauritania, Harvard University claims that about 25% of all women in Mauritania follow the leblouh practice. In rural areas, it increases to nearly 75% (Esposito, 2022). It's far more prevalent in rural areas due to tradition having a tighter hold on rural residents, as well as the lack of utilization of women for just about everything except childcare. The barren dunes only compound this by creating an atmosphere of isolation for the most remote settlements.

In an ironic twist on the concept of American weight loss programs, many girls are sent to fattening camps - tents where young girls are force fed by their grandmothers or mothers so that they can focus on their enlarging. It can go as far as the establishment and planning of ideal weight gain periods based on the availability of food. For example, during the Mauritanian rainy season, crops are plentiful, and therefore the force feeding is highly enforced so that women can take advantage of the food. In other seasons, like droughts, leblouh is still prominent, but it can be more of a struggle to reach their 16,000 daily calories because there are not as many crops available. Because of the culturally enforced importance of securing a marriage and building a family, they have gone as far as to instill the fattening process at a young age to adjust their stomachs to an increase in appetite - which in the long run makes the process of leblouh less painful. These camps are usually heavily monitored for these younger girls, and are sometimes threatened with time away from hanging out with their friends if they do not finish their food. Consequently, force-feeding leaves these girls feeling inferior to men and suffering a mental battle with their own self (Haworth, 2011). Similarly, these girls feel that they are destroying their own future. Tijanniya - daughter of a livestock dealer - is rather frustrated and shows her passion for sports, and she's fearful that she "won't be able to run fast when fat" (Haworth, 2011).

In addition, children are occasionally physically abused and tied up until they consume each meal. One specific example is the "Zayar" technique. The Zayar technique "involves positioning a girl's toes between two sticks and pinching it when she resists leblouh" (Esposito, 2022). A 2013 study from Harvard pulls data from girls who were abused in the process of leblouh. It was evident that "over 61% of those who experienced gavage reported being beaten during the process and 29% reported having their fingers broken to encourage participation" (Esposito, 2022). Surprisingly, the perpetrators behind the beatings are commonly the girls' mothers. Unreported World recorded a

documentary where Sahar Zand - a famous radio presenter - speaks with the Mauritania mothers first hand. She firsts asks them “how could you inflict such pain and torture on your own daughters?” Zand translated the mothers response, and it is along the lines of “this is a society where a woman’s biggest power is to be beautiful, and to be beautiful, you have to be fat” (Zand, 2022). Again, the stigma behind pleasing a man is so heavily influenced, that mothers will put their daughters under such dangerous circumstances.

Improper Drug Use and Failing Drug Regulation

To provide a deeper understanding of how dangerous these situations can be, Sahar Zand not only tried eating with these girls firsthand, but she also went to small shops in the capital (Nouakchott) to see how easy it was to get a hold of the Black Market drugs commonly used. For leblouh, young girls will get on birth control at a very early age - usually before menstruation begins to fasten the start of puberty. Despite these girls knowing that the practice of leblouh is rather dangerous, they are desperate to put on weight so that they can further fit the standard of Mauritanian women. Zeinebouh (a practicing girl) fears that if she went against tradition “she would lose her it-girl status among her female friends.” Additionally, women still try to seek out healthier alternatives as they are fearful of the risks and damages leblouh causes. Hawer (another practicing girl) states that she bought medication heavy in cyproheptadine hydrochloride (with a side effects of increased appetite) because her pharmacist told her “it was the least dangerous” (Haworth, 2011). While obtaining such high doses of birth control can be expensive and more difficult than black market drugs, most of the rural population averts to steroids or livestock medication to gain weight at an extraordinarily fast pace. In the documentary from Unreported World, Sahar Zand dresses like a Mauritanian woman in disguise and pretends that she was an average woman trying to gain weight. She and a few natives drive over to the busier parts of Mauritania, and hidden behind the jewelry being sold are various types of medication that continues to be sold to women who want to gain weight. She even tells the seller “I’ve got a wedding to attend, and I want to meet someone” in order to avoid unnecessary questions (Zand, 2022). No identification was required, and Zand was easily able to obtain the medication. Most of the medication that’s prescribed has no label and broken seals - which makes it increasingly difficult for regulation officers and pharmacists to know what drugs to ban, and this continues to fuel the root cause of a young girl’s inability to escape from these harmful traditions.

This brings the next concern, poor regulation of prescriptions and raging incorrect prescription drug use in Mauritania. The Global Health Security Index - a standard of measure used to assess various public health systems and prevention of disease - was last updated in 2021 for Mauritania, vividly states “Mauritania does not have a natural legislation or regulation in place requiring prescriptions for antibiotic use for humans” (WHO Country Cooperation Strategy at a Glance: Mauritania, 2016). Because of the poor regulations in a country where the names of prescription Drugs - Aceptomin, Steroids, Dregdreg - are generalized to “fattening medication”, it can be difficult for officials to ban or prohibit these exchanges. To degrade the lack of regulation to a greater extent, the Pharmaceutical Law of Mauritania has made provisions requiring prescriptions unavailable online (WHO Country Cooperation Strategy at a Glance: Mauritania, 2016). And as of 2019–2022, the World Health Organization “has made no reference to a legislation in place requiring prescriptions for antibiotic use by humans” (WHO Country Cooperation Strategy at a

Glance:Mauritania, 2016). The inability to properly regulate the transmission of medication in a country is unfortunate because little girls in Mauritania are paying the steep price of these beauty standards since there is no law protecting them from these practices.

To compare the regulations of prescriptions in the United States, it can be extremely difficult to obtain any medication that is not over the counter. Even medication such as Delsym (cough syrup) is prohibited to be bought unless one is eighteen years or older. In a similar sense, people have found a sense of being “high,” or extremely drowsy when taking more than the directed amount - which is why the regulation of medication in America as a whole is so highly enforced. In addition, the United States requires that medications are regulated by the Food and Drug Administration before they are even put on the market (U.S. Food and Drug Administration, 2015). The FDA “inspects the facilities where drugs are manufactured” along with “reviewing the drug professional’s labeling and assures appropriate information is communicated to health care professionals and consumers” (U.S. Food and Drug Administration, 2015). In terms of birth control, which is used in Mauritania for weight gain, a female in the United States can only be given a pack for the duration of a month during menstruation. Females in the United States have to be given a prescription to pick up the contraceptive since birth control is not an over-the-counter medication. Whereas in Mauritania, a girl could easily pick up birth control pills which are good for however long she wants if she can afford it. However, these birth control pills have increased side effects of moodiness and irritability, not just the coveted unhealthy weight gain. In Mauritania, the birth control method commonly used is the oral contraceptive (pill) due to the fact that weight gain is a notable side effect. Girls who have not even started menstruation will be forced by their supervisors to take these medications that kick start puberty, which leads to a multitude of health concerns.

Short-Term Health Effects in Adolescents

The process of leblouh can lead to many unhealthy consequences. While most of these are short-term effects such as bloating, nausea and constant vomiting, they can still be extremely uncomfortable for a five or six-year-old girl to endure (Haworth, 2011). In the current process of leblouh, consuming up to 16,000 calories a day can leave a girl feeling bloated, and full. For younger girls, most of the liquid is thrown up because the settling of the food is intolerable. After they throw up their food, these girls tend to have minimal to no energy to go out with friends or play outside. Instead, they lie down and eventually nap to manage the discomfort. According to the MD Anderson Cancer Center, “overeating causes the stomach to expand beyond its normal size to adjust to the large amounts of food” (Blackburn, 2018). In a psychological sense, it interferes with the leptin receptor. The leptin receptor is responsible for signaling the hypothalamus that you are full, it also lets the body know when one is hungry. Overeating past the point that your mind is telling you not to can reduce the effectiveness of the leptin receptors - creating a mental imbalance when it comes to eating. While this is the intended purpose - to increase a girl’s appetite - it can be an extraordinarily painful experience for the time being. Besides the obvious - weight gain - overeating can produce excess gas because the intestines are working twice as hard to digest all of the food. In addition to the body trying to break down the food, and the fastening of the metabolism, young girls “may experience a temporary feeling of being hot, sweaty, and dizzy” (Blackburn, 2018). Most women who have already been through many years of the leblouh tradition still experience these symptoms but to a lesser degree. Once a woman understands that this is the “norm” and these

symptoms of discomfort are the cost of beauty, the severity of the short-term health effects are not as prominent when compared to a girl who is significantly younger.

Long-Term Health Effects in Mauritanian Women

As more people are becoming educated on leblouh in Mauritania, researchers have been able to pull more data in regard to the long-term effects of force-feeding. One of the largest concerns has been the spike in diabetes, heart disease, kidney failure, and osteoarthritis in a woman who is larger in size - similar to how Americans would handle a patient who is obese (Esposito, 2022). Harvard states that “due to leblouh, these national health concerns disproportionately impact women: as of 2016, 18.5% of Mauritanian women were obese, compared to only 6.6% of men” (Esposito, 2022). And, unfortunately, these chronic diseases are being passed down to their offspring, which plays a role in younger girls developing these diseases at a younger age. A long-term effect of prescribed contraceptives, such as the birth control pill consists of decreased bone mineral density (Golden, 2022). According to a study at the Lucile Packard Children’s Hospital at Stanford University, “40% of adult bone mass is accrued during adolescence” which correlates to the significant growth spurts during puberty (Golden, 2022). However, when birth control is consumed in moderate amounts “contraceptive methods may have an impact on peak bone mass acquisition and could potentially affect future fracture risk” (Golden, 2022). For girls in Mauritania whose nutritional status is nowhere near the adequate amount in regards to calcium, increased intake of the birth control pill and malnutrition can lead to decreased bone density. If proper treatment is found, bone density can easily be cured with supplements such as Vitamin D. However, the lack of treatment and accessibility to health care in Mauritania, only worsens their health status, and over time leads to osteoarthritis. Osteoarthritis is one of the most common forms of arthritis, the Centers for Disease Control and Prevention refers to it as “degenerative joint disease or wear and tear arthritis.” While most Mauritanian women brush off the joint pain and swelling because they are unfamiliar with these chronic diseases, and don’t have the financial means to see a physician, multiple researchers have come to the consensus that their diagnosis is most likely osteoarthritis. In relation to rapid weight gain, obesity increases the risk for osteoarthritis because the “extra weight puts more stress on joints” (CDC).

Another long-term health effect of leblouh consists of diabetes. More often than not, overeating foods that are not high in nutrients, and are rather fattening can lead to diabetes. According to the International Diabetes Federation (IDF), diabetes was once extremely rare in the African region, and through time there has “witnessed a surge in condition” (Peer et al, 2014). There has been an increase in both Type I Diabetes, and Type II Diabetes in children, younger children specifically. While people with Type I Diabetes naturally need more insulin, for younger girls in Mauritania, Type I Diabetes is common in people who binge eat. The McCallum Place - a center in the United States - specializes in the correlation between overeating and diabetes. They state that people with Type I Diabetes are at risk for “developing brittle bones with wide swings of blood sugars from high to low with mood instability, irritability, and fatigue” (Nicol, 2017). While the temporary feelings of irritability and fatigue relate back to the short-term effects of force-feeding, a long-term consequence is Type I Diabetes. On the other hand, Type II Diabetes stems from improper eating, not fueling the body with proper supplements, and consuming unhealthy foods. These foods are usually high in fat and spike one’s cholesterol levels. While many Americans would

blame fast food restaurants, Mauritanian girls pose a higher risk for Type II Diabetes because of their high fat intake. The calorie-dense foods include camel milk, couscous, overbearing amounts of peanut oil, and cups of pure animal fat. When these are consumed in such a high quantity, and in an excessive amount, it can be damaging to the amount of sugar and fat that the pancreas has to fuel out. With poor access to health care and a large percentage of people in Africa living in poverty, it can be difficult to get an accurate number of people with diabetes in Mauritania. To provide more context, Dr. Vadel Lemine - one of the doctors in Nouakchott's hospital states the numerous victims of leblouh patients who suffer from diabetes and high blood sugar. He expresses his concern about the escalation of numbers, but finds it difficult to provide "exact figures" as it can be frustrating that his "advice, as a doctor, hasn't been heard enough" (Wedoud, 2010). If proper regulation and accessibility to healthcare were more attainable, researchers should be able to see a decrease in these cases, not an increase in declining health. To give a deeper understanding of how unfortunate the healthcare system is in Mauritania, "the country only has 0.18 physicians for every 1000 citizens" (Esposito, 2022). In comparison to the United States, there are about "2.59 physicians for every 1000 citizens" (Esposito, 2022). This disparity is another factor that aids in the difficulty of attaining healthcare information, and the treatment methods available to lessen the rates of diabetes and osteoarthritis. From another standpoint, a study from the National Library of Medicine: *Type II Diabetes in Mauritania: Prevalence of Undiagnosed Diabetes, The Influence of Family History and Maternal Effect* vaguely shows the gaps in Mauritanian healthcare systems which inhibit the ability for citizens to receive proper care. While there is not much information available, the method of this study was obtained from about 1,278 adults who filled out a questionnaire along with fasting serum glucose tests and underwent multiple screenings. To prove the fact that there is minimal health information, out of the 1,278 adults, only 421 were able to give a "detailed family history of diabetes and clinical characteristics" (Meiloud et al., 2013). From this study, the results concluded that "the prevalence of diabetes in the Mauritanian population could be higher than currently thought" (Meiloud et al., 2013). While diabetes is still fairly high in Mauritanian men, the gap between women and men for cases of undiagnosed diabetes is largely accounted for by forced feeding (Esposito, 2022). This is because Mauritanian men are supposed to appear slim, and Mauritanian women are supposed to appear curvaceous and busty.

The Pressure to Follow Societal Norms

Despite all of these health concerns, diabetes and osteoarthritis showing increasing trends, Mauritanian women refuse to go against the leblouh tradition. When Sahar Zand spoke to these mothers firsthand, they continued to say "this is a society where a woman's biggest power is to be beautiful and to be beautiful, you have to be fat" (Esposito, 2022). The power of marriage in a country that is mainly dominated by the male figure plays a significant role in the behavior and ongoing trends that are evident with women in Mauritania. For instance, 55-year-old Achetou Mint Taleb explains how slim girls bring shame to families, and while she had two daughters of her own whom she force-fed, she is proud to say that they married quickly and both had children before they were 17 years old (Wedoud, 2010). While Mauritanian men see beauty in fatter women because leblouh creates a false illusion of maturity and early menstruation, the costly side effects completely counteract the purpose of wanting to start a family at such a young age. If Mauritanian men wanted to create a family for the purpose of raising a child, wouldn't it be beneficial for the child's mother to

still be healthy to raise the child? To provide an example, a 2015 study that is supported by Harvard University found that “nearly one out of three girls aged between 15 and 19 gets married.” In addition, a Mauritanian victim, a woman who was 29 years old shares her experience of starting leblouh at just four years old, married by 12, and pregnant by 13 after her first menstruation cycle. While she prefers to stay anonymous, she emphasizes the mental and physical risks of starting a family as a young teenager. As there are a multitude of physical consequences like dysmenorrhea - discomfort within the first menstrual cycle- osteoarthritis and diabetes from obesity, mental health issues in younger girls who are automatically expected to take on maternal duties become increasingly prevalent. The transitional switch from being a young girl to automatically being sent for marriage because of menstruation, and then arranged to have sexual intercourse with males much older, and birthing a child brainwashes a girl to believe that leblouh, early marriage, and the power of being obese is normal - it also jeopardizes a girls self-esteem and feeling of self-worth. As a result, this leaves many girls in the upcoming generation with the pressure to undergo these practices, and with nobody stopping this cycle, leblouh becomes a dangerous normality.

Education for Adolescence in Mauritania

However, despite the popularity of force-feeding in Mauritania, it truly comes down to the regions these women grow up and live in. As it was previously mentioned, force-feeding is more common in rural areas than urban. While there is loads of data that back up “pre-coup awareness campaigns” and the startup of a female-only gym in Nouakchott (capital of Mauritania), not much is being done for women who live in rural areas. This is likely due to customs that have been highly instilled for generations of women, something especially prominent in rural areas. Once women in Mauritania became more aware of these pre-coup awareness campaigns - areas where women are educated on the prioritization of health over marriage - progress was made. For example, in 2003, the rates of leblouh in urbanized areas started to lessen, and by 2009, there was a striking increase in the number of women who started attending the gym. One woman named Yeserha Mint Mohamed Mahmoud was one of the very few women who decided to take deeper measures to educate women who practice leblouh by spreading awareness but also digging at the root cause - separating the association between male validation and self worth. Additionally, Mahmoud states the societal unfamiliarity involved in these traditions, such as knowing the difference between gaining healthy weight over periods of time and consuming livestock medication - with life threatening side effects - to gain pounds at a destructive rate. After these women were properly educated, they took more serious measures as to what they were eating. Because the diets in Mauritania are so calorie-dense, such as eating couscous and pure lard, many women were unaware of how fattening these foods were. Yeserha Mahmoud believes that Mauritanian women decide to follow these practices because leblouh and gavage are only what they are accustomed to. Rather than looking into the root cause of force-feeding, many Mauritanian women brushed it off and just followed the rest of society.

Another factor that plays into the lack of understanding of the dangers of leblouh, especially in rural areas, consists of reaching the audience. Alongside Yeserha Mint Mohamed Mahmoud, are Aminetou Mint Ely and Many Mint Haidy - women who are a part of non-governmental organizations (NGOs) - who believe that little progress can be made without “partnering with local community groups and traditional information sources” (Esposito, 2022). Back in 2007, when May Mint Haidy was interviewed with the New York Times, she stated “only 25% of Mauritanian

women watched TV and even fewer tuned into radio programs.” As a result, many women like May Mint Haidy have been struggling to reach the rural parts of Mauritania to educate themselves on the dangers of leblouh. However, many suggestions such as “forging connections with religious leaders, expanding the role of mosques to encompass both worship and education” are some of the ways NGOs are trying to provide advocacy to Mauritanian women and girls (Esposito, 2022). In a society like Mauritania, where tradition carries heavy virtue, one of the easiest ways to reach an audience is through religion and spirits. Lemrabott Brahim - an activist in Mauritania - explains the difficulty of exterminating the culture of leblouh because “its something deeply- rooted in the minds and hearts of Mauritanian mothers, particularly in remote areas where the uneducated villagers still strongly believe in the tradition.” By educating the Mauritanian public on the health issues that arise from force-feeding, and the damage being done when you encourage force-feeding on younger generations, Mauritanian people are more inclined to listen. In addition, another victorious program that is slowly catching more attention is the Sahel Women’s Empowerment and Demographic Dividend project. While this program is not directly centered on Mauritanian women and force-feeding, it encompasses many other African nations like Mali and Niger where child marriage is popular. The Sahel Women’s Empowerment and Demographic Dividend project is successful in spreading positive affirmations to women, making them acknowledge their worthiness, and empowering them to avert against the societal norm of looking better for a man.

The Price of Beauty for a Mauritanian Woman

Overall, there is definite evidence that Mauritanian women are heavily dependent on males, and male domination in the Mauritanian society is oppressive. As these victims live in a society where tradition has a large influence, it can be extremely difficult and tiresome to go against custom, no matter the health effects or scientific information to prove the contrary. While there are many activists such as Mariam Mint Ahmed and Sahar Zand who try to garner attention to these issues and educate affected young girls, the fatal health effects, forced childhood marriage and the lack of education for younger girls prove the inhumanity that arises through leblouh and gavage. It is of no doubt that the price of beauty for Mauritanian women is so steep that women will undertake these drastic measures at the cost of their own health.

References

- Beagley, J., Guariguata, L., Weil, C., & Motala, A. A. (2014). Global estimates of undiagnosed diabetes in adults. *Diabetes research and clinical practice*, 103(2), 150–160
- Bellis, E. K., Li, A. D., Jayasinghe, Y. L., Girling, J. E., Grover, S. R., Peate, M., & Marino, J. L. (2020). Exploring the unmet needs of parents of adolescent girls with heavy menstrual bleeding and dysmenorrhea: a qualitative study. *Journal of pediatric and adolescent gynecology*, 33(3), 271–277.
- Blackburn, K. B. (2018). What happens when you overeat?. *The University of Texas MD Anderson Cancer Center*.
- Center for Drug Evaluation and Research (n.d.). *Drugs*. U.S. Food and Drug Administration.
- Cetorelli, V., Wilson, B., Batyra, E., & Coast, E. (2020). Female genital mutilation/cutting in Mali and Mauritania: understanding trends and evaluating policies. *Studies in family planning*, 51(1), 51–69.

- Endendijk, J. J., Groeneveld, M. G., van der Pol, L. D., van Berkel, S. R., Hallers-Haalboom, E. T., Bakermans-Kranenburg, M. J., & Mesman, J. (2017). Gender differences in child aggression: Relations with gender-differentiated parenting and parents' gender-role stereotypes. *Child development, 88*(1), 299–316.
- Esposito, A. (2022). Force-feeding and drug abuse. *Harvard International Review, 43*(2), 12–18.
- Fomby, P., & Sennott, C. A. (2013). Family structure instability and mobility: The consequences for adolescents' problem behavior. *Social Science Research, 42*(1), 186–201.
- Gaddis, S. M. (2013). The influence of habitus in the relationship between cultural capital and academic achievement. *Social science research, 42*(1), 1–13.
- Golden, N. H. (2020). Bones and birth control in adolescent girls. *Journal of Pediatric and Adolescent Gynecology, 33*(3), 249–254.
- Haworth, A. (2011). Forced to be Fat. *Marie Claire*, <http://www.marieclaire.com/world-reports/news/forcefeedingin-mauritania>
- Hems, D. A. (1975). Biochemical aspects of renal ammonia formation in metabolic acidosis. *Enzyme, 20*(6), 359–380.
- Hernandez, A. M. C., & Dietrich, J. E. (2020). Gynecologic management of pediatric and adolescent patients with Ehlers-Danlos syndrome. *Journal of Pediatric and Adolescent Gynecology, 33*(3), 291–295.
- Hillard, P. J. A. (2020). Pediatric and Adolescent Gynecology (PAG) in the Time of a Pandemic. *Journal of Pediatric and Adolescent Gynecology, 33*(3), 247–248.
- Lascar, N., Brown, J., Pattison, H., Barnett, A. H., Bailey, C. J., & Bellary, S. (2018). Type 2 diabetes in adolescents and young adults. *The lancet Diabetes & endocrinology, 6*(1), 69–80.
- Majeed, A., El-Sayed, A. A., Khoja, T., Alshamsan, R., Millett, C., & Rawaf, S. (2014). Diabetes in the Middle-East and North Africa: an update. *Diabetes research and clinical practice, 103*(2), 218–222.
- Meiloud, G., Arfa, I., Kefi, R., Abdelhamid, I., Vetten, F., Lasram, K., . . . & Houmeida, A. O. (2013). Type 2 diabetes in Mauritania: prevalence of the undiagnosed diabetes, influence of family history and maternal effect. *Primary care diabetes, 7*(1), 19–24.
- Nicol, G. E., & Louis, M. P. S. Binge Eating in Type I Diabetes.
- Ouldzeidoune, N., Keating, J., Bertrand, J., & Rice, J. (2013). A description of female genital mutilation and force-feeding practices in Mauritania: implications for the protection of child rights and health. *PLoS One, 8*(4), e60594.
- Osilla, K. C., Miles, J. N., Hunter, S. B., & D'Amico, E. J. (2015). The longitudinal relationship between employment and substance use among at-risk adolescents. *Journal of child and adolescent behavior, 3*(3).
- Patterson, C., Guariguata, L., Dahlquist, G., Soltész, G., Ogle, G., & Silink, M. (2014). Diabetes in the young—a global view and worldwide estimates of numbers of children with type 1 diabetes. *Diabetes research and clinical practice, 103*(2), 161–175.
- Peer, N., Kengne, A. P., Motala, A. A., & Mbanya, J. C. (2014). Diabetes in the Africa Region: an update. *Diabetes research and clinical practice, 103*(2), 197–205.
- Sawe, B.E. (2019). The Tradition of Leblouh in Africa: Force-Feeding Girls for Marriage. *World Atlas*

- Shibre, G., Zegeye, B., Lemma, G., Abebe, B., & Woldeamanuel, G. G. (2021). Socioeconomic, sex and area related inequalities in childhood stunting in Mauritania: Evidence from the Mauritania Multiple Indicator Cluster Surveys (2007–2015). *Plos one*, *16*(10), e0258461.
- Thevis, M., Schrader, Y., Thomas, A., Sigmund, G., Geyer, H., & Schänzer, W. (2008). Analysis of confiscated black market drugs using chromatographic and mass spectrometric approaches. *Journal of analytical toxicology*, *32*(3), 232–240.
- Wiseman, C. V., Gray, J. J., Mosimann, J. E., & Ahrens, A. H. (1992). Cultural expectations of thinness in women: An update. *International journal of eating disorders*, *11*(1), 85–89.
- World Health Organization. (2016). *WHO country cooperation strategy at a glance: Mauritania* (No. WHO/CCU/16.03/Mauritania). World Health Organization.
- Yahya, A. W. M. (2010). Women fight Mauritania's fattening tradition. *CNN*.
- Yilmaz, B., & Sahin, N. (2020). The effects of a dysmenorrhea support program on university students who had primary dysmenorrhea: a randomized controlled study. *Journal of pediatric and adolescent gynecology*, *33*(3), 285–290.
- Zhang, J., Zhang, M., Zhang, Y., Liu, H., Yuan, P., Peng, X., . . . & Wang, L. (2020). Proposal of the 3O (obstruction, ureteric orifice, and outcome) subclassification system associated with Obstructed Hemivagina and Ipsilateral Renal Anomaly (OHVIRA). *Journal of Pediatric and Adolescent Gynecology*, *33*(3), 307–313.