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APPLYING THE GENDER PERSPECTIVE IN MEDICINE:

THE URGENCY OF INCLUDING A GENDER-SENSITIVE APPROACH TO ENSURE THE RIGHT TO HEALTH FOR EVERYONE

Supervisor: Prof. LORENZA PERINI

Candidate:

ALESSANDRA LATINI

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Table of contents

Introduction

The reasons for undertaking this research stem from my direct and personal experience of being a woman living with chronic pain. As a young woman living apparently healthy, I am confronted with the challenge of living with "invisible" and dynamic disabilities affected by stigma and ignorance. Our society has been shaped to cater to the needs of wealthy white, able-bodied men while overlooking the rest of the population. Women are the ones who experience a higher degree of chronic, disabling, and "invisibilised" health conditions and encounter numerous and diverse obstacles, ranging from bureaucratic hurdles to financial constraints, social barriers, and stigma. However, this issue is overlooked and not at the forefront of healthcare policies.
As a result of my personal experience, I have developed a keen interest in exploring subjects within the medical field from a feminist perspective. Therefore, I decided to draw a comprehensive analysis of gender-specific medicine, a dimension of medicine that emphasizes the significance of incorporating gender as a social determinant of health from biomedical theory to clinical practice. While gender medicine can undoubtedly provide improved protection for women, its advantages extend to all individuals.

First of all, concerning the language, I would like to clarify that the identifying terms I will use, such as "women," are not intended to be exclusive or exhaustive categories. Instead, they are meant to be open and expansive, acknowledging the fluidity and nuances of identifications with a particular group. Furthermore, I would like to specify that, as a biomedical layperson, I tended to simplify technical jargon and notions.

My research focuses primarily on the Western context and draws mainly on literature produced in the United States, Canada, United Kingdom, northern Europe and Italy. The research has a multidisciplinary approach, involving a range of studies from medicine to sociology. It relies mainly on bibliographic sources, using primary sources and secondary sources, including research studies, academic literature, and official reports from governmental institutions and civil society

organisations. I retrieved most of the articles from PubMed and the Italian Journal on Gender-Specific Medicine. Moreover, the Italian National observatory for women and gender health (ONDa) edited a white book which offered me particularly useful insights.

The first chapter of my research work provides a brief historical overview of the women's health movement and its role in empowering women to assert their rights and demand better treatment in the medical field. The Women's health movement, in particular, brought attention to the discrimination women experience in medical settings, including misdiagnosis, unnecessary medication, drug overdosage, unneeded surgeries, and harmful treatments. The Women's health movement contributed to the emergence of the concept of "gender" in the medical domain. Traditional medicine started to be doubted, and around the end of the 20th century, a new dimension of medicine was born. The majority of sources analysed for this first chapter are academic literature, which presents a consistent and detailed account of the historical facts from a feminist perspective. The prevailing body of literature on the topic is primarily from the 20th century, with a specific focus on the second wave of feminism that emerged during the '60s. Afterwards, the analysis will focus on the difference between sex and gender in the medical domain to conclude with the introduction of the concept of gender medicine.
The following chapter focuses on gender-specific medicine, describing its inception in the United States till its dissemination in the last two decades. The inclusion of gender perspective also influences pharmacology, medical research, education and clinical practice.
The third chapter presents the analysis of three specific diseases. The choice of these diseases stems from their suitability to show how gender bias has a negative impact on women's health and well-being. Indeed, these diseases are unique or disproportionately prevalent among women; although not widely acknowledged, they are not rare, and all of them are not adequately recognised as invalidating diseases.
In the final chapter, I provide a framework for gender medicine through a multi-level governance perspective. In the United Nations context, I analysed the status of gender medicine through declarations and official reports mainly issued by the

World Health Organization. At the regional level, the European Union has issued several documents and launched relevant projects regarding gender medicine. Finally, I will provide a national framework of the status of gender medicine in the Italian context. Italy is the first country worldwide to have introduced a law to promote gender medicine in national healthcare. Different stakeholders, from government members to civil society organisations, played a pivotal role in promoting the law. However, challenges still need to be tackled in Italian healthcare, and a gender-sensitive approach should also be mainstreamed in complementary sectors to secure a complete right to health for everyone.

Chapter I

1. Introduction

The first chapter starts with a historical overview focusing on how, over the centuries, western societies did not let women be formally part of the scientific community, especially for what concerns medicine. In fact, women were not allowed to formally study medicine, nor were they considered as a relevant subject of study. However, in the 20th century, things started to change, women revolted against this system. A pivotal event was the affirmation of the Women's health movement. Indeed, in the '60s, the movement started to change the concept of modern medicine. The rise happened due to a strong discontent matured by a group of women in the United States, but the struggle was shared in Europe too. Another fundamental turning point was the maturation of the concept of gender in the '50s. Therefore, in the third paragraph, I will introduce the two concepts of gender and sex. To do so, I will need to shift from biology to sociology. For what concerns the term sex, I will primarily stand in the biology, whereas for the term gender, I will first historically analyse its linguistic use and then emphasize how the concept has been strongly shaped by feminism. To conclude the chapter, I will briefly introduce the importance of sex and gender in medicine: their inclusion as a crucial factor in medicine would mean a revolution for everyone, especially for women, but this will be adequately covered in the second chapter.

2. Biased Medicine

Since the Enlightenment, science developed promising neutral points of view. However, the objectivity and universality of which western science brags are not value-neutral. Gender inequalities characterized scientifical institutions and, consequentially, their outcomes[1]. Health care is a deeply gendered social institution from several points of view. Gender norms affect both men and women as recipients

[1] Schiebinger L. L. (2001). *Has feminism changed science?* (2nd printing first paperback). Harvard University Press. p.107

and providers of health care[2], and this phenomenon has been perpetuated over centuries.

2.1. Historical overview

Tracing back to the 16th century, the so-called father of modern anatomy, Vesalius, set a pattern that remained until the 20th century[3]. He assumed that men's and women's bodies were completely interchangeable for what concerns biology, the only difference lied in the reproductive systems[4]. It is important to underline that women were not allowed to get academic knowledge through universities till the 19th century. In fact, all women, regardless of their religion, sexual identity, race, and merits, were excluded from university for no reason other than their sex[5]. However, women did contribute to science through midwifery[6], but even if women practised this branch of medicine, they rarely wrote about it or formalized it, thus, theories concerning the difference of sex were probably not developed[7]. The prevailing absence of women as regular members of the formal scientific communities was a pattern that dominated till the 19th century in Europe[8]. In addition, even modern academics would probably ignore these differences due to the inheritance of sexist notions from important figures such as Aristotle, Darwin, Galen, etc., who "scientifically" described women as an incomplete or less version of a man[9]. Indeed, Galen was seeing females' reproductive organs as the same as the males' ones, the only difference concerned the position: the male genitalia were

[2] Timmermans, S., Fremont, A.M., Conrad, P., & Bird, C.E. (2010). *Handbook of Medical Sociology, Sixth Edition*. Nashville: Vanderbilt University Press.p. 229
[3] Schiebinger L. L. cit. p.109
[4] *ibidem*
[5] Schiebinger L. L. p.17
[6] *ibi* p.28
[7] *ibi*. p. 109
[8] *Ibi* p.29
[9] *ibi*.P.111

exterior, while the female ones were interior. Thus, he considered women and men different forms of the same sex[10] (fig1.1.). This theory can be identified as the one-sex model, which was prevalent in the Middle Ages, thanks to Christianity as well[11].

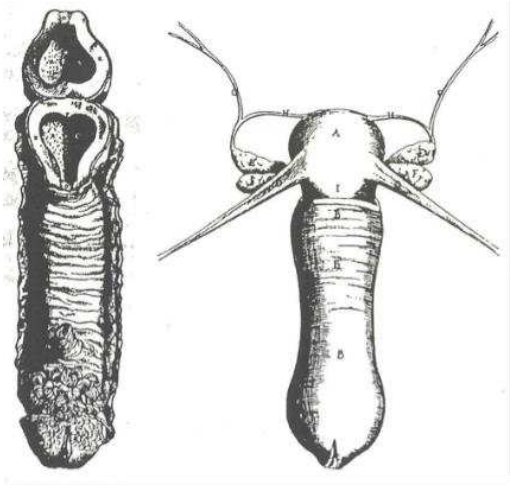

FIGURE 1.1. -
(LEFT) VAGINA AS PENIS FROM VESALIUS, *DE HUMANI CORPORIS FABRICA (1543)*
(RIGHT) VAGINA AND UTERUS FROM VIDUS VIDIUS, *DE ANATOME CORPORIS HUMANI* (1611)

Nevertheless, this model started to be challenged in the 18th century. From the late 18th century, women were no longer seen as an incomplete version of a man, instead, a model of radical difference was emphasized[12]. The womb, which was conceived as a negative phallus, became the uterus: an organ with a justification for the social status of women[13]. The body became central. Science, anatomy, and biology started to be used as a mean to support or deny claims in cultural, political, economic, and social contexts[14]. This theory can be labelled as the two-sex model, and as the one-sex model, it is a product of culture[15].

A "new" branch of science developed and took the name of "sexual science". "Sexual science" used mainly scientific knowledge to argue for women's social inequality. In fact, academic study of sexual differences was carried on in order to keep women "in their place"[16]. An example of this could be the 19th-century anatomical drawings which depicted a female skeleton with a larger pelvis and a

[10] Laqueur, T. (1992). *Making Sex: Body and Gender from the Greeks to Freud* (Revised ed.). Harvard University Press. p.26
[11] Lippi, D., Bianucci, R., & Donell, S. (2020). Gender medicine: its historical roots. *Postgraduate medical journal*, *96*(1138), 480–486. https://doi.org/10.1136/postgradmedj-2019-137452 p.4
[12] Schiebinger L. L. cit. p.111
[13] Laqueur, T. Cit .p.152
[14] *ibidem*
[15] *ibi*. p.153
[16] Schiebinger L. L. cit P. 112

smaller brain with the purpose of reflecting the suitability of women for bearing children and their inadequacy in intellectual activities[17].

In medicine, these two paradigms led to different outcomes. For instance, the sameness paradigm led researchers to think that men's and women's diseases are the same, when actually it is not true, otherwise, the difference paradigm to think that women's and men's illnesses are different, when actually they could be similar. The sameness paradigm led research to understudy women. The difference paradigm, instead, has been central in diagnosis when women's "complaints" were, and still are, not taken seriously and labelled as psychosomatic[18].

For what concerns women's health, positive improvement started to occur through the creation of feminist movements. In the late 19th century, an important watershed for woman's freedom to control their body and their life was the creation of the birth control movement[19]. This movement, grown and spread predominantly in the West, was led by feminists who conceived birth control as a liberating force for women[20]. At the beginning of the 20th century in the United States, Margaret Sanger was an important character of the movement[21]. She dedicated her life to fighting for birth control, although at that time, the distribution of birth control information was illegal according to the Comstock Law[22]. According to her, the possibility of controlling pregnancies would empower women also from a political and economic perspective[23] , and her main goal was to produce an impact, especially for the working class[24]. She produced pamphlets and books in order to share technical information regarding birth control, but not only that, in fact, her goal was to promote control over their bodies, the right of women to sexual

[17] Timmermans, S., Fremont, A.M., Conrad, P., & Bird, C.E. cit. p. 238
[18] Schiebinger L. L. cit. p. 112
[19] Hartmann B (1997). Population control I: Birth of an ideology. *International Journal of Health Services. 27* (3) doi:10.2190/bl3n-xajx-0yqb-vqbx. PMID 9285280. S2CID 39035850 p. 523
[20] *ibi*. P. 524
[21] *ibi*. P.525
[22] The Comstock Law of 1873 was enacted in order to restrict any individual from selling or sending what were considered obscenities, including offering any information regarding contraception and abortion. Punishment for violating the law was imprisonment for no less than six months and no more than five years or a fine not less than one hundred dollars and not more than two thousand dollars.
[23] Rossi A. S. (1973). *The feminist papers : from Adams to De Beauvoir* (1st Northeastern University Press). Northeastern University Press.p.517
[24] *Ibi* p. 519

gratification, and the general contribution of women to society thanks to the control of their reproductive activity[25]. She strongly believed in challenging the conservative forces which characterized the society[26].

> *« Sex morals for women have been one-sided ; they have been purely negative, inhibitory and repressive. They have been fixed by agencies which have sought to keep women enslaved; which have been determined, even as they are now, to use woman solely as an asset to the church, the state and the man. Any means of freedom which will enable women to live and think for themselves first, will be attacked as immoral by these selfish agencies[27]*».

In 1916, she and her sister founded the first American birth control clinic where they were doing gynaecologic examinations and fitting birth control diaphragms illegally smuggled to the USA. Shortly after the foundation, they got arrested due to the Comstock Law, and the clinic had to close[28]. However, Sanger's values prevailed, and she demolished this way of thinking about sexuality founded by Comstock[29]. Sanger's achievement provided the basis for the development of new human rights: « *the right of every woman to control her fertility, the right of parents to be free of the crises of unwanted pregnancy, and the right of every child to be wanted. Additionally, she provided the birth control methods and clinics necessary for the practical realization of these rights[30]*». Her character was a pioneer of birth control rights, thus, women's rights[31].

2.2. The rise of the Women's health movement and the role of feminism

In the second half of the 20th century, another evident turning point was represented by the development of another important feminist movement: the Women's health

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[25] *Ibi* p. 520
[26] *ibi*. p. 521
[27] Sanger, M. (1920) *Woman and the New Race*. [New York, Brentano's] Retrieved from the Library of Congress, https://lccn.loc.gov/20015159. p. 179
[28] Williams D. & Williams G. (1978). *Every child a wanted child : clarence james gamble m.d. and his work in the birth control movement. ed. by emily p. flint*. Francis A Countway Library of Medicine..p.85
[29] Wardell D, (1980) Margaret Sanger: birth control's successful revolutionary. *American Journal of Public Health* 70, 736_742, https://doi.org/10.2105/AJPH.70.7.736 p. 738
[30] *Ibi* p. 736
[31] *ibidem*

movement. In the US, one of its main successes was represented by *Roe v. Wade* in 1973, the legalization of abortion[32]; however, this movement outlined a wide spectrum of issues concerning women's health. Indeed, feminists raised questions concerning the male control of the health profession, the absence of women in medical schools, the sexism in the medical curricula, improvement of women's knowledge of their bodies[33]. The main fight concerned the end of discrimination based on sex and gender in the medical field. Feminists argued that their status was legally and socially inferior and that this inferiority came from sexist legal and medical institutions, especially concerning their reproductive health care[34].

The main focus of the movement was on safe contraception and legal abortion, nevertheless, this movement soon expanded its focus to a wider medical context[35]. In 1969, a group of women met in Boston with the purpose of discussing and sharing experiences and concerns about women's health. The frustration and anger towards the American healthcare system were blatant. In particular concerning the relationship between patients and doctors. They found their experiences were similar, so many women were facing paternalistic, judgemental, and non-informative doctors[36]. Most of them realized they were ignorant about their bodies, but the reason behind this ignorance laid in the difficulty of acquiring information from doctors. Information was necessary to make clear decisions about them and their bodies[37]. Indeed, feminist analysis of the doctor and patient relationship underlined how doctors perceived women's general social status[38]. The typical interaction between a female patient and a physician mirrored the parent-infant relationship, termed as well as the activity-passivity model[39]. Therefore, women decided to learn more about their bodies. They started studying, writing, and

[32] Nichols, F. H. (2000). *History of the Women's Health Movement in the 20th Century. Journal of Obstetric, Gynecologic & Neonatal Nursing, 29(1), 56–64.* doi:10.1111/j.1552-6909.2000.tb02756.x p. 56
[33] Schiebinger L. L. cit P.122
[34] Nelson, J. (2015). *More Than Medicine: A History of the Feminist Women's Health Movement*. NYU Press. p.20
[35] *ibi* p.21
[36] Ruzek, S. B. (1978). *The Women's Health Movement: Feminist Alternatives to Medical Control*. Praeger Pub Text. p. 55
[37] *Ibi* P.56
[38] *ibi*p. 57
[39] *ibidem*

organizing health courses on a wide set of topics[40]. The outcome resulted in a revolutionary health manual in an accessible format « *that could be shared and would serve as a model for women to learn about themselves, communicate their findings with doctors, and challenge the medical establishment to change and improve the care that women receive*[41]». This book was called "*Our Body, Ourselves*" and it resulted in being a milestone in women's health, especially because it dealt with taboo topics concerning sexuality and abortion, which back then was illegal in the USA[42]. What happened in Boston was extraordinary, and the movement started spreading in other cities too. In 1971, more than 800 people organized the first Women's health conference in New York. Moreover, in 1973, the movement released a pamphlet that stated, «*medical sexism as a social force helping to shape the options and social roles of all women*[43]». These women joined their forces, and they literally built clinics specialized in women's issues. The purposes of their actions aimed at challenging the sexed and gendered hierarchical power relationship, which characterized medical health care and, consequently, women's health[44]. This group of women was fully aware that medical care needed to contextualize in a social environment and that medical institutions promoted gender oppression and sex inequality[45]. Body consciousness became central to the cause: in order to liberate women from oppression, it was fundamental to restructure the social definition of the body-self[46]. This included promoting self-examination and self-help gynaecology as a way to

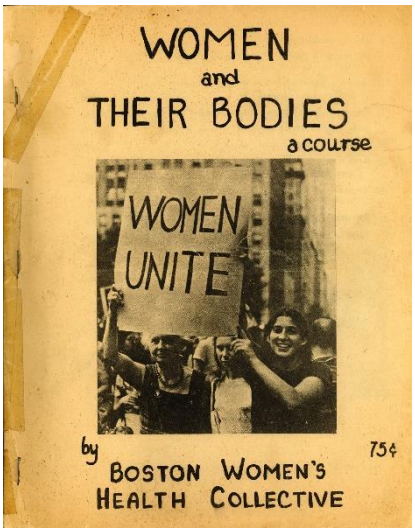

FIGURE 1.2. - FIRST EDITION OF *WOMEN AND THEIR BODIES* COURSEBOOK, PRODUCED BY THE BOSTON WOMEN'S HEALTH COLLECTIVE, (1970).

[40] *Ibi* p.55
[41] Our Bodies Ourselves Today. (n.d.). *History & Legacy - Our Bodies Ourselves Today.* https://www.ourbodiesourselves.org/about-us/our-history/
[42] *ibidem*
[43] Ehrenreich, B. and English D. (1973). *Complaints and Disorders: The Sexual Politics of Sickness*. Glass Mountain Pamphlet, no. 2. Old Westbury, N.Y.: The Feminist Press.pp. 35–36.
[44] Nelson, J. cit p.27
[45] *Ibi* p.42
[46] Ruzek, S. B. cit p.48

take control of one's own body in a revolutionary way. These simple operations provided women with the opportunity to gain more control over their bodies and relieved them from the total control of male professionals[47]. After the 1970s, the practice of self-examination, such as inserting a speculum in the vagina to observe the cervix, became widely adopted among feminists as a means of promoting body consciousness and taking control of their own health[48]. Self-examination was more than simply a thorough look at their body; indeed, through a mirror, a lamp, and a plastic speculum, women gained knowledge and awareness of what was happening in their vaginas. For example, they learnt how to detect a vaginal infection and how to cure it with simple home remedies[49].

Another concern that started to grow in the '70s, also publicized by several feminist papers, was about medical research on drugs dangerous to women[50]. Contraceptives were central, especially after the Diethylstilbesterol (henceforth DES) tragedy. DES is a synthetic estrogenic prescribed to pregnant women between 1940 and 1971 in order to prevent miscarriage, premature labour, or other complications of pregnancy. In the '50s, several studies reported the inadequacy of DES in preventing them; however, it was still used for other reasons, for example, it was used as a postcoital contraceptive.[51] Its safety and efficacy were never proven by the main pharmaceutical companies, and the Food and Drugs Administration[52] (henceforth FDA) never took action to limit its use[53].

> « *It is estimated that millions of Americans (mothers, daughters, and sons) may have been exposed to DES. In 1971, data demonstrated a connection between a mother's use of DES during pregnancy and the occurrence of cancer of the vagina in her daughters. Subsequently, DES has been associated with several other health effects, including an increased*

[47] *.ibi*. p 78
[48] *Ibi* p.79
[49] *ibidem*
[50] *Ibi* p. 66
[51] Exposure In Utero to Diethylstilbestrol and Related Synthetic Hormones: Association With Vaginal and Cervical Cancers and Other Abnormalities (1976). *JAMA*. ;236(10):1107–1109. doi:10.1001/jama.1976.03270110011002
[52] The United States Food and Drug Administration is a federal agency of the Department of Health and Human Services. Its main goals are promoting and protecting public health.
[53] Ruzek, S. B. cit. p. 63

frequency of problems of the reproductive tract, changes in the tissue of the vagina, infertility, and poor pregnancy outcomes in daughters[54]».

Awareness started to grow exponentially only in 1974, thanks to several organizations and, consequently, mass media[55]. Concern about contraceptives also involved Intrauterine devices (henceforth IUDs). The use of IUDs was widespread; at least 3 million American women were prescribed with it between the '60s and '70s. However, even if this device was widely used, it was considered unnecessary to be tested by a government agency. According to the FDA, IUDs production was not subject to the purview of a regulatory body, and testing was not necessary[56]. For instance, one device in particular, the Daikon Shield, caused deaths, sterility, haemorrhage, pain, unwanted pregnancy, miscarriage, infections, and other severe issues[57]. In 1976, the Medical Device Amendments came into force, thus, from then on, medical devices are regulated through approval and evidence of effectiveness and safety[58]. The inclusion of IUDs in the category of medical devices was the outcome of advocacy work by feminists and women's health organisations, as the FDA refused to classify IUDs as drugs[59].

2.2. Biologic determinism

« In proving woman's inferiority, the anti-feminists then began to draw not only upon religion, philosophy, and theology, as before, but also upon science- biology, experimental psychology, etc. »[60].

As mentioned already, the priority of the Women's health movement was mainly concerned with the illegality of abortion and its stigma[61], however, there were several challenges to fight. One of them was to counter biological determinism.

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[54] *The NCI DES Follow-up Study*. (n.d.). National Cancer Institute. https://dceg.cancer.gov/research/what-we-study/des-study
[55] Ruzek, S. B. cit p. 65
[56] *ibi*p. 66
[57] Seaman, B. Seaman G. (1977). *Women and the Crisis in Sex Hormones.* New York: Rawson Associates. pp. 153–74
[58] Ruzek, S. B. cit p. 67
[59] *ibi*. p. 68
[60] Beauvoir, S. D. (1953). *The Second Sex* (9th Printing). Vintage Books / Random House. P. 22
[61] Nelson, J. cit p.28

Feminists "used" biology to reanalyse their bodies from a feminist point of view[62]. The Women's health movement aimed the transformation of the medical-scientific establishment's presumption of biological inferiority, which had harmful consequences for women[63]. In the 19th century, medical professionals used to reinforce the patriarchal paradigm to keep women's status inferior comparing the men's one by using medical evidence and evolutionary law to demonstrate women's correct role[64]. For what concerns mainly upper-class women, all female reproductive functions were considered pathological. Puberty, menstruation, pregnancy, and menopause were defined as states of ill health. Thus, social conventions forced upper-class women to be "sick"[65]. In the late 19th century, medical control over women occurred in gynaecological surgery. Clitoridectomy (surgical removal of the clitoris), ovariotomy (surgical removal of the ovaries), and female castration (surgical modification of the external female genitalia) became common treatments. Gynaecologists argued that these surgeries were crucial to cure conditions such as « *neurosis, insanity, abnormal menstruation and practically anything untoward in female behavior. Among the indications were troublesomeness, eating like a ploughman, masturbation, attempted suicide, erotic tendencies, persecution mania, simple "cussedness," and dysmenorrhoea (painful menstruation, long held to be one consequence of masturbation*)[66]».

At the beginning of the 20th century, Freud developed a new psychoanalytic theory regarding the female nature, which identified women as defective subjects due to their absence of a penis[67]. Women were still sick, but their sickness depended solely on their anatomy[68]. Henceforth, the basis to justify biological inferiority shifted from a gynaecological field to a psychiatric one[69]. Psychotherapeutic processes were characterized by sexism and aimed at role

[62] Ruzek, S. B. cit. p.48
[63] *ibi*p.95
[64] Haller, J. S., Haller R.. (1974). *The Physician and Sexuality in Victorian America*. Urbana: University of Illinois Press p.47
[65] Ehrenreich, B. English. D. cit. p. 6
[66] Barker-Benfield, B. (1972). The Spermatic Economy: A Nineteenth Century View of Sexuality. *Feminist Studies*, *1*(1), 45–74. https://doi.org/10.2307/3180106 p. 60
[67] Ruzek, S. B. cit.. p.101
[68] Ehrenreich, B., English D. cit. p. 44
[69] Ruzek, S. B. cit. p.101

conditioning; indeed, psychotherapists were thought to push women into predefined and "appropriate" roles such as housekeeper, mother, and wife[70]. Role conditioning also took more aggressive forms, for instance, to coerce a woman to be "at her place", psychosurgery (such as lobotomy) was performed in order to make a woman more "docile"[71].

Moreover, in many cases, physicians looking for explanations of symptoms would associate it with an emotional cause, failing to diagnose organic disorders with the mistaken consequence of prescribing mood-altering drugs. This led women to be misdiagnosed and mistreated, discouraging them from researching another treatment. Health activists complained about the recurrent misdiagnosis of organic conditions.[72] There have been cases of people with tumours treated with tranquillizers due to their "emotional issues"[73] . In a study made in 1970s, physicians were found to prescribe more psychotropic drugs to women than men, and the physicians justified themselves on the basis of women's biological vulnerability to differential life stress, male reluctance to seek help, and female self-indulgence[74]. The issue was real and dangerous; psychotropic drugs "hook women" and prevent them from changing their lives and making them dependent on male authorities and institutions[75].

Already in the '70s, Dr Ruzek, a professor at Temple University, established three essential causes of this kind of sexism. She found that sexism in medicine was due to the perpetuation of it in medical education, literature, and drugs' advertisements. Undoubtedly, the stereotype of the "neurotic woman" is widely spread in society, however, the perpetuation of sexism in these three main fields entailed the reinforcement and amplification of sexism[76]. Indeed, medical school officials

[70] Roth, R. T., & Lerner, J. (1974). *Sex-Based Discrimination in the Mental Institutionalization of Women. California Law Review, 62(3), 789.* doi:10.2307/3479748 p. 802
[71] Ruzek, S. B. cit. P.104
[72] *Ibi* P.107
[73] Fried, John J. (1974). "Tranquilizers: Rx for the 'Woman Problem'." Playgirl (July): 53, 92, 109, 126. p.109
[74] Cooperstock, R. (1971). Sex Differences in the Use of Mood-Modifying Drugs: An Explanatory Model. *Journal of Health and Social Behavior*, *12*(3), 238–244. https://doi.org/10.2307/2948560- P. 243
[75] Seidenberg, R. (1971). Drug Advertising and Perception of Mental Illness *Mental Hygiene 55* p.28
[76] Ruzek, S. B. cit. p.114

formally belittled female students, claiming that women did not belong to medicine. Feminists have always tried to fight this kind of discrimination[77]. In gynaecology texts, women were depictured as anatomically designated to reproduce, nurture and maintain their husbands satisfied. These presuppositions endured over time, intending to keep women "at their place" in the male interest[78]. Furthermore, Pharmaceutical industries amplified sexism, for example, in portraying women mainly in psychogenic disorders, not organic ones. In this way, advertisement legitimated the idea of the woman as a "complainer"[79].

3. The concepts of Sex and Gender

Sex and gender are often used as synonymous; however, it is a mistake. From the second half of the 20th century, medical doctors and social scientists introduced a distinction between gender and sex[80] , and the rise of the second wave of feminism in the '60s has also contributed to developing this difference[81]. What is sex? What does gender mean? What does it mean to be male or female? How can it affect our lives and well-being? These questions represent the basis on which the argument will develop.

3.1. Sex – In the womb

As far as we scientifically conceive it, life is characterized by a natural flow toward reproduction. In particular, for what concerns human life, the reproduction act is defined in biology as a sexual reproduction since it needs the combination of the XX chromosomes and XY chromosomes, which means the merging of the biological information and genetic code of a male subject and a female subject[82]. Therefore, I will briefly explain how the sex of a new born is determined using a

[77] Ruzek, S. B. cit. p.115
[78] Scully, D., Bart P,. (1973). A Funny Thing Happened on the Way to the Orifice: Women in Gynecology Textbooks. *American Journal of Sociology 78* P. 1045
[79] Prather, J, Fidell L. (1975). Sex Differences in the Content and Style of Medical Advertisements. *Social Science and Medicine 9*. p.23
[80] Stoller, R. (1968): *Sex and gender: on development of masculinity and femininity*. – Science House, New York. pp. vi–vii
[81]Kirchengast S. (2014). Human sexual dimorphism--a sex and gender perspective. *Anthropologischer Anzeiger; Bericht uber die biologisch-anthropologische Literatur*, *71*(1-2), p. 123.
[82] Fausto-Sterling, A. (2012). *Sex/Gender: Biology in a Social World* (The Routledge Series Integrating Science and Culture*)* (1st ed.). Routledge. P.3

model made by a New Zealand psychologist and sexologist whose considerations were enormously influential in shaping today's discipline of sexology. Indeed, Dr Money developed a theory of sexual development, underlining the correlation between biology and social psychology[83]. In the '70s, he published a book characterized by a multidisciplinary approach to gender identity through genetics,

FIGURE 1.3. - MONEY, J. (1973). *MAN AND WOMAN, BOY AND GIRL: DIFFERENTIATION AND DIMORPHISM OF GENDER IDENTITY FROM CONCEPTION TO MATURITY.*

endocrinology, psychology, and anthropology. The aim of his model was to explain the different layers which characterize the gender identity of an adult[84]. Here, I will take into account the first part (highlighted in red in fig. 1.3.) of the layered model of sex and gender in order to explain the concept of sex. The red highlighted part is the physical one, which concerns anatomy and hormones, that is, the one related to sex.

[83] Bullough VL. (2003) The contributions of John Money: a personal view. *Journal of sex Research*. Aug;40(3):230-236. DOI: 10.1080/00224490309552186. PMID: 14533016. P. 230
[84] Fausto-Sterling, A. cit. P.3

The model starts with the fertilisation process: the combination of the female gamete and the male gamete. The result of this combination can be either a set of chromosome XY or a double set of X. This result is defined *chromosomal sex*, and it is the first layer of Dr Money's model[85] (fig. 1.3). Over time, embryos characterized by the presence of a Y chromosome form an embryonic testis, while the one with a double set of X chromosome develops embryonic ovaries. So far, the developing foetus has acquired *foetal gonadal sex*, and the next step will involve the development of making hormones, and, as Dr Money describes, it reaches the status of *foetal hormonal sex*[86]. Once all of these steps have been attained, the internal reproductive sex will start to be formed in accordance (*foetal internal reproductive sex*), and after approximately four months, foetal hormones will have completed the development of the external genitalia (*genital sex*)[87].

To sum up, the new born, even before being out of the womb, results to be a multi-layered sexual being since it includes the chromosomal sex, the foetal gonadal sex, the foetal hormonal sex, the foetal internal reproductive sex, and the external genital sex[88]. Thus, by birth, the new born would have five different layers of sex, and if the layers do not agree between them[89] can lead to a range of intersex conditions that do not conform to the typical binary system of male/female[90]. Therefore, being that layered the sexual status of a foetus not even born yet, we could imagine how tight is the idea of binarism male/female. In fact, it is believed that at least 1 per cent of the population does not belong to this system[91]. In genetics, the boundary between the sexes can be defined as blurry, currently, biologists do think that the spectrum is broader than just binarism[92], however, tackling this topic would be beyond the scope of this research.

[85] *Ibi* p. 4
[86] *ibi*. p. 5
[87] *ibidem*
[88] *ibi*. P.10
[89] *Ibi* P.5
[90] *Ibi* p. 11
[91] Viola, A. (2022). *Il sesso è (quasi) tutto: Evoluzione, diversità e medicina di genere (Italian Edition)*. Feltrinelli Editore. P.48
[92] Ainsworth, C. Sex redefined. *Nature* 518, 288–291 (2015). https://doi.org/10.1038/518288a p.1

3.1.1. "*Does sex matter*"[93]?

«Sex, that is being male or female, is an important basic human variable that should be considered when designing and analyzing studies in all areas and at all levels of biomedical and health related research»[94].

Being male or female is a variable that affects health and illness throughout a person's life span. Genetic differences and different hormones have consequences on our physiology. The incidence and how the disease hits a person do vary due to the sex of the person. Reproductive hormones have a crucial role in sex differences; however, it would be a mistake to attribute the difference solely to the hormones[95]. Sexual hormones and genes[96] do have an essential role since they lead to the modification of enzymes, transporters, and receptors through certain mechanisms[97]. Females and males differentiate by life span and patterns of illness; acknowledging these biological differences is crucial to develop better approaches to prevention, diagnosis, and medical treatment[98]. Anatomically, it is evident that ovarian cancer can develop only in female subjects, however differences do not rely only on the reproductive system, it is more systemic. There are, in fact, sex-linked diseases that occur mainly in one sex (e.g., autoimmune diseases)[99] or even diseases that occur in both sexes with the same ratio, but the manifestation changes in accordance with the sex (e.g., peripheral artery disease)[100].

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[93] Institute of Medicine (2001). *Exploring the Biological Contributions to Human Health: Does Sex Matter*?. Washington, DC: The National Academies Press. https://doi.org/10.17226/10028
[94] *Ibi* p.3
[95] *Ibi* p.xix
[96] Migeon, B.R. (2007) Why females are mosaics, x-chromosome inactivation, and sex differences in disease. *Gend. Med*. 4. DOI: 10.1016/s1550-8579(07)80024-6 p. 97
[97] Campesi, I., Montella, A., Seghieri, G., & Franconi, F. (2021). The Person's Care Requires a Sex and Gender Approach. *Journal of clinical medicine*, *10*(20), 4770. https://doi.org/10.3390/jcm10204770. P.1
[98] Institute of Medicine cit. p. 117
[99] Ngo ST, Steyn FJ, McCombe PA (2014). Gender differences in autoimmune disease. *Frontiers in Neuroendocrinology*. 35 (3). doi:10.1016/j.yfrne.2014.04.004. PMID 24793874. P. 360
[100] Barochiner J, Aparicio LS, Waisman GD (2014). Challenges associated with peripheral arterial disease in women. *Vascular Health and Risk Management*. 10. doi:10.2147/vhrm.s45181. PMC 3956880. PMID 24648743. P. 115

An important turning point in medicine is represented by the creation of the Committee on Understanding the Biology of Sex and Gender Differences, with the main aim of evaluating and considering sex differences at the biological level[101]. The Committee was created in 1999 by the Institute of Medicine (henceforth IOM), currently the National Academy of Medicine. The conclusions drafted were particularly significant due to the authority of the IOM. It was officially recognized that the importance of sex as a basic human variable that needs to be taken into account in the biological and medical fields. Establishing this important starting point, the IOM emphasized the relevance of encouraging scientific studies on the origins and developments of sex differences[102]. Moreover, the Committee acknowledged the existence of obstacles in the advancement of this kind of knowledge and called for their elimination[103].

Therefore, since male and female phenotypes are not the same, it is not guaranteed that what works on a male subject works in the same way on a female subject. To achieve a better quality of diagnosis and treatments, unique biological characteristics must be taken into account. Nonetheless, still nowadays, personalized medicine is difficult to achieve since therapies and diagnoses have been developed primarily without investigations in female animals and women[104].

I will report some examples below; as a layperson in the field, I will not provide details, but I will just try to give a general idea of the issues. Evidence of biological differences between females and males will be provided, however, this evidence is often dismissed, not acknowledged, not researched on, or only recently, and not promptly taken into account. Only recently, the sex of a patient is starting to be considered a fundamental modulator in clinical decision-making[105].

[101] Institute of Medicine cit. p.2
[102] *Ibi* p.3
[103] *Ibi* pp.3-4
[104] Campesi, I., Montella, A., Seghieri, G., & Franconi, F. cit. p. 3
[105] Legato, M. J.; et al. (2016). Consideration of Sex Differences in Medicine to Improve Health Care and Patient Outcomes. *JAMA*. 316 (18): 1865–1866. doi:10.1001/jama.2016.13995. PMID 27802499.

a. Neurology

- In the case of ischaemic stroke, it can be influenced by risk factors attributed only to women, like pregnancy[106]. Moreover, in treating this kind of stroke, it has been proven that aspirin has a broader benefit for women than men, especially in the primary prevention of this kind of stroke[107].

- Alzheimer's disease is one of the main forms of dementia, and in the USA, 2/3 of the patients are women, and it results in being more deadly in women rather than men (6.1% vs 2.6% of deaths, see figure). It is important to underline that it has been proven that age is a crucial risk factor for late-life Alzheimer's; thus, the higher longevity which characterizes women contributes to it [108].

- Ataxic cerebral palsy occurs more often in female subjects. While dyskinetic cerebral palsy and spastic diplegia have increased risk in males[109].

- Symptomology of Huntington's disease is different according to sex; in fact, females' motor symptoms influence functional abilities more in women than men, while the cognitive ones have a stronger impact on men's abilities than women's[110].

b. Respiratory system

- The dimension of the lungs changes according to sex, in men, usually lungs are bigger, and this has an important influence on the breathing capacity

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[106] Mauvais-Jarvis, F., et al. (2020). Sex and gender: modifiers of health, disease, and medicine. *Lancet (London, England)*, *396*(10250), https://doi.org/10.1016/S0140-6736(20)31561-0 p.570

[107] *Ibi* p. 571

[108] *ibidem*

[109] Romeo DM, Sini F, Brogna C, Albamonte E, Ricci D, Mercuri E (August 2016). "Sex differences in cerebral palsy on neuromotor outcome: a critical review". Developmental Medicine and Child Neurology. 58 (8). doi:10.1111/dmcn.13137. PMID 27098195. P. 2

[110] Zielonka D, Stawinska-Witoszynska B (2020). "Gender Differences in Non-sex Linked Disorders: Insights From Huntington's Disease". Frontiers in Neurology. 11: 571. doi:10.3389/fneur.2020.00571. PMC 7358529. PMID 32733356. P.1

during physical activity[111]. Furthermore, the smoke of cigarettes has different consequences for men and women, women look to be more liable to develop chronic obstructive pulmonary disease due to their typically shorter stature and smaller airway diameter[112].

- Asthma affects men and women in different ways. In fact, from puberty, female patients are more likely to develop asthma, and middle-aged women have increased severity and a higher mortality rate. Sex hormones play an important role in this case. For example, asthma can worsen before menstruation[113].

- Tuberculosis occurs mainly in men: « *sex-specific determinants of immunity include effects of sex steroid hormones as well as sex chromosome* »[114].

c. Cardiovascular system

- Cardiovascular diseases are the leading cause of death for both men and women in the USA. However, factors such as menopause and hormones are pivotal in studies, thus, their inclusion in studies is needed. Moreover, symptomology and comorbidities vary according to sex-based variables in the physiology of the cardiovascular system[115].

- Women present different consequences from arrhythmias than men, they present more symptoms and a higher risk of mortality after a stroke (25% vs 19% at six months)[116]. Concerning the symptomology of myocardial infarction, women are likely to have different symptoms than men, for

[111] Viola, A. (2022). *Cit.* P. 69
[112] Chapman KR (2004) Chronic obstructive pulmonary disease: are women more susceptible than men? *Clin Chest Med*, 25. . https://doi.org/10.1016/j.ccm.2004.01.003 . P. 337
[113] Mauvais-Jarvis, F et al. Cit, p. 570
[114] Hertz D, Schneider B (2019). Sex differences in tuberculosis. *Seminars in Immunopathology.* 41 (2). doi:10.1007/s00281-018-0725-6. PMID 30361803. S2CID 53030554. P. 228
[115] Blair M. L. (2007). Sex-based differences in physiology: what should we teach in the medical curriculum?. *Advances in physiology education*, *31*(1), p. 24 https://doi.org/10.1152/advan.00118.2006
[116] Legato, M J.; et al. cit. p. 1865

example, they tend to have dyspnoea, which is not typical in men, and symptoms like pain between the shoulder blades, nausea or vomiting, and shortness of breath, while men usually report chest discomfort, which is atypical for women[117]. Moreover, Takotsubo disease (stress-induced cardiomyopathy), myocardial infarction associated with nonobstructive coronary arteries, and spontaneous coronary artery dissection are more prevalent in women than men[118].

d. Urology

- Once again, another example can be found in urinary incontinence and urinary tract infections. These conditions primarily affect women because the primary cause of its development in females is correlated to anatomy, indeed, female subjects have a shorter urethra compared to male subjects[119].

e. Musculoskeletal system

- Another interesting example regards musculoskeletal diseases since their incidence and manifestations are different according to sex. In fact, women are more prone to have osteoarthritis, osteoporosis, and non-contact sports injuries[120], moreover, menopause is an influential factor in this condition due to its consequent decline of oestrogens[121].

f. Chronic conditions

- Conditions like fibromyalgia, irritable bowel syndrome, and chronic fatigue syndrome are more common in female patients. For instance, chronic fatigue syndrome is more prevalent in women than men (0.52% vs 0.29%

[117] Mauvais-Jarvis, F et al. Cit. p. 567
[118] Garcia M, Mulvagh SL, Merz CN, Buring JE, Manson JE. (2016) Cardiovascular Disease in Women: Clinical Perspectives. *Circ Res*.118(8)doi: 10.1161/CIRCRESAHA.116.307547. PMID: 27081110; PMCID: PMC4834856. P. 1273
[119]Legato, M. J. (2004). *Principles of Gender-Specific Medicine, 2nd edition*. Academic Press. P. 421
[120] McGregor, A. J., Templeton, K., Kleinman, M. R., & Jenkins, M. R. (2013). Advancing sex and gender competency in medicine: sex & gender women's health collaborative. *Biology of sex differences*, *4*(1), 11. https://doi.org/10.1186/2042-6410-4-11 p.3
[121] Institute of Medicine cit pp. 139-140

in the USA)[122]. While irritable bowel syndrome is three times more common in females than in male subjects[123] , and fibromyalgia has a female: male ratio of 2:1[124].

e. Liver diseases

- Data showed that there are sex-related differences in the epidemiology and progression of some liver diseases (e.g., autoimmune conditions, chronic hepatitis C, etc.)[125]

f. Visual system

- Colour blindness is more common in males than females because it is a disease of X-linked recessive inheritance[126].

3.2. Gender – Leaving the womb

In the first half of the 20th century, the term "gender" has been mainly used in its grammatical sense and sometimes, but more rarely, as a synonym of sex. However, during the second half of the 20th century, the use of gender significantly increased, especially due to the introduction of Dr Money's concept of gender roles[127]. For instance, as explained already, Dr Money developed a model to describe the development of "standard" human adult males or females. In this scheme (fig 1.3.), he highlighted two categories: the physical and the mental. As showed in the paragraph above, the first one regards hormones and anatomy, therefore, sex. The latter concerns acculturation and the psychological fixation of a gendered self-

[122]Natelson B. H. (2001). Chronic fatigue syndrome. *JAMA*, *285*(20), https://doi.org/10.1001/jama.285.20.2557. P. 2557

[123] Horwitz, B. J., & Fisher, R. S. (2001). The Irritable Bowel Syndrome. *New England Journal of Medicine*, *344*(24). doi:10.1056/NEJM200106143442407. P. 1846

[124] Clauw D. J. (2014). Fibromyalgia: a clinical review. *JAMA*, *311*(15), https://doi.org/10.1001/jama.2014.3266 p. 1548

[125] Baggio, G., Corsini, A., Floreani, A., Giannini, S., & Zagonel, V. (2013). Gender medicine: a task for the third millennium. *Clinical chemistry and laboratory medicine*, *51*(4), https://doi.org/10.1515/cclm-2012-0849 p. 713

[126] *Color Blindness | National Eye Institute*. (n.d.). https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/color-blindness

[127] Haig D. (2004). The inexorable rise of gender and the decline of sex: social change in academic titles, 1945-2001. *Archives of sexual behavior*, *33*(2),. https://doi.org/10.1023/b:aseb.0000014323.56281.0d p.95

identity, which Dr Money identified with the term gender[128]. Using this new term, he introduced a new field of research. He gave this already existing term a new meaning. He distinguished femininity/womanliness and masculinity/manliness from the biological concept of sex[129]. Moreover, he expanded the employ of this concept by coining terms such as gender identity and gender role. According to him, gender identity is related to a person's perception about their gender as a woman or a man. While he believed that their gender category could be extended, including a basis to make an evaluation on a person individual's grade of conformity to social norms of masculinity and femininity, thus their gender role[130]. Notwithstanding the controversy[131], Dr Money's work greatly influenced following gender studies.

Over the '60s, there was a gradual increase in the use of the term, especially in social sciences and psychoanalysts, some of these writers considered themselves feminists, or if not using this term, they supported the women's movement[132]. In the '80s, the term gender was adopted by the feminists' cause as a technical term and this caused a major increase in its use[133]. However, they redefined the term, arguing that femininity and masculinity are socially constructed notions. « *If boys and girls are different, they are not born, but made that way*[134]*»*. This concept started to be mainstream in the '80s; however, de Beauvoir already anticipated it: « *One is not born a woman, but rather becomes one*[135]*»*.

Among the arguments carried on in the second wave of feminism, there is the sex/gender issue. The debate was characterized by two branches of feminism, the "feminism of equality" opposed to the "feminism of difference"[136].

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[128] Rottnek, M. (1999). *Sissies and Tomboys: Gender Nonconformity and Homosexual Childhood*. NYU Press.p.52

[129] Bullough VL Cit p. 232

[130] *ibidem*

[131] Dr. Money's researches and behaviour have been found controversial by several people, especially due to a certain case (see Colapinto's biography of David Reimer).

[132] Haig D. cit. p.95

[133] *Ibi* p.94

[134] Bullough VL. Cit. p. 232

[135] Beauvoir, S. D. cit. P. 273

[136] Viveros Vigoya M. (2016), Sex/Gender, In L. Disch & M. Hawkesworth (Eds). *The Oxford Handbook of Feminist Theory*. Oxford University Press. P.854

Without deepening too much into the argument, the characteristics of these two branches will be illustrated.

The equality perspective, which dominated in the '60s, argued that gender difference was intrinsic to sexism and stressed gender differences that would harm women[137]. Their political aim was to « *throw off the shackles of 'difference' and establish equality, bringing women and men under a common measure*[138]». Whereas "difference feminists" emerged later, at the end of the 70s, and they «*encouraged the re-evaluation of femininity, opposing the androcentric and sexist undervaluation of feminine achievements*[139]». According to difference feminists, equality feminism devalued femininity by ignoring gender differences and consequently, it was reproducing sexism. Instead, difference feminism aimed to highlight gender differences, reinterpreting them and removing the inferiority paradigm[140]. For instance, The American psychologist Gilligan claimed that the theories of moral development, allegedly adhering to the Kantian universality, were affected by a masculine model or reasoning typical of Western philosophy[141]. However, both branches of feminism had their common ground in disrupting power inequalities that were assumed to have biological reasons, as mentioned above, when tackling biological determinism. Indeed, feminists succeeded in « *politicize the body and the idea of health »,*[142] which means that they demonstrated how the body is perceived every day through power relations and not through biology. Health is a factor in power relations, therefore, feminists fought to demolish the sexist perception of inferiority relative to the female body. They wanted to change the perspective of women's health, constructing it on their own terms and not deriving from the men[143].

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[137] Fraser, N. (1997*). Justice Interruptus: Critical Reflections on the "Postsocialist" Condition*. New York and London: Routledge. P. 176

[138]*ibidem*

[139] Viveros Vigoya M. cit . P.854

[140] Fraser, N. cit.. Pp. 176-177

[141] Viveros Vigoya M. cit.. P.854

[142] Grigg A. & Kirkland A. (2016), Health, In L. Disch & M. Hawkesworth (Eds). *The Oxford Handbook of Feminist Theory*. Oxford University Press. P.332

[143]*Ibi* P.332

As a result of feminist activism, societal inequalities based on sexual differences were no longer seen as "natural" but as the result of cultural constructions of gender[144]. The focus of the movement shifted from debating the differences between men and women to acknowledging the diversity and differences among women themselves, taking into account factors such as sexuality, ethnicity, and class[145]. Ultimately, the feminist movement united around a shared goal of opposing social inequalities, sexism, and heteronormativity[146].

Consequently, feminism as a social movement, although not the proper author of the concept of gender, transformed its normative conception into a critical tool in theoretical and political matters[147]. Over the years, the concept of gender has changed and developed. Nowadays, there is no one definition of gender, there are several. For the purpose of this work, the definition of gender by the Canadian Institutes of Health Research is particularly adequate:

> *«Gender refers to the socially constructed roles, behaviours, expressions and identities of girls, women, boys, men, and gender diverse people. It influences how people perceive themselves and each other, how they act and interact, and the distribution of power and resources in society. Gender identity is not confined to a binary (girl/woman, boy/man) nor is it static; it exists along a continuum and can change over time. There is considerable diversity in how individuals and groups understand, experience and express gender through the roles they take on, the expectations placed on them, relations with others and the complex ways that gender is institutionalized in society[148]».*

3.2.1. Does gender matter?

Despite popular belief, today's medicine is not an area free from broader structures of sexism, racism, classism, and ableism: discrimination is deep-rooted in the medical field too. For instance, women face more complex challenges than men in accessing health information and services. These challenges comprehend higher

[144] Viveros Vigoya M. cit P.854
[145] Fraser, N. cit. Pp. 178-179
[146] *ibidem*
[147] Viveros Vigoya M. cit. P.853
[148] Government of Canada, Canadian Institutes of Health Research, Institute of Gender and Health,. (2020). *What is gender? What is sex? - CIHR*. http://www.cihr-irsc.gc.ca/e/48642.html

illiteracy rates, lack of awareness, the deficiency of access to decision-making power, discriminatory attitudes in the medical community, inadequate knowledge, training, and awareness among medical communities of the specific needs of women. Nevertheless, harmful gender norms related, in particular to masculinity, can have negative effects on men's physical and mental health[149]. In evidence-based medicine, the patient is not considered an individual but rather a member of a group, particularly a male member[150]. Gender is a pivotal factor in human health. It has an influence on the behaviour of communities, doctors, and patients. Gender roles influence people's actions, experiences, and expectations, including diet, stress, smoking, and physical activity. It affects, therefore, health and disease susceptibility[151]. Gender identity, instead, delineates the fluidity of subjects perceiving themselves as woman or man, and this has consequences on behaviours and feelings. Furthermore, there are gender relations. These relations are related to the interactions between subjects on the basis of their ascribed gender[152]. Institutionalized gender contemplates the distribution of power between men and women in society, and most importantly, it frames social norms that create social expectations and realities for men and women[153]. In Western societies, women are in a disadvantaged position. Indeed, stereotypes of men and women correspond to socially defined traits, such as active (male)/ passive (female) or rational (male)/ emotional (female). Therefore, medical language has this gender bias as an intrinsic characteristic, where normal equals men and abnormal equals women[154].

4. Conclusions - Both matter, and more.

It is really difficult to separate gender neatly from sex « *because they interact with each other in a continuous multidimensional entangled manner*[155]*»*. There is indeed

[149] World Health Organization. (2022). *Gender and health*. Available at: https://www.who.int/health-topics/gender#tab=tab_1
[150] Campesi, I., Montella, A., Seghieri, G., & Franconi, F. cit. p.3.
[151] Mauvais-Jarvis, et al. cit, p.566
[152] *ibidem*
[153] *ibidem*
[154] Phillips S. P. (2005). Defining and measuring gender: a social determinant of health whose time has come. *International journal for equity in health*, *4*, 11. https://doi.org/10.1186/1475-9276-4-11 p.2
[155] Campesi, I., Montella, A., Seghieri, G., & Franconi, F. cit. p.1

an interconnectedness between the social sphere and the biological one[156]. I will provide a pragmatic example to explain it. As mentioned already, cardiovascular diseases are a frequent cause of death for both women and men. The "standard" patient has always been male, and the main symptomology of men has been crushing chest pain that would be directly linked to the presence of angina. Recent studies demonstrate that this does not happen in women, for instance, the most common symptom of angina in women is fatigue and not chest pain[157]. Here, a dangerous gender bias lies in the assumption that coronary artery disease affects mainly men, thus, this gender bias can lead to higher mortality of women since their different symptomology is not taken into account. For a proper and prompt diagnosis, medical doctors need to consider sex differences in symptomology and reject the gender bias that only men are affected by this disease[158].

This is just an example, but there are several gender-related factors, and the spectrum they cover is wide. In medical practice and pharmaceutical research, pivotal factors can be identity, socioeconomic status, lifestyle, education, ethnicity, geography, etc. [159.] However, to promote global health, avoid systematic errors, and provide better health care, precise diagnosis, and correct therapy, there are several social determinants of health that are fundamental to take into account[160]. An approach that takes into account multiple factors and their interactions is necessary in research and practice. The inclusion of women in research and studies has to increase, but practitioners also need to be aware of gender issues (such as stigmatization and implicit bias), the environmental context and the lifestyle of the patient[161]. Moreover, to effectively address the disparities in healthcare that result from the gender gap in medicine, it is crucial to bring together and educate the diverse range of stakeholders. This includes those working in regulatory and ethical fields, statistics, healthcare providers, researchers, pharmaceutical and diagnostic companies, policymakers, and patients. This collaboration will help to ensure that

[156] Phillips S. P cit. p.3
[157] *ibidem*
[158] *ibidem*
[159] Campesi, I., Montella, A., Seghieri, G., & Franconi, F. cit. p.1
[160] *ibidem*

individuals receive appropriate and personalized care[162]. To conclude, having this approach means acknowledging the importance of biological factors but also taking into account the role of socio-cultural-economic context and recognizing that the concepts of sex and gender are intertwined and cannot be easily separated[163]. This methodology can be identified as a "sex-gender based approach", but authors also use different terminology. It forms the foundation of a dimension of medicine called Gender Medicine, which will be further examined in subsequent chapters.

[162] *Ibi* p. 11
[163] *ibidem*

Chapter II

1. Introduction

The following chapter will deal with gender medicine, an interdisciplinary approach to medicine. Firstly, the notions of andronormativity, bikini medicine and Yentl Syndrome will be covered till getting to the evolution of the meaning and terminology of gender medicine. The first paragraph aims to provide an insight into gender medicine's importance in promoting equal treatment and respect concerning the right to health for everybody.
Afterwards, I will describe the discrimination that women suffered and still suffer in the medical field because of their sex or due to gender bias. It will be presented the partial or complete exclusion of women in important areas such as clinical trials and medical research. Furthermore, I will be exploring how women and gender medicine are still not the norms in medical curricula but rather an exception, underlining how this is actually a limit for the fulfilment of the right to health of each individual. Then, I will outline several phenomena that have women discriminated against due to gender bias in clinical practice. Particular attention will be put on the relations between doctors and patients and the interactions and communication between the subjects. Special emphasis will be placed on the social phenomenon of medical gaslighting. To conclude, the concept of precision medicine will be introduced.

2. Gender-specific Medicine

In the previous chapter, the two concepts of sex and gender were examined, and it evinced how they are influential in medicine. Hereinafter, the focus will shift to how their consideration in medicine shaped a new perspective or, better, a new dimension of medicine. Traditionally, medical research and practice have been male-centric, with a majority of studies and treatments developed with men as a standard reference. This has led to a lack of understanding and effective treatments for women's health issues.
The concept of gender medicine has emerged aiming to address these disparities

and ensuring that healthcare is tailored to the unique needs and experiences of the individual. This field is not just limited to bio-medical differences but also encompasses social, cultural and political elements that can influence health outcomes for everyone[164]. Gender medicine comprehends new investments in research, revision of medical knowledge and teaching, and improvements in health policies that consider the differences between sexes[165]. The field of Gender medicine is of paramount importance as it aims to guarantee respect for the right to health for everyone, ensuring that no one is left behind in the provision of medical care[166].

2.1. From andronormativity to Intersectionality

The notions of andronormativity and hegemonic masculinity are functional in this subject. Andronormativity, as the word itself suggests, denotes a state of things in which masculine values are considered the golden standard, to the extent that other values disappear or need to be blatantly highlighted in order to be recognized. In medicine, this idea permeates the domain in ways that men are considered to be the "normal" human being, while women are not considered or thought of as irregular deviance compared to the norm[167]. Whereas hegemonic masculinity indicates a set of characteristics, actions, and societal expectations of masculinity considered the dominant and ideal standard against which both men and women are judged[168]. In medicine, andronormativity and hegemonic masculinity have negative consequences for both men and women since they can dictate priorities in research and health care[169] and, consequently, produce hierarchies in diseases and

[164] Baggio G., (2019). Dalla medicina di genere alla medicina genere-specifica. In ONDA. (ed.) *Dalla medicina di genere alla medicina di precisione. Percorsi evolutivi e sinergie di competenze. Libro bianco 2019*. (pp. 25-33). Franco Angeli. P.25
[165] *ibidem*
[166] Giolo O, Bernardini MG Gender medicine from a philosophical and legal perspective: a "critical theory" of medical knowledge? *Ital J Gender-Specific Med* 2015;1(1):29-32 doi 10.1723/2012.21920. P. 31
[167] Hølge-Hazelton, B., & Malterud, K. (2009). Gender in medicine -- does it matter?. *Scandinavian journal of public health*, *37*(2), p.141.
[168] Connell, R. W., & Messerschmidt, J. W. (2005). *Hegemonic Masculinity. Gender & Society, 19(6), 829–859.* doi:10.1177/0891243205278639 p.852
[169] Samulowitz, A., Gremyr, I., Eriksson, E., & Hensing, G. (2018). "Brave Men" and "Emotional Women": A Theory-Guided Literature Review on Gender Bias in Health Care and Gendered Norms

diagnosis[170]. The existence of an order of disease prestige in the medical culture has repercussions on medical practice, research, understanding and decision-making[171].

These two concepts led to tackling women's health with a "bikini approach". This expression was coined by Dr Wenger[172] , and it is based on the mistaken belief that women's health differs from men's only concerning the areas of the body that a bikini could cover. Therefore, it means that women's health was directly connected only to reproductive health[173]. Nowadays, we are trying to move on from this theory, but we still did not fully succeed. New strategies need to be elaborated and implemented to guarantee healthier medical development[174]. This does not mean that the female body has not been studied, but it has been considered with a bikini approach caused by the standpoint of andronormativity. Therefore, medical knowledge concerning diagnosis, treatments, and disease prevention stems from studies made mainly on men, male cells, and male mice, making it biased knowledge[175]. Men and women are naturally different; their brains and bodies evolve differently according to their histories, and treatments should too. Scientific studies show that being male or female can influence not only the onset and evolution of diseases but also diagnostic and therapeutic approaches, rehabilitation, and recovery[176].

In 1991, Dr Healy, an American cardiologist and the first female director of the US National Institutes of Health, used an interesting terminology to identify a particular

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towards Patients with Chronic Pain. *Pain research & management*, *2018*. https://doi.org/10.1155/2018/6358624 p.3

[170] Album, D., & Westin, S. (2008). *Do diseases have a prestige hierarchy? A survey among physicians and medical students. Social Science & Medicine, 66(1), 182–188.* doi:10.1016/j.socscimed.2007.07.003 p. 182

[171] *ibi* p. 188

[172] Wenger N. K. (2012). Women and coronary heart disease: a century after Herrick: understudied, underdiagnosed, and undertreated. *Circulation*, *126*(5), 604–611. https://doi.org/10.1161/CIRCULATIONAHA.111.086892 p. 607

[173] George Institute for Global Health. (2022, March 30). Time to shift research focus from 'bikini medicine' to what is really ailing women. *ScienceDaily*. Retrieved from www.sciencedaily.com/releases/2022/03/220330103316.htm. P.1.

[174] Hølge-Hazelton, B., & Malterud, K., cit, pp.143-144

[175] Hamberg K. (2008). Gender bias in medicine. *Women's health (London, England), 4(3),* 237–243. https://doi.org/10.2217/17455057.4.3.237. p.238

[176] Salmi M (2015) Gender-specific health, a proposal for the future *Ital J Gender-Specific Med* ;1(1):1-2 doi 10.1723/2012.21898 P.1.

phenomenon related to coronary heart disease: the Yentl Syndrome. The name comes from a short story by Isaac B. Singer, literature Nobel prize, where Yentl, a girl, is forced to disguise herself as a boy in order to enter a Talmudic school, a Jewish school for boys only. Consequently, Dr Healy has used the term "Yentl syndrome" to shed light on the male/female disparity in the diagnosis and treatment of coronary heart disease[177], for which women could not receive beneficial treatments, or men could preferentially undergo an invasive intervention[178]. According to Dr Healy, « *becoming just a little man is the price a woman has to pay for equality*[179]*»*. Dr Healy's publication has been identified as a turning point in the medical field for women. After her publication, efforts to promote sex and gender in medicine have grown exponentially, shifting towards a greater focus on social implications as well[180]. The US Institute of Medicine played a significant role in this development, especially thanks to the creation of the Committee on Understanding the Biology of Sex and Gender Differences. Moreover, many research centres focused on this field were created, and there was a significant increase in the number of studies, publications, books, and organizations having a sex and gender approach to medicine, particularly in the US, Canada, Australia, and Europe[181]. Gradually, all these efforts and research formed what nowadays we identify as gender-specific medicine. Gender-specific medicine is not the study of gender-related diseases prevalent, for instance, in one sex, nor focuses only on reproductive functions[182], instead, it is an approach with a gender perspective that encompasses the urge for new investments in research, revision of medical knowledge and teaching, and finally an amelioration of health policies including both sexes and gender variables[183] such as gender identity, gender norms and gender

[177] Dutau G., Lavaud F.,(2017) Le syndrome de Yentl et l'asthme : médecine sexiste ou réalité épidémiologique ?, *Revue Française d'Allergologie,Volume 57,* Issue 4,p. 289

[178] Ayanian, J. Z., & Epstein, A. M. (1991). Differences in the use of procedures between women and men hospitalized for coronary heart disease. *The New England journal of medicine*, *325*(4), 221–225. https://doi.org/10.1056/NEJM199107253250401 p.221

[179] Healy, B. (1991). The Yentl Syndrome. *New England Journal of Medicine*, *325*(4), p.274.

[180] Lippi, D., Bianucci, R., & Donell, S. (2020). Gender medicine: its historical roots. *Postgraduate medical journal*, *96*(1138), 480–486. https://doi.org/10.1136/postgradmedj-2019-137452 p. 1

[181] Regitz-Zagrosek, V. (2012). Why Do We Need Gender Medicine?. In: Oertelt-Prigione, S., Regitz-Zagrosek, V. (eds) Sex and Gender Aspects in Clinical Medicine. Springer, London. https://doi.org/10.1007/978-0-85729-832-4_1 p.1

[182] Baggio, G., Corsini, A., Floreani, A., Giannini, S., & Zagonel, V. cit.. P. 714

[183] *ibi* P. 722

relations[184].

Gender perspective in medicine is crucial to guarantee respect for the right to health for every one fully[185]. Women's equal treatment must be assured, and consequently, a gender perspective has to be applied to research, medical education and health policies[186]. Herein, we conceptualize the notion of gender as something that assigns to all individuals socially constructed roles, such as the "man" subject and the "woman" subject. Those gender identities are stereotypical ideas of status. The affirmation of these roles has been gradual, and the law over time contributed to reinforcing them, whereas social and legal literature concerning gender has rather a recent origin[187]. At the end of the 18th century, people, women particularly, started to call for their rights and freedoms. Those claims led society to understand that the actual subject of law, in theory, was "abstract," but in practice, had a firm masculine identity. Individuals have fought to make the other subject (women) visible in the public space. Slowly, women's political and legal status emerged, however, to date, many rights are recognized to everyone only on paper, while in practice, the eligible subject is still the alleged "abstract" (male subject)[188]. The right to health is one of these rights. In fact, in theory, this right is recognized to everyone, but in practice, it is more effective for males. As a matter of fact, women have not been considered for a very long time in politics, law and social life, and this is true as well as for what concerns medical knowledge and practice[189].
Gender-specific medicine appears to be a critical approach to medicine. In fact, since the right to health should be guaranteed to everyone, the lack of consideration of some subjects results in a violation of a fundamental right toward them.[190] The aim of gender medicine is to thrust the scientific community to study and understand the differences in pathophysiology, therapeutic needs, diagnostic

[184] Lenzi, A., Basili, S., (2019). L'approccio di genere in ambito accademico e nei percorsi formativi. In ONDA. (ed.) *Dalla medicina di genere alla medicina di precisione. Percorsi evolutivi e sinergie di competenze. Libro bianco 2019*. (pp.103-113) Franco Angeli. P.104
[185] Giolo O. & Bernardini M.G. cit, p.31.
[186] Baggio, G., Corsini, A., Floreani, A., Giannini, S. & Zagonel, V. cit. p.722
[187] Giolo O. & Bernardini M.G. cit, p.29.
[188] *ibi,* pp.29-30
[189] *Ibi* p.30
[190] *ibi* p.31

procedures, prevention, and clinical evidence of diseases taking into account the differences between men and women in several domains[191]. Having said that, it is essential to underline that gender medicine does not equal to female medicine. Gender perspective has been developed primarily by women, being the "invisible ones" and not the dominant subject. However, it should not be misleading, gender medicine needs to be considered an achievement with significant outcomes for everyone[192]. Eventually, gender-specific medicine will become obsolete when medicine as a whole will have embraced the gender perspective, that is when the visibility of all subjects will have become the standard ruling of medical knowledge[193].

Hence, gender criticism in medicine aims to lead to a new theoretical construction that can be applied in politics and law to rethink practices and remake them in order to include differences, specificity and a plurality of status. Theories are several and include different points of view (queer studies, disability studies, race theories etc.). The goal is to make visible minorities characterized by a different ethnicity, ability, sexual orientation, etc. This is possible only by embedding the concept of intersectionality.[194]

> *"Intersectionality can be defined as the simultaneous presence of different identities within separate individuals that contribute to forging the identity of each one. If someone is identified through just one of the factors that affect identity – such as sexual orientation, social class or ability, for example – an approximate vision of his or her identity will inevitably be obtained. Rather, the latter should be considered as the product of the continuous interaction between the (partial) various identities that make up the subject and that lead, for example, to characterizing an individual as a crossroads of multiple identities, determined by religious and cultural formation, political ideas, sexual orientation, and so on."*[195]

[191] Baggio, G., Corsini, A., Floreani, A., Giannini, S., & Zagonel, V. cit. P. 714
[192] *ibidem*
[193] *ibidem*
[194] Giolo O. & Bernardini M.G. cit p..29.
[195] *Ibi p.30*

Intersectionality is a term coined by Kimberle Crenshaw at the end of the '80s in the framework of feminist studies on black women and racism[196], however, the concept can address a range of social identities and be employed in this subject as well[197]. An intersectional framework can provide valuable insight into the clinical medicine setting and serve as a helpful starting point. Rather than ignoring or downplaying differences, intersectionality recognizes their multifaceted nature and how they shape individuals. Acknowledging these differences leads to a shift in perspective that can result in improved outcomes for everyone[198].

The experiences of a typical white male patient do not provide a comprehensive understanding of health, disease, and illness. Hence, it is necessary for an approach that considers how factors such as race, gender, sexuality, and class intersect and affect everyone. Rather than solely analysing identity and experience, intersectionality shows the power dynamics and social structures that can lead to the exclusion of marginalized individuals that have limited and different opportunities[199]. For instance, generally speaking, poor people have more difficulties in accessing healthcare, thus, the middle-class enjoy better health. However, economic status intersects also with other factors, so the black-white gap in Western countries also plays a crucial role. For example, a middle-class African American, even if wealthy, may experience disadvantages because of racism[200]. Furthermore, if we consider the social construct of gender, women of colour face greater challenges than white women in finding aid and treatments[201]. A study shows that many white people, both laypeople and medical professionals, hold false

[196] Ghasemi, E., Majdzadeh, R., Rajabi, F., Vedadhir, A., Negarandeh, R., Jamshidi, E., Takian, A., & Faraji, Z. (2021). "Applying Intersectionality in designing and implementing health interventions: a scoping review". *BMC public health*, *21*(1), 1407. https://doi.org/10.1186/s12889-021-11449-6 p.2

[197] Wilson, Y., White, A., Jefferson, A., & Danis, M. (2019). Intersectionality in Clinical Medicine: The Need for a Conceptual Framework. *The American journal of bioethics : AJOB*, *19*(2), 8–19. https://doi.org/10.1080/15265161.2018.1557275 p. 8

[198] Wilson, Y., White, A., Jefferson, A., & Danis, M. (2019). Intersectionality in Clinical Medicine: The Need for a Conceptual Framework. *The American journal of bioethics : AJOB*, *19*(2), 8–19. https://doi.org/10.1080/15265161.2018.1557275 pp. 8-9

[199] *Ibi* p. 9

[200] *Ibi* p. 10

[201] Hill J., Harrell L., (2020) Women and Chronic Pain: Understanding the challenges and empowering for change, Journal of Feminist Family Therapy, 32:3-4, 243-262, DOI: 10.1080/08952833.2020.1755168

beliefs about biological differences between white and black people, leading to racial bias in physicians' understanding of pain perception in African Americans and, subsequently, inadequate pain treatment[202].

This approach is particularly relevant in clinical practice since it allows clinicians to acknowledge their own biases and challenge their assumptions about the patient. This perspective looks at the intersection of social identities both at the macro and micro levels. The clinician-patient interaction can be viewed through a micro-level perspective, but it takes place within a larger context shaped by institutions and policies that impact social identities and interpersonal interactions. Hence, it is essential to consider the influence of broader systems and policies on our social identities and how they shape these interactions[203].

As a matter of fact, traditional medicine does not usually include a gender perspective and the influence of social factors. Intersectionality is crucial in order to identify structural discrimination[204]. Through an intersectional perspective, we are able to detect the exclusion of certain individuals in the distribution of benefits. This can be defined as the application of a pejorative treatment on the basis of a specific identity, and therefore it evolves into discrimination. Therefore, professionals need to be trained to identify and understand inserting elements and their consequences on individuals' health[205].
Indeed, to achieve formal equality, individuals have to consider each other as equally worthy and rightfully holders of the same rights, thus no identity discrimination can be accepted[206]. In their paper, Giolo & Bernardini, compared the dilemma of differences and the principle of equality, claiming that it appears obvious how the principle of equality does not aim to the removal of differences,

[202] Hoffman, K. M., Trawalter, S., Axt, J. R., & Oliver, M. N. (2016). Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. Proceedings of the National Academy of Sciences of the United States of America, 113(16), 4296–4301. https://doi.org/10.1073/pnas.1516047113
[203] Wilson, Y., White, A., Jefferson, A., & Danis, M. (2019). Intersectionality in Clinical Medicine: The Need for a Conceptual Framework. *The American journal of bioethics : AJOB*, *19*(2), 8–19. https://doi.org/10.1080/15265161.2018.1557275 p. 13-14
[204] Campesi, I.; Montella, A.; Seghieri, G.; Franconi, F. cit. p.10.
[205] Giolo O. & Bernardini M.G., cit., p.30
[206] *ibi*, p.31

instead, requires the visibility of differences, recognise them as equally worthy, thus, entitled of legal protection[207]. In a nutshell, equality means equal legal acknowledgement of differences[208].

The need for sex and gender studies, intersectionality, equity, diversity and inclusion initiatives has been highlighted by contemporary social demands for improved health and equity, as well as increased interest in precision healthcare and medicine. Intersectionality and sex and gender science should be integrated in a reciprocal and dynamic way that enhances the right to health and gender equity[209]. This calls on health researchers, healthcare practitioners, policymakers, and program developers to consider the short- and long-term impacts of sex- and gender-related factors and to develop creative approaches and measures for reaching both gender equity and improved health[210].

3. Gender blindness in biomedical research and education

The acknowledgement of differences between males and females is fundamental since medicine has always been "male": patients always have been men, subjects of research have been men, and as a consequence, drugs have been made in accordance with male physiology. Over the years, researchers have been studying the "neutral" sex. Studies involving only male subjects caused current low-quality medical evidence hindering the detection of important sex-gender differences in medical research[211].

In evidence-based medicine, the patient is considered a male member of a group[212]. However, as it has been proven, male and female phenotypes are not the same. "One size fits all" is a problematic paradigm to demolish, especially in medical institutions, knowledge and education. Moreover, the inclusion of psychosocial matters next to biomedical ones in the literature and educational material will aid

[207] Giolo O. & Bernardini M.G., cit., p.31
[208] Ferrajoli L. Principia juris. Teoria del diritto e della democrazia. Roma-Bari: Laterza 2007, p.795.
[209] Greaves, L.; Ritz, S.A. (2022) Sex, Gender and Health: Mapping the Landscape of Research and Policy. *Int. J. Environ. Res. Public Health*, 19, 2563. https://doi.org/10.3390/ ijerph19052563 p. 2
[210] *Ibi* p. 5
[211] Franconi, F., Campesi, I., Colombo, D., & Antonini, P. cit., p.1.
[212] Campesi, I.; Montella, A.; Seghieri, G.; Franconi, F., cit., p.3

in setting gender equity in clinical practice. Including gender as a qualitative investment in medical education will assure the better implementation of the right to gender equality[213].

3.1. Gender Pharmacology

It is well known that women live longer than men, but they suffer more, especially for what concerns chronic conditions. Women consume more drugs and rely more often on health services[214]. Nevertheless, therapies and diagnoses have been developed primarily without investigations in female animals and women[215]. Women have been excluded from clinical trials for several reasons, such as bias; assumptions that there were no relevant sex differences regarding medication response, and thus no need to study female subjects separately; concerns over having to adapt to women's hormones; concern over effects on reproduction[216]; higher costs in financial terms[217] etc.

At the end of the '70s, women's exclusion in trials increased even more due to the "protectionist approach" taken by the US Food and Drug Administration (henceforth FDA). This was a direct response to a number of scandals that harmed human beings, which prompted the FDA to tighten security protocols on "vulnerable subjects" like women[218]. One of these scandals was the case of a Research Clinic in the US, where 398 women attending the clinic for contraceptive assistance were enrolled in an investigation into the side effects attributed to oral contraceptives. Most of these women were Mexican American and poor, and 76 of them unknowingly received the placebo. As a result, 6 of them got pregnant during the study. The results were published in 1971, and the criticism was immediate[219].

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[213] Verdonk, P., Benschop, Y. W., de Haes, H. C., & Lagro-Janssen, T. L. (2009). From gender bias to gender awareness in medical education. *Advances in health sciences education : theory and practice*, *14*(1), 135–152. https://doi.org/10.1007/s10459-008-9100-z p.135

[214] Blatt Kalben, B. (2003). *Why men die younger: Causes of mortality differences in sex.* Society of Actuaries. Retrieved from http://www. soa.org.

[215] Campesi, I.; Montella, A.; Seghieri, G.; Franconi, F., cit., p.3

[216] McGregor, A. J., Templeton, K., Kleinman, M. R., & Jenkins, M. R. cit p.2.

[217] Tusino S (2021) Gender-specific medicine and the ethics of women's involvement in research *Ital J Gender-Specific Med* ;7(2):69-74 doi 10.1723/3600.35810 p.71

[218] Tusino, S cit. p. 71

[219] Goldzieher JW, Moses LE, Averkin E, Scheel C, Taber BZ. (1971) A placebo-controlled double-blind crossover investigation of the side effects attributed to oral contraceptives. Fertil Steril.;22(9):609-23.

Another tragic event was the thalidomide disaster, where the drug thalidomide, which was used against nausea and to alleviate morning sickness in pregnant women, was taken off the market between 1961 and 1962 due to the severe birth defects and malformations it caused in about 10,000 new-borns[220].The Thalidomide catastrophe served as a strong argument for the introduction of special protections for women, considering their capability of conceiving and the possibility of causing harm to the unborn child, despite not happening in a research setting[221]. These and other scandals played a significant role in shaping the ethical thinking of the time and explain the precautionary approach the FDA took in 1977 towards women of reproductive age and other vulnerable subjects. Indeed, the guidelines implemented afterwards had an even more damaging effect since they enforced stricter exclusion policies on drug trials that affected mainly women and other minorities. Due to the acceptance of the norm, which considered the male as the main subject, this exclusion was unquestioned[222]. However, in the 1980s, the strategy of excluding special people from research began to be criticized as discriminatory and paternalistic. This change in perspective can be attributed to the HIV/AIDS crisis, where those affected by the disease saw participating in a trial as their only chance for treatment[223]. In the early '90s, the FDA made favourable changes in the regulatory system in order to implement inclusion in clinical trials[224]. The exclusion of women from clinical research is often justified by the claim that it would complicate the study and make it more expensive. However, «*there is no scientific rationale behind the choice of men as the standard model for trials*»[225]. Finally, restrictions on women's participation in clinical trials were lifted, and companies were required to analyse clinical trial data by sex[226].

[220] Rehman, W., Arfons, L. M., & Lazarus, H. M. (2011). The rise, fall and subsequent triumph of thalidomide: lessons learned in drug development. *Therapeutic advances in hematology*, *2*(5), 291–308. https://doi.org/10.1177/2040620711413165 p.301.
[221] Tusino, S. cit. p. 71
[222] Marts, S. A., & Keitt, S. (2004). Foreword: a historical overview of advocacy for research in sex-based biology. *In Advances in Molecular and Cell Biology* (pp. v–xiii). DOI: 10.1016/S1569-2558(03)34024-X p.vi.
[223] Tusino, S. cit. pp.70-71
[224] Fisher, J. A., & Ronald, L. M. (2010). Sex, gender, and pharmaceutical politics: From drug development to marketing. *Gender Medicine, 7(4), 357–370.* doi:10.1016/j.genm.2010.08.003 pp. 360-361.
[225] Tusino, S cit. p. 71
[226] Fisher, J.A., & Ronald, L. Cit. pp. 360-361.

The historical evolution of ethical considerations regarding women's participation in clinical research is important for understanding current efforts to promote gender medicine. It highlights the need for good science and scientific objectivity, as well as the importance of addressing unconscious discriminatory practices in healthcare[227]. Despite the recognition of biological diversity between male and female subjects, nowadays, we still have a significant gap in knowledge and poor quality of care for more than half of the population due to these biases[228]. The evolution of women's inclusion in research also highlights the importance of addressing the impact of differences such as ethnicity and social minorities[229].

3.1.1. 70kg Caucasian white male

Medical services and drugs are mainly based on the male paradigm, the "reference man" is conceived to be male, Caucasian, weighing 70 kg and 170 cm tall, however, it is hard to find people conforming to these characteristics[230,231]. In pharmacokinetics and pharmacodynamics, using this paradigm is harmful to both men and women since this limited research can result in toxic interactions[232]. Pharmacokinetics is the study of how an organism affects a drug (including variables such as size, drug absorption, fat distribution, metabolism, transporters etc.), while pharmacodynamics is the study of how the drug affects the organism, e.g. side effects caused by drugs[233]. In both of these disciplines, sex differences can vary the outcomes. In fact, it has been proven that in pharmacodynamics, women present more adverse effects than men, in pharmacokinetics, the variables between men and women can differ greatly[234], for instance, sex-hormonal variability is a

[227] Tusino, S. cit, p. 73
[228] Fisher, J.A., & Ronald, L. cit. p. 362
[229] Tusino, S. (2021). Cit.p. 73
[230] Ashar, B. H. (2018). In Search of the 70-kg Man. Medical Clinics of North America, 102(1), xv–xvi. doi:10.1016/j.mcna.2017.09.004 p.i
[231] Perez, C. C. (2022). The deadly truth about a world built for men – from stab vests to car crashes. *The Guardian*. https://www.theguardian.com/lifeandstyle/2019/feb/23/truth-world-built-for-men-car-crashes
[232] Gochfeld M. (2017). Sex Differences in Human and Animal Toxicology. *Toxicologic pathology*, *45*(1), 172–189. https://doi.org/10.1177/0192623316677327 p. 23
[233] Anderson G. D. (2008). Gender differences in pharmacological response. *International review of neurobiology*, *83*, 1–10. https://doi.org/10.1016/S0074-7742(08)00001-9 pp. 1-6.
[234] *Ibi* p. 1

fundamental factor to take into consideration[235]. Sex affects the physiological characteristics of a human being, thus, for example, drug dosage must be adjusted according to sex for better effectiveness and safety[236].

Pre-clinical research *in vitro* conducted in laboratory settings, such as on cells, does not take into account the sex of the organism from which the cells were taken. However, *in vivo* pre-clinical studies are conducted on experimental animals and use only male subjects[237], and the same methodology has been used in clinical research, which is considered the main tool to introduce new drugs into the market[238].

The underrepresentation of women in clinical trials is the result of not taking into consideration the impact of biological sex differences and socio-cultural gender factors. This leads to the commercialization of drugs which are not effective or even dangerous and to the reinforcement of misleading gender stereotypes through marketing, harming both sexes[239]. Gender pharmacology has a more inclusive perspective since it takes into account sex and gender differences in pharmacokinetics and pharmacodynamics[240]. A better understanding of gender differences leads to the creation of drugs that are more effective for both sexes, improving human health in general[241].

The inclusion of both sexes can aid in the design of experiments, the generation and testing of hypotheses, and the translation of research findings into improved health outcomes[242]. Interestingly, the issue can be examined from another perspective. In

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[235] Tannenbaum, C., Day, D., & Matera Alliance (2017). Age and sex in drug development and testing for adults. *Pharmacological research*, *121*, 83–93. https://doi.org/10.1016/j.phrs.2017.04.027 p. 89

[236] Islam, M. M et al. (2017). Gender-based personalized pharmacotherapy: a systematic review. *Archives of gynecology and obstetrics*, *295*(6), 1305–1317. https://doi.org/10.1007/s00404-017-4363-3 p. 1314 p. 1314

[237] Carè, A., Marconi, M., Masella, R., Ortona, E., & Centro di Riferimento per la Medicina di Genere - ISS. (2021). *Medicina di genere: Informazioni generali*. https://www.epicentro.iss.it/medicina-di-genere/cosa-e

[238] Holdcroft A., Snidvongs S. & Berkley K.J. (2011) Incorporating Gender and Sex Dimensions in Medical Research, *Interdisciplinary Science Reviews*, 36:2, 180-192, DOI: 10.1179/030801811X13013181961590 P. 183

[239] Fisher, J. A., & Ronald, L. M.cit. p. 367

[240] Varani K., (2019). La farmacologia di genere. In ONDA. (ed.) *Dalla medicina di genere alla medicina di precisione. Percorsi evolutivi e sinergie di competenze. Libro bianco 2019*. (pp. 34-45). Franco Angeli. P. 34

[241] *Ibi* P.43

[242] Clayton, J. A. cit. p.2

fact, although women are usually considered the main subjects of this issue, men can be victims as well. Breast cancer affects less than 1% of the male population, however, trials with breast cancer drugs are conducted excluding male patients; including both sexes in medical trials means achieving a safer standard of new drugs available on the market for everyone[243].

Moreover, technology and biomedical engineering should also consider sex and gender differences, as these can affect the performance of medical products. For example, crash test dummies now consider the differences between male and female anatomy, and MRI scans capture male and female tissue differently[244].
It is also important to consider the influence of sex and gender on the health of both women and men in consequent legislation, policies, and programs at an economic level as well as at a social one[245]. It is pivotal to consider sex and gender differences in the whole research process in order to maximize the value of the research and consequently ensure health equity and improve the health and well-being of all individuals. This involves evaluating sex and gender differences over the lifespan, including during prenatal development, and taking into account the influence of social, cultural, and economic factors on health outcomes[246]. However, the scarce enrolment of female subjects in clinical trials may jeopardise the evaluation of drugs' safety profiles before their release on the market. Adverse drug reactions have a significant impact on health and are a major cause of hospital admissions and deaths[247]. Despite this, the "one dose fits all" approach is still used, ignoring the fact that men and women have different pharmacokinetic parameters and that these differences can lead to different reactions to the same drugs. This is particularly concerning as women are underrepresented in clinical trials, meaning

[243] Martini N (2020) Proposal for a new regulation to integrate gender medicine into EMA's drug authorization process in Europe *Ital J Gender-Specific Med* ;6(3):93-95 doi 10.1723/3432.34212 p.93
[244] Clayton, J. A. cit. pp.3-4
[245] *ibidem*
[246] Franconi, F., Campesi, I., Colombo, D., & Antonini, P. (2019). Sex-Gender Variable: Methodological Recommendations for Increasing Scientific Value of Clinical Studies. *Cells*, *8*(5), 476. https://doi.org/10.3390/cells8050476 p. 16
[247] Campesi, I., Montella, A., Seghieri, G., & Franconi, F. (2021). The Person's Care Requires a Sex and Gender Approach. *Journal of clinical medicine*, *10*(20), 4770. https://doi.org/10.3390/jcm10204770

that the safety profile of drugs for women is often based on pharmacovigilance, which has limitations and bias[248]. Studies have shown that adverse drug reactions are more common in women and that women are more likely to be admitted to hospitals for adverse drug reactions and to develop these reactions while hospitalized[249].

It is interesting to briefly mention the issue of pain since it is a common problem affecting many people. Indeed, chronic pain affects 20% of people worldwide, with a majority of those affected being women[250]. Experiencing pain is subjective and comes from the combination of several factors, such as psychological and physical conditions and sociocultural factors particularly related to gender and sex[251]. However, according to Sorge et al., female and male patients have different experiences of pain mainly due to hormone variability over the development stages of a human being[252]. Current pain medications offered by the pharmaceutical market do not take into account that the causes of pain can vary and that some drugs may be more effective for certain individuals[253]. According to Doyle et al., there is a difference in response to pharmaceutical painkillers in accordance with the sex of the patient, for instance, morphine has a stronger effect on female patients, while male patients are more sensitive to nonsteroidal anti-inflammatory drugs[254]. Though, at this time, pain treatment is not tailored according to sex, this should be a goal in the near future. Future efforts to lessen these inequalities in pain will be encouraged by more research into the mechanisms behind sex differences in pain responses[255].

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[248] Campesi, I., Montella, A., Seghieri, G., & Franconi, F. cit

[249] Giardina, C.; et al. (2018). Adverse Drug Reactions in Hospitalized Patients: Results of the FORWARD (Facilitation of Reporting in Hospital Ward) Study. *Front. Pharmacol*, 9, 350.

[250] Dance, A. (2019). The pain gap. *Nature Magazine*, p.449

[251] Varani K., cit.P.42

[252] Sorge, R., Mapplebeck, J., Rosen, S. *et al.* (2015). Different immune cells mediate mechanical pain hypersensitivity in male and female mice. *Nat Neurosci* 18, 1081–1083

[253] Dance, A. cit. 449

[254] Doyle, H. H., Eidson, L. N., Sinkiewicz, D. M., & Murphy, A. Z. (2017). Sex Differences in Microglia Activity within the Periaqueductal Gray of the Rat: A Potential Mechanism Driving the Dimorphic Effects of Morphine. *The Journal of neuroscience : the official journal of the Society for Neuroscience*, *37*(12), 3202–3214. https://doi.org/10.1523/JNEUROSCI.2906-16.2017 p.3212

[255] Bartley, E. J., & Fillingim, R. B. (2013). Sex differences in pain: a brief review of clinical and experimental findings. *British journal of anaesthesia*, *111*(1), 52–58. https://doi.org/10.1093/bja/aet127 p. 56

The implementation of new policies and better investments in research represents a major development for the health systems[256]. Medical data need to be better conceptualized and analysed according to sex and development phases in order to guarantee better pharmaceuticals for the welfare of the whole population[257]. Research should not be driven by practicality but by efficiency. A better understanding of differences would lead to an improvement in general healthcare, reducing "toxic costs" for people and cutting costs to the National Health Service[258].

3.2. Medical curricula

Over the past decades, gender-specific medicine started to emerge and grow. As mentioned, a more individualised patient care approach is needed to reach a high-quality standard of therapies and diagnosis[259]. To do so, gender approach and sex differences awareness are now on the way of implementation in the medical domain. A crucial step that needs to be taken is to integrate sex and gender competency in medical education. The implicit assumption that outcomes in men would be satisfactory proxies for outcomes in women rooted in traditional medicine created a gender gap in medical education[260]. If there are no changes in medical education and training, practice will never improve[261]. Medical professors and professionals must train students concerning sex and gender competency to improve individualized patient care[262]. Some steps have been taken, but it looks like gender medicine is treated as something specific, while it needs to be taken as the norm, and its implementation in medical curricula should be considered as a core part, not as a suggestion[263]. An impeding factor in implementing gender issues into

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[256] Boldi R. (2019). Interventi istituzionali. In ONDA. (ed.) *Dalla medicina di genere alla medicina di precisione. Percorsi evolutivi e sinergie di competenze. Libro bianco 2019*. (pp.16-17) Franco Angeli. P.17

[257] Varani K., cit, P. 43

[258] Ministero della salute. (2016). *Il genere come determinante di salute : Lo sviluppo della medicina di genere per garantire equità e appropriatezza della cura.* Quaderni del Ministero della Salute. http://www.quadernidellasalute.it/. P. 86

[259] McGregor, A. J., Templeton, K., Kleinman, M. R., & Jenkins, M. R., cit.,. p.1

[260] *Ibi* p.2

[261] *ibi* p.3

[262] *ibi*. p.5

[263] Kwolek D. S. (2003). Women's health education: progress and promises. *Journal of general internal medicine*, *18*(6), 490–491. https://doi.org/10.1046/j.1525-1497.2003.30421.x, p. 491.

medical education is still given by gender blindness and andronormativity. The ignorance of the fact that medical knowledge has been developed primarily on men hinders the development of innovative medical knowledge in the educational system[264].

As a consequence of a male bias, medical education does not include issues specific to women in its teaching of certain disorders and does not represent female subjects in medical research. A biased education lacks attention to the cross-disciplinary aspects of women's health, exacerbating gender inequality[265]. There is also subtle bias, such as in gender stereotypes in the classroom and in the content of educational materials, probably as a consequence of gender role ideology. Medical educators have the duty to choose appropriate literature and supplement it with additional teaching materials and methods, if necessary, to address these issues[266]. Medical education needs to include gender issues, with the aim of forming future doctor's awareness. The implementation of the sex/gender approach in medical curricula aims to raise awareness among future doctors in order to meet the real needs of patients[267]. Nevertheless, there are social and political connotations that hamper change in medical education, in fact, there is a resistance in individuals to gender issues[268]. Dating back to 2000, a sociologist made a study that used qualitative methods to examine student resistance to feminism in teacher education[269]. She identified four distinct behavioural attitudes: denial, dismay, distancing, and discount. Denial occurs when students believe that gender inequality does not exist because they have never lived it in their personal experience. Distancing is when problems are attributed to immutable factors. Dismay, where the confusion is high and no solutions are identified. Discount would happen when gender issues are ranked minor in comparison to other areas of study in the hierarchy of

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[264] Lagro-Janssen T. (2010). Gender and sex: issues in medical education. *GMS Zeitschrift fur medizinische Ausbildung*, *27*(2), Doc27. https://doi.org/10.3205/zma000664 p.51.

[265] Verdonk, P., Benschop, Y. W., de Haes, H. C., & Lagro-Janssen, T. L. (2009). From gender bias to gender awareness in medical education. *Advances in health sciences education : theory and practice*, *14*(1), 135–152. https://doi.org/10.1007/s10459-008-9100-z p. 143

[266] *ibidem*

[267] *Ibi* p. 147

[268] *Ibi* p. 144

[269] Titus, J. J. (2000). Engaging Student Resistance to Feminism: "How is this stuff going to make us better teachers?" *Gender and Education,* 12(1), 21–37. doi:10.1080/09540250020382

knowledge[270]. Moreover, the findings from a recent Italian study that looks at the attitudes of male and female students towards gender and gender stereotypes at an Italian university prove even now this issue. The study found that gender awareness in medical education and practice is not a spontaneous process and that including gender medicine in education may be an important area of intervention since current medical teaching activities may not be effective in terms of gender awareness[271]. Other findings include that male medical students tend to hold more gender-stereotyped views towards doctors and patients, while female students tend to disagree with these stereotypes. The study also highlights that there are gender stereotypes present among medical students before they even begin their professional careers[272]. Additionally, the authors suggest that all people involved in healthcare should be adequately trained in gender-specific medicine and that it should be included as a specific course for medical students. The study also emphasizes the importance of considering the needs of transgender, lesbian, gay, and bisexual patients[273]. Suggestions for further actions include extending investigations to all healthcare students and implementing additional gender medicine courses starting from local institutes. The study calls for additional studies to identify risk factors associated with the presence of gender stereotypes among medical students both locally and nationally[274].

Despite the significant amount of evidence highlighting the impact of gender on health and illness, gender bias continues to shape various aspects of the medical field. This includes the way patients' needs are met, the coverage of gender issues in medical education, definitions of diseases, research topics, and the representation of gender in medical research and journals. Additionally, gender bias is reflected in the segregation of male and female doctors in certain specialities and the prestige of these specialities within the profession[275]. The practice of treating women

[270] *Ibi* pp. 26-33
[271] Barbadoro, P. et al. (2022). Gender awareness among Italian medical students. *Ital J Gender-Specific Med 2022;8(3):135-142*, *8*(3). https://doi.org/10.1723/3927.39107. P.140
[272] *ibi* P. 139
[273] *Ibi* pp. 139-140
[274] *ibidem*
[275] Verdonk, P., Benschop, Y. W., de Haes, H. C., & Lagro-Janssen, T. L. cit. p.147

differently or similarly based on their gender roles, such as viewing them solely as reproductive beings or as bodies similar to men, is also a form of bias[276]. Medical education should prioritize addressing gender issues in relation to health and illness. This can be achieved by creating awareness of how gender differences and inequalities impact health and offering support for integrating a gender-sensitive approach in medical training. To effectively measure the progress and impact of these efforts, innovative methods for assessing the attitudes and skills of future doctors regarding gender sensitivity may be necessary[277].

4. Gender bias in clinical practice

«*The medical encounter constitutes only a minor proportion of the life of the patient. However, the way the doctor perceives her pain and handles the illness may be of vital importance for the woman's understanding of herself and her ability to come to terms with a painful life*»[278].

As mentioned earlier in this chapter, the Yentl Syndrome represents a landmark for women's health, after that, several researchers started to agree and confirm Dr Healy's thesis claiming that women were not always offered the same treatment as men without a medical reason.
This raised concerns about gender bias, a form of prejudice or distortion that can take form of stereotyped preconceptions about health, behaviour, experiences, and needs of men and women[279]. In the medical field, it is important to take into consideration the implications of gender bias in several spheres, such as research and education, as seen previously, but also in clinical practice[280]. Nowadays, society is characterized by a "gender order", which means that men and women are assumed to have different roles and values, with men being seen as the norm and women being subordinate[281]. This results in the unequal distribution of

[276] *ibidem*
[277] *ibidem*
[278] Werner, A., Steihaug, S., & Malterud, K. (2016). Encountering the Continuing Challenges for Women With Chronic Pain: Recovery Through Recognition. *Qualitative Health Research*. P.506
[279] Hamberg K. cit. p. 237
[280] *ibidem*
[281] West, C., Zimmerman, D. H. (1987). Doing Gender. *Gender &Amp; Society*, *1*(2), 125–151. https://doi.org/10.1177/0891243287001002002 pp. 146-147

resources such as wealth, education, and political power. In interactions, such as between a patient and a doctor, both parties are actively "doing gender" by presenting themselves in a way that aligns with societal expectations[282]. Raising awareness about these gender norms and their potential to reinforce stereotypes of men and women can help to counter bias in healthcare and promote more equitable treatment for patients[283]. In clinical practice, there are several points to be highlighted where gender bias hinder women's proper and fair treatment. For instance, several conditions have been studied, and it resulted that men tend to be investigated and treated more extensively than women with similar symptoms[284,285,286,287,288]. Patient-doctor encounters are important and influential for a patient; thus they can have real effects on the patient's health. It has been proven that gender-based implicit bias could influence the decision-making processes of doctors, consequently, the diagnosis and the treatment of a patient[289]. Studies on intensive care have found that older women are less likely to be admitted to intensive care units or receive life-saving treatments than older men with similar illnesses [290]. Additionally, research suggests that physicians may be more likely to interpret men's symptoms as organic while interpreting women's symptoms as

[282] *Ibi* pp. 135-137

[283] Samulowitz, A., Gremyr, I., Eriksson, E., & Hensing, G. cit. p.11

[284] Daly C, Clemens F, Lopez Sendon JL et al.; Euro Heart Survey Investigators: Gender differences in the management and clinical outcome of stable angina. Circulation 113, 490–498 (2006).

[285] Hariz, G., & Hariz, M. I. (2000). Gender distribution in surgery for Parkinson's disease. *Parkinsonism & related disorders*, *6*(3), 155–157. https://doi.org/10.1016/s1353-8020(00)00009-2

[286] Hamberg, K., Risberg, G., Johansson, E. E., & Westman, G. (2002). Gender bias in physicians' management of neck pain: a study of the answers in a Swedish national examination. *Journal of women's health & gender-based medicine*, *11*(7), 653–666. https://doi.org/10.1089/152460902760360595

[287] Katz, J. N., Wright, E. A., Guadagnoli, E., Liang, M. H., Karlson, E. W., & Cleary, P. D. (1994). Differences between men and women undergoing major orthopedic surgery for degenerative arthritis. *Arthritis and rheumatism*, *37*(5), 687–694. https://doi.org/10.1002/art.1780370512

[288] Karim, F., Islam, Md. A., Chowdhury, A., Johansson, E., & Diwan, V. K. (2007). Gender differences in delays in diagnosis and treatment of tuberculosis. Health Policy and Planning, 22(5), 329–334. http://www.jstor.org/stable/45090418

[289] Champagne-Langabeer, T., & Hedges, A. L. (2021). Physician gender as a source of implicit bias affecting clinical decision-making processes: a scoping review. *BMC medical education*, *21*(1), 171. https://doi.org/10.1186/s12909-021-02601-2. p.7.

[290] Fowler, R. A., Sabur, N., Li, P., Juurlink, D. N., Pinto, R., Hladunewich, M. A., Adhikari, N. K., Sibbald, W. J., & Martin, C. M. (2007). Sex-and age-based differences in the delivery and outcomes of critical care. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*, *177*(12), 1513–1519. https://doi.org/10.1503/cmaj.071112

psychosocial[291,292]. Thus, men are more likely to receive clinic-based treatment, and women are more likely to be prescribed psychoactive drugs[293,294,295]. Previously, it was mentioned that sex differences in pain perception have a biological justification and that pharmaceutical response change according to sex[296]. Nevertheless, pain management is a crucial phase in medical care since pain can negatively impact one's quality of life, especially chronic pain since it can cause severe physical limitations[297]and increase the risk of suicide[298]. This problem seriously harms women, who are the majority of those suffering from chronic pain[299]. In contemporary society, sexist attitudes are common and can impact various behaviours[300]. These attitudes held by healthcare providers may contribute to differences in pain treatment for different sexes[301,302]. Moreover, there are several theories as to why this difference in pain management between men and women may exist, such as women tend to report pain more often than men or "complain" more about it, men tend to report pain less often to reflect

[291] Bernstein, B., & Kane, R. (1981). Physicians' Attitudes toward Female Patients. *Medical Care*, *19*(6), 600–608. http://www.jstor.org/stable/3763923

[292] Colameco, S., Becker, L. A., & Simpson, M. (1983). Sex bias in the assessment of patient complaints. *The Journal of family practice*, *16*(6), 1117–1121.

[293] Linden, M., Lecrubier, Y., Bellantuono, C., Benkert, O., Kisely, S., & Simon, G. (1999). The prescribing of psychotropic drugs by primary care physicians: an international collaborative study. *Journal of clinical psychopharmacology*, *19*(2), 132–140. https://doi.org/10.1097/00004714-199904000-00007

[294] Simoni-Wastila L. (2000). The use of abusable prescription drugs: the role of gender. *Journal of women's health & gender-based medicine*, *9*(3), 289–297. https://doi.org/10.1089/152460900318470

[295] Calderone K.L., (1990) The Influence of Gender on the Frequency of Pain and Sedative Medication Administered to Postoperative Patients, Sex Roles, 23: 11-12, 713-25. DOI: https://doi.org/10.1007/BF00289259

[296] Sorge, R. E., & Totsch, S. K. (2016). *Sex Differences in Pain. Journal of Neuroscience Research, 95(6), 1271–1281.* doi:10.1002/jnr.23841

[297] Turner, J. A., Franklin, G., Heagerty, P. J., Wu, R., Egan, K., Fulton-Kehoe, D., Gluck, J. V., & Wickizer, T. M. (2004). The association between pain and disability. *Pain*, *112*(3), 307–314. https://doi.org/10.1016/j.pain.2004.09.010

[298] Juurlink DN, Herrmann N, Szalai JP, Kopp A, Redelmeier DA (2004). Medical illness and the risk of suicide in the elderly. *Arch Intern Med*;164(11):1179–84

[299] Dance, A. cit. p.449

[300] Raymond J. (2013). Sexist attitudes: Most of us are biased. *Nature*, *495*(7439), 33–34. https://doi.org/10.1038/495033a

[301] Hamberg K, Risberg G, Johansson E (2004): Male and female physicians show different patterns of gender bias: A paper-case study of management of irritable bowl syndrome. Scand J Public Health 32:144-152,

[302] *ibi*

the idea of stoicism etc[303]. Pain is subjective, and pain scales used in research and clinical practice rely on a person's self-reported pain. Indeed, the perception of pain can be influenced by social factors. From a young age, individuals are socialized to respond to pain in certain ways, for instance, girls and women are typically taught to be more expressive and vocal about their discomfort[304].

As briefly shown, recently studies on gender bias in the medical field have been made. Furthermore, it is interesting also to provide an overview of a few subjects in particular concerning the interactions between doctors and patients, as the genders of both parties can influence how they perceive and engage in various aspects such as taking a medical history, making a diagnosis, providing treatment, and managing chronic conditions. For instance, gender constructs can also predict reactions, preferences, and communication dynamics between patients and doctors[305]. Indeed,

> *«being perceived as a man or a woman triggers different responses from clinicians who might diagnose and suggest interventions differently according to gender. As such, gender largely determines the use of preventive measures and referral for or acceptance of invasive therapeutic strategies. Gender-related behaviours contribute to risk exposure and preventive behaviour in several diseases*»[306].

Gender constructs affect access to healthcare, help-seeking behaviours, treatments and diagnosis[307] , and the victim of this phenomenon are often women or other

[303] Hoffmann, D. E., & Tarzian, A. J. (2001). The girl who cried pain: a bias against women in the treatment of pain. *The Journal of law, medicine & ethics : a journal of the American Society of Law, Medicine & Ethics*, *29*(1), 13–27. https://doi.org/10.1111/j.1748-720x.2001.tb00037.x . p.13
[304] Samulowitz, A., Gremyr, I., Eriksson, E., & Hensing, G. cit. pp.1-2
[305] Signani, F. (2017). How gender affects the relationship between physician and patient. Ital J Gender-Specific Med 2017 October - December;3(4):160-161. https://doi.org/10.1723/2924.29399 p. 160
[306] Mauvais-Jarvis, F et al. cit pp. 566-567.
[307] *Ibi* p. 566.

minorities, such as people from the LGBTQ+ community[308]or people from various ethnicity[309].

4.1. Communication

The contribution of Dr Roter represents an important landmark in the study of dynamics between doctors and patients since she has published many articles and books on the influence of gender constructs in the field of patient-physician communication[310]. For instance, Roter & Hall's study shows that female physicians tend to spend more time talking to patients and engage in communication that addresses the larger life context of the patient's condition by addressing psychosocial issues and using emotional, positive and active language. Female physicians also tend to build a partnership with patients more than their male counterparts. Overall, the study suggests that female physicians inspire patient reciprocation and are likely to reflect a more intimate therapeutic environment of heightened engagement, comfort, and partnership[311]. Moreover, according to Signani, both male and female doctors tend to direct information and instructions towards the patient's partner, even if they are not present, and may stereotype the woman as a caregiver[312]. This is especially the case when the patient's partner is actively involved in the conversation and often speaks on behalf of the patient, removing, thus, the focus from the patient[313].

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[308] Burke, S. E., Dovidio, J. F., Przedworski, J. M., Hardeman, R. R., Perry, S. P., Phelan, S. M., Nelson, D. B., Burgess, D. J., Yeazel, M. W., & van Ryn, M. (2015). Do Contact and Empathy Mitigate Bias Against Gay and Lesbian People Among Heterosexual First-Year Medical Students? A Report From the Medical Student CHANGE Study. *Academic medicine : journal of the Association of American Medical Colleges*, *90*(5), 645–651. https://doi.org/10.1097/ACM.0000000000000661

[309] Staton, L. J., Panda, M., Chen, I., Genao, I., Kurz, J., Pasanen, M., Mechaber, A. J., Menon, M., O'Rorke, J., Wood, J., Rosenberg, E., Faeslis, C., Carey, T., Calleson, D., & Cykert, S. (2007). When race matters: disagreement in pain perception between patients and their physicians in primary care. *Journal of the National Medical Association*, *99*(5), 532–538.

[310]*Debra L. Roter - Named Deanships, Directorships, and Professorships*. (2016). Named Deanships, Directorships, and Professorships. https://professorships.jhu.edu/chair/debra-l-roter-mph-drph/

[311] Roter, D. L., & Hall, J. A. (2004). Physician gender and patient-centered communication: a critical review of empirical research. *Annual review of public health*, *25*, 497–519. https://doi.org/10.1146/annurev.publhealth.25.101802.123134 pp. 512-513

[312] Signani, F. (2017). Cit .p. 160

[313] Rossi, E. (2020). *The Social Construction of Gender in Medical Interactions: A Case for the Perpetuation of Stereotypes? Health Communication, 36(9), 1125–1135.* doi:10.1080/10410236.2020.1735698 p.10

Female doctors may find it harder to gain the same level of respect from male patients as male doctors do. Patients may exhibit different behaviours based on the gender of their doctor. Female doctors may have a harder time gaining respect from male patients, who may interrupt more often during interactions[314]. It is crucial for physicians to understand how their communication style is perceived by patients in order to provide the best care. To avoid being perceived as dominant, physicians spend more time with patients, show more nonverbal interest, use more eye contact, treat patients in a more partner-like manner, use more positively toned words, and show support and agreement[315]. Furthermore, according to Roter and Hall, medical interviewing can be classified as "doctor-centred" or "patient-centred"[316]. A doctor-centred style focuses on efficiently completing biomedical and administrative tasks in order to quickly collect enough information to evaluate clinical theories, make a diagnosis and provide treatment. In doctor-centred interaction, medical professionals use their power to control the flow of information and limit patients' ability to express themselves. This is done by asserting their own knowledge and expertise and limiting patients' access to information and participation in decision-making[317]. Whereas a patient-centred style prioritizes understanding the patient's illness experience and perspective, minimizing the possibility of bias[318]. When a physician uses a patient-centred interviewing style, where the patient's perspective is actively sought through the open expression of concerns and questioning, it leads to increased patient satisfaction[319]. Examples of patient-centred communication behaviours include providing information, asking open-ended questions, checking for understanding, and expressing empathy[320].

An efficient physician should be able to acknowledge, interpret and act on patients'

[314] Signani, F. (2017). Cit. p. 160
[315] Roter, D. L., & Hall, J. A. (2006). *Doctors talking with patients/Patients talking with doctors: Improving communication in medical visits* (2nd ed.). Westport, Connecticut-London: Praeger pp. 149-150
[316] Roter, D. L., & Hall, J. A. (2006). Cit. P. 125
[317] Rossi, E cit. p.3
[318] Roter, D. L., & Hall, J. A. (2006). Cit. p. 125
[319] *Ibi* P. 151
[320] *ibi*.p. 125

stories and experiences. A doctor having this approach would then be practising a model for humane and effective medical practice, known as "narrative medicine"[321].

A patient-centred and relationship-based practice are strongly related to narrative medicine. Indeed, implementing this practice would ameliorate the communication between doctors and patients, making the healthcare systems more human and less based on the stereotyped setting. Unlike 'modern' evidence-based medicine, which focuses on patient symptoms and facts, narrative medicine also takes into consideration active listening, empathy, and trust in order to provide scientific information and treatment[322].

Dr Roter's contributions put emphasis on how gender affects communication and language during medical interactions. This includes examining how male and female doctors communicate with male and female patients and vice versa. Her perspective posits that differences in communication style are based on inherent distinctions between men and women or on how they are socialized differently[323]. According to Rossi, the traditional idea of a strict gender hierarchy, with distinct roles and identities for men and women and unequal power dynamics relations in favour of men, is being questioned nowadays and replaced by a more inclusive and fluid understanding of gender identities and roles, and equal and respectful relationships[324]. Rossi's article suggests that gender is a constantly evolving construct that is formed through communication processes, and it can be studied by analysing the way it is constructed during medical interactions. From a constructivist perspective, examining narratives can reveal whether gendered and stereotyped narratives are being constructed and reproduced[325]. Furthermore, according to Howard Waitkzin, ordinary medical discourse often prevents patients from discussing personal issues such as family life, gender roles, and sexuality. This can lead to doctors maintaining power in their interactions with

[321] Charon R. Narrative Medicine: A Model for Empathy, Reflection, Profession, and Trust. *JAMA*. 2001;286(15):1897–1902. doi:10.1001/jama.286.15.1897
[322] Rossi, E. p.3
[323] *Ibi* p.2
[324] *Ibi* p.4
[325] *Ibi* p. 4

patients and promoting conformity to societal norms and attitudes, particularly related to gender[326].

Additional research is necessary to thoroughly examine the relationship between communication and the construction of gender in medical interactions. The research will aid in identifying effective practices and improving the training of healthcare professionals in the importance of dialogue and recognizing the individuality of patients in order to counteract gendered representations and expectations[327].

4.2. Medical gaslighting

Gaslighting is a term that originated from the 1944 film Gaslight. The film tells the story of a wife and her husband, who manipulates her by dimming and brightening the gaslights in their home and insisting she imagines it. He wanted to make her believe she was insane by undermining her sense of self and reality. Nowadays, the term gaslighting is commonly used to describe manipulative strategies abusive people might use in politics and interpersonal relationships[328]. According to Sweet, gaslighting is not just a psychological phenomenon but also a social one. Indeed, it is most powerful when it is based on social inequalities, particularly those related to gender and sexuality, and used in relationships where there is an imbalance of power. When the perpetrator utilizes gender stereotypes, structural inequalities, and institutional vulnerabilities against the victim in a close relationship, gaslighting becomes not only successful but also extremely harmful[329]. Gaslighting is a gendered phenomenon, as women usually do not have the cultural, economic, and political power to gaslight men[330]. It involves manipulating persons' perceptions of reality and making them doubt their own sanity. This tactic is often used to discredit and marginalize the victim, and it is often gendered in nature. The stereotype that

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[326] Waitzkin, H. (1991). *The Politics of Medical Encounters: How Patients and Doctors Deal with Social Problems*. Yale University Press. cited in Rossi, E. (2020). The Social Construction of Gender in Medical Interactions: A Case for the Perpetuation of Stereotypes? Health Communication, 36(9), 1125–1135. doi:10.1080/10410236.2020.1735698

[327] Rossi, E. p. 10

[328] Sweet, P. L. (2019). *The Sociology of Gaslighting. American Sociological Review, 000312241987484.* doi:10.1177/0003122419874843 p. 1

[329] *Ibi* p.2

[330] *ibidem*

women are emotional, irrational, and uncontrollable has a long history and is often used to label women as "crazy". This label is often reinforced by institutions such as medicine, which play a significant role in maintaining the gender system[331]. Recently, the term "medical gaslighting" has been used to describe instances where women feel invalidated, dismissed, and receive inadequate care from healthcare professionals.

Sebring agrees with Sweet about the sociological character of gaslighting, moreover, she believes that this is a symptom of a larger issue in medicine where the opinions and knowledge of medical professionals are given more weight than the real-life experiences of patients[332]. An example of medical gaslighting is when doctors disregard or belittle the health concerns of certain individuals, suggesting that it is "all in their head". This can be seen in the history of the diagnosis of hysteria in the 20th century, where women were labelled with this "medical condition", in which emotional distress is said to manifest as physical symptoms[333]. Moreover, when a patient sees a doctor, the doctor typically starts by asking what is wrong. At this moment, the doctor's authority is temporarily suspended, and the patient is given the opportunity to describe their issue. However, this suspension of power is short-lived. As a medical establishment's representative, the doctor has the power to determine what is real and what is not. Operating from the belief that science is the ultimate authority, the doctor can make this determination, and the patient has little room to challenge it[334].

It is worth noticing the contribution of a gender studies professor on obstetric violence through the lens of the concept of "gaslighting". Obstetric violence is a complex phenomenon that can significantly impact women's physical, emotional, and psychological well-being. It can represent an experience of alienation and objectification within medical settings. Obstetric violence can involve feelings of dehumanization, in which women are reduced to mere objects with no agency or

[331] *Ibi* p.5
[332] Sebring J. C. H. (2021). Towards a sociological understanding of medical gaslighting in western health care. *Sociology of health & illness*, *43*(9), 1951–1964. https://doi.org/10.1111/1467-9566.13367 p. 1952
[333] *Ibi* p. 1953
[334] *ibi* p. 1956

power and treated as passive recipients of medical care. It deprives women of their bodily autonomy, and it can lead to forms of stress disorder[335]. Obstetric violence can be defined as gender-based violence since it is directed exclusively at women Feelings of diminishment of self, dehumanization, dismissing, powerlessness, and infantilisation can be examined through the concept of gaslighting[336]. For instance, medical gaslighting of mothers often involves dismissing their feelings as illegitimate or excessive. This can occur when mothers' emotions are perceived as not fitting the situation, and they are labelled as "hysterical" or "dramatic". This is rooted in longstanding stereotypes that expect mothers to remain calm in situations that they find stressful, scary, or upsetting[337].
Shabot examines how feelings of self-diminishment and infantilization occur through the epistemic aspects of obstetric violence. She argues that a significant aspect of obstetric violence is that labouring women are not believed, distrusted, and unjustly questioned about their experiences of violent labour. Furthermore, they are made to doubt their own experiences of violence and feel deprived of the authority to know their own experiences[338].

Feminist theories reveal that the devaluation of women's understanding has been a recurring theme in patriarchal societies, and it is not just a coincidence. It is still hard to eradicate the stereotype that women's understanding is based on emotions, it is not rational and consequently is unreliable and inferior[339].

5. Conclusions

> *«Medicine, as a practice and as a profession, has largely been developed by and for a very specific kind of body: the wealthy, white, able-bodied, heterosexual, cissex, endosex and cisgender male subject. Not only has this had*

[335] Cohen S. (2016). Making Loud Bodies "Feminine": A Feminist-Phenomenological Analysis of Obstetric Violence. *Hum Stud* 39, 231–247 https://doi.org/10.1007/s10746-015-9369-x
[336] Shabot, S. C. (2019). 'Amigas, sisters: We're being gaslighted': Obstetric violence and epistemic injustice. In *Childbirth, Vulnerability and Law: Exploring Issues of Violence and Control* (pp. 14-29). Taylor and Francis. https://doi.org/10.4324/9780429443718-2 p. 14
[337] Fielding-Singh, P., & Dmowska, A. (2022). Obstetric gaslighting and the denial of mothers' realities. *Social science & medicine (1982)*, *301*, 114938. https://doi.org/10.1016/j.socscimed.2022.114938 p.6
[338] Shabot, S. C. cit p. 14
[339] *Ibi* p. 26

real and dangerous implications for those who differ biologically in that they remain under-represented in health research and the medical professions, but it also has equally real and dangerous implications in the way medicine is socially enacted[340]*»*

Several aspects explored in this research showed that women are often victims of a patriarchal system also in the medical domain. Thus*, "it is now time for a general awakening"*[341]. Even if Dr Healy claimed it in 1991, unfortunately, today it is still valid. Women do have different medical needs from men and higher morbidity than men. Even though women have a longer life expectancy, the quality of life in these extra years is particularly burdened by illness[342]. The more women are dismissed and called "hysterical", the more they will minimize their pain. Thus, women's pain will be not just physical, but will have a social and psychological burden as well. Gender equity does matter in the medical domain. It is one of the most crucial factors in health disparities. The benefits of implementing gender equality are not limited only to health, but it is also a matter of social justice for everyone[343].

It has been described how actually both sex and gender are two strong modifiers of health, and their inclusion in research, education and practice of medicine can result in better and more precise individualized care. Improving medical curricula with this kind of approach would mean ameliorating prevention and treatment[344]. Therefore, there is an urgency to set up as fundamental gender analysis in medical research and health services and cease the discrimination and lack of consideration given to women. Systematic studies of how diseases differently affect females and males is needed. But this is not enough, studies should focus as well on factors such as social class, race, education, and other sociocultural factors and how they relate

[340] Sebring J. cit. p.1954.
[341] Healy, B., cit., p.275
[342] *ibidem*
[343] Shannon, G., Jansen, M., Williams, K., Cáceres, C., Motta, A., Odhiambo, A., Eleveld, A., & Mannell, J. (2019). Gender equality in science, medicine, and global health: where are we at and why does it matter?. *Lancet (London, England)*, *393*(10171), 560–569. https://doi.org/10.1016/S0140-6736(18)33135-0, p.567.
[344] Baggio, G. (2015). Dalla medicina di genere alla medicina genere-specifica. *Ital J Gender-Specific Med 2015;1(1):3-5*, *1*(1). https://doi.org/10.1723/2012.21900.

to gender, creating discrimination that could endanger a person's health[345]. Considering a wide spectrum of health modifiers leads to a more personalized and precise approach based on more individualized medical treatments to better address individuals' health issues. Medicine has shifted away from a one-size-fits-all approach, moving towards a more progressive method of categorizing patients based on their specific disease subtype, clinical features, and biomarkers[346]. Nevertheless, the use of new technology, such as large-scale human genome databases[347], can give us a deeper understanding of how individuals respond to different treatments for common illnesses, leading to the development of new treatments[348] and advancing a new approach to medicine: precision medicine. The approach in precision medicine aims at tailoring medical therapy to each patient's unique characteristics and condition[349]. The concept of precision medicine has existed for several decades, but the term has taken on a new meaning in the past decade to describe an emerging approach to disease treatment and prevention that considers individual variability in genes, environment, and lifestyle for each

[345] Wong Y. L. (2000). Gender issues in medical and public health education. *Asia-Pacific journal of public health*, *12 Suppl*.

[346] Morganti S, Tarantino P, Ferraro E, D'Amico P, Viale G, Trapani D, Duso BA, Curigliano G, Complexity of Genome Sequencing and Reporting: Next generation sequencing (NGS) technologies and implementation of Precision Medicine in Real Life, Critical Reviews in Oncology / Hematology (2018), https://doi.org/10.1016/j.critrevonc.2018.11.008 p. 172

[347] Genomic databases are electronic collections of genomic data that are derived from human biological samples. They are designed to store, share and compare large quantities of DNA sequences across different research studies, data types, individuals and organisms. These databases are made available to researchers under certain conditions and are often part of broader biobanks or research repositories that also include collections of samples, clinical and phenotypic data. The main purpose of these databases is for scientific research and discovery. (Berkman, B., & Chandros Hull, S. (2012). Genomic Databases, Ethical Issues in. *Encyclopedia of Applied Ethics (Second Edition)*, 488-496. https://doi.org/10.1016/B978-0-12-373932-2.00035-1)

[348] Berkman, B., & Chandros Hull, S. (2012). Genomic Databases, Ethical Issues in. *Encyclopedia of Applied Ethics (Second Edition)*, 488-496. https://doi.org/10.1016/B978-0-12-373932-2.00035-1 p.488

[349] Morganti S, Tarantino P, Ferraro E, D'Amico P, Viale G, Trapani D, Duso BA, Curigliano G, Complexity of Genome Sequencing and Reporting: Next generation sequencing (NGS) technologies and implementation of Precision Medicine in Real Life, Critical Reviews in Oncology / Hematology (2018), https://doi.org/10.1016/j.critrevonc.2018.11.008 p. 172

person[350]. However, it is important to note that a precision approach includes analysing data on populations and averages[351].

To conclude, an individual's physiological and pathological state can change at any age and can be influenced by various factors such as biological differences, cultural, social, environmental factors, and economic status etc.[352], thus, when developing tailor-made therapeutic approaches, it is essential to take into account the impact of sex differences and gender inequalities on the incidence of diseases, response to treatment, and the frequency and severity of adverse effects caused by drugs. This includes considering genetic differences between different ethnic groups, potential inequalities related to religious denominations, and protecting the health of transgender individuals[353].

[350] Kuo, A. K., Summers, N. M., Vohra, S., Kahn, R. S., & Bibbins-Domingo, K. (2019). The Promise of Precision Population Health: Reducing Health Disparities Through a Community Partnership Framework. *Advances in pediatrics*, *66*, 1–13. https://doi.org/10.1016/j.yapd.2019.03.002 p.3

[351] Carè A., Bellenghi M., (2019). Conclusioni. Verso la medicina di precisione. In ONDA. (ed.) *Dalla medicina di genere alla medicina di precisione. Percorsi evolutivi e sinergie di competenze. Libro bianco 2019*. (pp. 167-172). Franco Angeli. P.168

[352] *Ibi* P.168

[353] *Ibi* P.169

Chapter III

1. Introduction

Historically, women, particularly in industrializing countries, had shorter life expectancies than men. However, this trend started to change in the mid-19th century as fertility and maternal mortality rates decreased. By the end of the 19th century, women began to outlive men, with a gap of three years in 1900 and currently around five years[354]. However, the World health statistics 2019 published by the World Health Organization cites: "*Women live longer than men, but the additional years are not always healthy*[355]". This is called the "male-female health-survival paradox": despite the increased recent focus on women's health, women tend to experience more health problems but have lower mortality rates. They use more healthcare services than men, including more frequent visits and treatments in general, they use more medications, and they experience more disability[356]. Consequently, women face more economical, sociological, and medical implications. As I tried to show in the previous chapters, diseases are shaped by the historical and societal factors in which they are established, thus diseases can also be described as social phenomena.

First of all, for the purpose of this chapter, it is important to clarify the definition of pain. The International Association for the Study of Pain provides a revised definition of pain in 2020: «*An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage*[357]*»*. Whereas, for what concerns chronic pain is usually identified as a pain

[354] Blatt Kalben B. cit

[355] WHO (2019) *World health statistics 2019: monitoring health for the SDGs, sustainable development goals*. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO. https://apps.who.int/iris/bitstream/handle/10665/324835/9789241565707-eng.pdf p. 3

[356] Alberts SC, Archie EA, Gesquiere LR, et al. (2014) The Male-Female Health-Survival Paradox: A Comparative Perspective on Sex Differences in Aging and Mortality. In: Committee on Population; Division of Behavioral and Social Sciences and Education; National Research Council; Weinstein M, Lane MA, editors. Sociality, Hierarchy, Health: Comparative Biodemography: A Collection of Papers. Washington (DC): National Academies Press (US).

[357] Raja, S. N., Carr, D. B., Cohen, M., Finnerup, N. B., Flor, H., Gibson, S., Vader, K. (2020). The revised International Association for the Study of Pain definition of pain. *Pain, Publish Ahead of Print.* doi:10.1097/j.pain.00000000000019

condition that lasts for more than three months[358]. Women experience more chronic pain compared to men, with some conditions being exclusive to women[359]. Chronic pain affects all aspects of life, including physical and mental health, relationships, and employment[360]. Hence, the burden that mainly women carry does not merely rely on merely biological grounds.

In this chapter, I decided to shed light on three chronic diseases which often cause pain to women, and I will analyse with a focus on their gender implications. I chose these diseases for two main reasons. Firstly, I have been personally diagnosed with them, and as such, I have experienced first-hand the difficulties in dealing with them and their implications. For instance, finding medical professionals who would take a comprehensive approach to my case has been challenging, I am facing high financial costs, and I am having difficulties in balancing my health needs with studies and work. Furthermore, when seeking help, I encountered difficulty in finding accessible, affordable medical professionals who were both empathetic and knowledgeable about my condition. Therefore, I strongly believe that raising awareness is crucial for empowering patients like me, and, I am not a single case, my conditions are not uncommon or rare. We are a great number of people and a multitude of women. Over time, I have come to realize that as a woman and as being perceived as one, there is a significant social challenge that impedes my access to a fundamental right I am entitled to, the right to receive proper healthcare. Hence, secondly, I chose to analyse these diseases because they represent suitable examples to show how gender bias has a negative impact on women's health. The first disease presented is fibromyalgia, a disease that can affect both men and women, however, it is more prevalent in women, and because of that, it encompasses gender bias and stigma. Afterwards, I will deal with headache disorders. Two types of headache disorders will be presented: migraine and cluster

[358] International Association for the Study of Pain. (2022). *Definitions of Chronic Pain Syndromes - International Association for the Study of Pain (IASP)*. International Association for the Study of Pain (IASP). https://www.iasp-pain.org/advocacy/definitions-of-chronic-pain-syndromes/ /

[359] International Association for the Study of Pain. (2018). Pain in Women. Retrieved from https://www.iasp-pain.org/GlobalYear/PaininWomen

[360] Dueñas, M., Ojeda, B., Salazar, A., Mico, J. A., & Failde, I. (2016). A review of chronic pain impact on patients, their social environment and the health care system. Journal of Pain Research, 9, 457–467. https://doi.org/10.2147/JPR.S105892

headache. The first one is the kind of headache disorder that affects mainly women, whereas the latter affects mainly men. The last disease discussed is endometriosis, a condition that affects women and it is generally conceived as solely related to their reproductive systems. However, as I will explain below, endometriosis is a systemic disease, and it is a mistake to tackle it merely as a gynaecologic illness.

2. Fibromyalgia

Fibromyalgia is a common condition that affects 2-3% of the global population[361], even if this percentage is not certain, in fact, other studies found that it is up to 5%[362]. It is characterized by a wide range of symptoms, including widespread chronic pain, fatigue, sleep disturbances, functional issues, cognitive dysfunction (e.g., fibro fog[363]), heightened sensitivity to external stimuli, somatic symptoms, and psychiatric disorders[364]. It often manifests with several comorbidities[365] , which include irritable bowel syndrome, tension-type headaches, migraine, temporomandibular dysfunction, myofascial pain syndrome, chronic fatigue syndrome, restless legs syndrome, multiple chemical sensitivity, and post-traumatic stress disorder[366]. Moreover, there are studies also confirming the association between fibromyalgia and endometriosis[367,368]. The diagnosis of fibromyalgia is challenging due to the subjectivity of symptoms and the absence of biomarkers, and even if diagnostic criteria continue to evolve, early diagnosis and prevention are

[361] Sarzi-Puttini, P., Giorgi, V., Marotto, D., & Atzeni, F. (2020). Fibromyalgia: an update on clinical characteristics, aetiopathogenesis and treatment. *Nature reviews. Rheumatology*, *16*(11), 645–660. https://doi.org/10.1038/s41584-020-00506-w p.645

[362] Ruschak, I., Montesó-Curto, P., Rosselló, L., Aguilar Martín, C., Sánchez-Montesó, L., & Toussaint, L. (2023). Fibromyalgia Syndrome Pain in Men and Women: A Scoping Review. *Healthcare (Basel, Switzerland)*, *11*(2), 223. https://doi.org/10.3390/healthcare11020223 p. 1

[363]It involves the inability to think clearly or concentrating properly

[364] Sarzi-Puttini, P., Giorgi, V., Marotto, D., & Atzeni, F. cit. p.645

[365] The extent to which two or more distinct health conditions or pathologies are present in an individual at the same time. They might share causes and risk factors.

[366] Yunus MB. (2000) Central sensitivity syndromes: a unified concept for fibromyalgia and other similar maladies. J Indian Rheum Assoc 2000;8:27 – 33.

[367] Greenbaum, H., Weil, C., Chodick, G., Shalev, V., & Eisenberg, V. H. (2019). Evidence for an association between endometriosis, fibromyalgia, and autoimmune diseases. *American journal of reproductive immunology (New York, N.Y. : 1989)*, *81*(4), e13095. https://doi.org/10.1111/aji.13095

[368] Pasoto, S. G., Abrao, M. S., Viana, V. S. T., Bueno, C., Leon, E. P., & Bonfa, E. (2005). Endometriosis and Systemic Lupus Erythematosus: A Comparative Evaluation of Clinical Manifestations and Serological Autoimmune Phenomena. *American Journal of Reproductive Immunology, 53(2), 85–93.* doi:10.1111/j.1600-0897.2005.00252.x

still difficult goals to achieve [369]. The cause of this disease is not fully understood, but it is believed that genetic predisposition, stressful life events, and both peripheral and central mechanisms may interact to create pain misperception due to changes in the nervous system[370]. In a recent Italian study, Sarzi-Puttini et al. suggest that the development of fibromyalgia may occur through both a bottom-up mechanism, where the pain originates in the body periphery and spreads to the central nervous system, and a top-down mechanism, where the pain originates in the central nervous system and affects the body periphery. This means that psychological factors such as trauma or stress may coexist with, but are not necessarily responsible for, physical factors such as inflammation or degeneration[371].

People with fibromyalgia, besides painful symptomology, suffer from negative social and economic implications. A common feeling among patients is that their bodies have become a burden, limiting their movements and activities. This resulted in a loss of freedom as they were no longer able to do the things they enjoyed or participate in daily activities without experiencing pain or discomfort[372]. Life became restrictive and planning ahead became challenging due to the longer time it took to complete tasks, making it difficult to be spontaneous[373]. Having fibromyalgia can also result in a financial burden due to the complete or partial impossibility of working due to the symptomology, impacting access to various treatment options and other aspects of life[374].

There is a need to raise awareness about chronic pain and related conditions in fibromyalgia patients. Further research should be conducted to understand the impact of comorbidities on disease outcomes and treatment effectiveness. The healthcare systems should address the immediate suffering of the patients and their

[369] Sarzi-Puttini, P., Giorgi, V., Marotto, D., & Atzeni, F. cit p.645
[370] *ibidem*
[371] *Ibi* p.651
[372] Söderberg, S., Lundman, B., & Norberg, A. (1999). Struggling for dignity: the meaning of women's experiences of living with fibromyalgia. *Qualitative health research*, *9*(5), 575–587. https://doi.org/10.1177/104973299129122090 p. 579
[373] Söderberg, S., Lundman, B., & Norberg, A. p. 580
[374] *ibidem*

socioeconomic burden[375]. Treatment for fibromyalgia should be multi-modal and involve patient education, fitness, pharmacotherapy, and psychotherapy[376]. Patients with fibromyalgia often tend to develop psychological comorbidities, such as depression and anxiety, or even psychiatric conditions, such as post-traumatic stress disorder and obsessive-compulsive personality[377]. Hence, mental health providers are advised to conduct a suicide risk assessment for individuals with fibromyalgia, as they have an increased likelihood of experiencing suicidal thoughts[378]. The treatment approach should be personalized, symptom-based, and progressive, with shared goals established with the patient[379].

2.1. "*The complaining women*[380]"

Sex and gender differences should be taken into account since fibromyalgia is more prevalent in women, with 80-96% of cases occurring in women[381]. This difference may also be related to the social stigma of the condition being seen as a feminine illness and to cultural factors, where men may be less likely to seek out treatment for chronic pain symptoms[382]. There is a considerable body of literature on sex disparities in pain, as we briefly mentioned in the previous chapter, and they suggest that men and women may have different responses to pain, with women generally being more sensitive to pain and at a higher risk of chronic pain. Therefore, if men and women with fibromyalgia experience different symptoms, it would be beneficial to diagnose and treat them on an individualized basis and with a

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[375] Spaeth M. (2009). Epidemiology, costs, and the economic burden of fibromyalgia. *Arthritis research & therapy*, *11*(3), 117. https://doi.org/10.1186/ar2715

[376] Sarzi-Puttini, P., Giorgi, V., Marotto, D., & Atzeni, F. cit, p.652

[377] Galvez-Sánchez, C. M., Duschek, S., & Reyes Del Paso, G. A. (2019). Psychological impact of Fibromyalgia: Current perspectives. Psychology Research and Behavior Management, 12 (12), 117–127. https://doi.org/http://dx.doi.10.2147/PRBM.S178240

[378] *ibidem*

[379] Sarzi-Puttini, P., Giorgi, V., Marotto, D., & Atzeni, F. cit. p.652

[380] Briones-Vozmediano, E., Öhman, A., Goicolea, I., & Vives-Cases, C. (2018). "The complaining women": health professionals' perceptions on patients with fibromyalgia in Spain. *Disability and rehabilitation*, *40*(14), 1679–1685. https://doi.org/10.1080/09638288.2017.1306759

[381] Wolfe, F.; Clauw, D.J.; Fitzcharles, M.-A.; Goldenberg, D.L.; Katz, R.S.; Mease, P.; Russell, A.S.; Russell, I.J.; Winfield, J.B.; Yunus, M.B. The American College of Rheumatology Preliminary Diagnostic Criteria for Fibromyalgia and Measurement of Symptom Severity. Arthritis Care Res. 2010, 62, 600–610.

[382] Ruschak, I., Montesó-Curto, P., Rosselló, L., Aguilar Martín, C., Sánchez-Montesó, L., & Toussaint, L. cit. p. 2

multidisciplinary approach[383]. Moreover, in a 2001 article, Dr Yunus analysed pain in patients with fibromyalgia from a gender perspective, considering that sociocultural factors such as cultural background, upbringing, gender role, ethnicity, religion, education, and socioeconomic status can also influence pain and symptoms[384]. Gender plays a role in attitudes towards pain, with societal expectations impacting how males and females experience and express pain and symptomology. For instance, women tend to report more psychological distress and use more coping mechanisms than men; the sex of the examiner or caregiver can also affect a patient's attitude towards pain. The actual mechanisms behind gender differences in pain are not fully understood, but they likely involve a combination of biological, psychological, and sociocultural factors[385].

Once more, the concept of andronormativity is crucial. In fact, it influences which condition is prioritised or which one is overlooked in research and healthcare. This, in turn, affects how different pathologies are understood, perceived, and treated[386]. Indeed, in a study made in 2008 with the aim to see how physicians rank diseases according to prestige, the diseases with the highest scores were myocardial infarction, leukaemia, spleen rupture, brain tumour, and testicular cancer, whereas the lowest prestige scores were given to fibromyalgia, anxiety neurosis, liver cirrhosis, depression, schizophrenia, and anorexia[387].

Despite the widespread adoption of the 1990 classification criteria for fibromyalgia[388], the diagnosis still carries a stigma which can lead to misdiagnosis and mistreatment, causing uncertainty in the patients. Having this stigma in the medical community is dangerous because it can mislead, and it can also have

[383] Giusti, E.M.; Castelnuovo, G.; Molinari, E. Differences in Multidisciplinary and Interdisciplinary Treatment Programs for Fibromyalgia: A Mapping Review. Pain Res. Manag. 2017, 2017, 7261468.
[384] Yunus M. B. (2001). The role of gender in fibromyalgia syndrome. *Current rheumatology reports*, *3*(2), 128–134. https://doi.org/10.1007/s11926-001-0008-3 p- 129
[385] *Ibi* p. 132
[386] Album D., S. Westin, cit.
[387] *ibidem*
[388] Wolfe, F., Smythe, H. A., Yunus, M. B., Bennett, R. M., Bombardier, C., Goldenberg, D. L., … Sheon, R. P. cit.

negative impacts on social interactions with family, friends, and colleagues[389]. Being a disease prevalent in women makes them the primary victims of this phenomenon. Women face a significant challenge since they need to convince people of the validity of their pain and suffering, which produces a cycle of disbelief and distrust, making it even more difficult for women suffering from fibromyalgia to receive the care and support they need to manage their condition[390]. For instance, a study in Canada found that some doctors view fibromyalgia patients as exaggerating their symptoms, time-consuming, and frustrating, and even blame patients for their own pain[391]. The high number of women diagnosed with fibromyalgia, combined with women's increased sensitivity to pain, can lead to female fibromyalgia patients being stereotyped and judged by medical professionals[392]. A Spanish study suggests that fibromyalgia is often seen as a "women's disease" as it affects women more than men. It also highlights the stereotypical perceptions of health professionals towards fibromyalgia patients, with some doubting the existence and severity of the disease and others aware of the lack of recognition of it[393]. The disbelief of the seriousness and reality of fibromyalgia pain has serious negative consequences on patients[394]. Malingering is a strong and, unfortunately, common accusation made by several people, and it is particularly dangerous when healthcare professionals make it[395]. Individuals with fibromyalgia or other painful conditions without a clear medical explanation often report feeling pressure to conform to societal standards in order to be seen as "deserving" to be a real patient by doctors[396].

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[389] Toye, F., Seers, K., Allcock, N., Briggs, M., Carr, E., Andrews, J., & Barker, K. (2013). *A meta-ethnography of patients' experience of chronic non-malignant musculoskeletal pain*. NIHR Journals Library.

[390] Quintner, J. (2020). Why Are Women with Fibromyalgia so Stigmatized? Pain Medicine. doi:10.1093/pm/pnz350

[391] Hayes, S. M., Myhal, G. C., Thornton, J. F., Camerlain, M., Jamison, C., Cytryn, K. N., & Murray, S. (2010). Fibromyalgia and the therapeutic relationship: where uncertainty meets attitude. *Pain research & management*, *15*(6), 385–391. https://doi.org/10.1155/2010/354868

[392] Barker KK. (2005) *The Fibromyalgia Story: Medical Authority and Women's Worlds of Pain*. Philadelphia: Temple University Press.

[393] Briones-Vozmediano, E., Öhman, A., Goicolea, I., & Vives-Cases, C. cit.

[394] Mengshoel AM, Sim J, Ahlsen B, Madden S. Diagnostic experience of patients with fibromyalgia: A meta-ethnography. Chronic Illness 2018;14 (3):194–211

[395] Armentor JL. (2017) Living with a contested, stigmatized illness: Experiences of managing relationships among women with fibromyalgia. *Qual Health Res* 2017;27 (4):462–73

[396] Quintner J. cit.

Furthermore, the major issue with this ailment is the mismatch between the patient's reported pain and suffering and the lack of both visible physical symptoms and a medical explanation. Invisibility often leads doctors to ignore the patient's complaints, leading thus to inadequate treatment. This discrepancy also harms women within their social network, including family and close friends. However, looking healthy does not mean being healthy[397]. Furthermore, gender can play a role in how health professionals diagnose and treat pain-related conditions, with women's symptoms being more often dismissed or attributed to psychological causes and men's symptoms being more often supported by additional testing. This can lead to women feeling ignored or disregarded by doctors and men being less likely to seek help for fibromyalgia due to social expectations of masculinity[398]. Women, in particular, are often accused of pathologizing their psychological and social difficulties.[399] Some people living with fibromyalgia have also faced moral judgements such as laziness, work-shyness, and a failure to recover their health despite treatment[400]. Physicians have been known to use moralizing terms to describe these patients labelling them as too focused on their disease or too demanding[401]. According to Quintner, the stigma directly related to women is due to the pervasive and deeply rooted cultural beliefs in Western society that associate women with punishment and guilt[402].

To conclude, fibromyalgia is a complex and widely debated medical disorder that has a controversial history and association with negative stereotypes of women. In the 19th century, fibromyalgia symptoms were often attributed to hysteria and seen as a reaction to the overly restrictive domestic roles imposed on women. Whereas nowadays, the reasons for fibromyalgia symptoms are often regarded as a response

[397] White, M.T., Lemkau, J.P., & Clasen, M.E. (2001). Fibromyalgia: A Feminist Biopsychosocial Perspective. Women & Therapy, 23, 45-58.
[398] Briones-Vozmediano, E., Öhman, A., Goicolea, I., & Vives-Cases, C. cit.
[399] Mengshoel AM, Sim J, Ahlsen B, Madden S. cit.
[400] *ibidem*
[401] Asbring P, Narvanen AL. (2002) Women's experience of € stigma in relation to chronic fatigue syndrome and fibromyalgia. Qual Health Res 2002;12(2):148–60.
[402] Quintner J. cit.

to excessive demands from work and family life[403]. Both interpretations depict women as shirking responsibility, being psychologically weak, and unable to meet gender expectations[404]. Further research is needed to fully understand this disease, and a more feminist medical model which emphasizes contextual analysis should be implemented.

3. Headache disorders

According to the World Health Organization, headache disorders, which are characterized by recurrent headaches, are among the most prevalent disorders of the nervous system. Not only do they cause pain and disability, but they also carry personal and social burdens, involving a reduced quality of life, stigma, high costs, and they can also increase the risk of developing other conditions such as anxiety and depression. Despite their prevalence, only a minority of people with headache disorders receive an appropriate diagnosis and treatment[405]. There are several types of headaches, and the exhaustive and precise classification is offered by the third edition of the International Classification of Headache Disorders[406]. Primary headaches are those in which the headache is both symptom and disease. On the other hand, secondary headaches are caused by another underlying condition, therefore headaches are just symptoms[407]. The most common primary headache disorders are migraine, tension-type headaches, and cluster headaches[408].

3.1. Migraine & cluster headache: between hysteria and stoicism

a. Migraine:

Migraine is a neurological disorder, and it is considered one of the most prevalent and debilitating diseases worldwide, however, it remains still nowadays a

[403] White, M.T., Lemkau, J.P., & Clasen, M.E. cit. P. 55
[404] *ibidem*
[405] World Health Organization: WHO. (2016). *Headache disorders*. https://www.who.int/news-room/fact-sheets/detail/headache-disorders
[406] Headache Classification Committee of the International Headache Society (IHS) The International Classification of Headache Disorders, 3rd edition. (2018). *Cephalalgia, 38(1), 1–211*. doi:10.1177/0333102417738202
[407] Rizzoli, P., & Mullally, W. J. (2018). Headache. The American Journal of Medicine, 131(1), 17–24. doi:10.1016/j.amjmed.2017.09.005 p.3
[408] *ibidem*

misunderstood and under-treated disease[409]. The literature estimates the prevalence of migraine at 14% of the global population. Migraine is particularly common in women, with a 3:1 female-to-male ratio, and it is also known to be closely linked to fluctuations in female hormones[410]. The origin of migraines is still not fully understood; however, it is believed to stem from temporary modifications in the brain's chemicals, nerves, and blood vessels, with a probable genetic component. Certain factors, such as menstruation, stress, fatigue, and specific food or beverage consumption, have been linked to triggering migraine attacks in some individuals[411]. Migraine is a long-term condition that affects the nervous system and is characterized by recurrent episodes from moderate to severe headaches. These headaches often come with other symptoms, such as sensitivity to light and sound, discomfort on the skin, and stomach issues, such as nausea and vomiting. Additionally, people suffering from migraines may experience other neurological symptoms like dizziness, ringing in the ears, and difficulties in thinking clearly[412]. Migraine is a multi-phasic process that can start with symptoms such as fatigue and irritability, leading to a severe headache that can last for several days. After the attack, there is a postdromic phase that is characterized by fatigue, mood decline, and frequent urination[413]. It can be classified based on frequency into two categories: episodic form, where the number of headaches is less than 14 days per month, and chronic form, where the number of headaches is greater than 15 days per month for at least three months. Studies have shown that 2.5% of people with episodic migraine will develop chronic migraine each year[414]. Migraine is more severe in women, with more frequent and intense attacks and more pronounced accompanying symptoms[415].

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[409] *Ibi* p. 2

[410] Vetvik KG, MacGregor EA (2017). Sex differences in the epidemiology, clinical features, and pathophysiology of migraine. Lancet Neurol 16(1):76-87. P. 76-77

[411] National Health Service. (2021). *Migraine*. nhs.uk. https://www.nhs.uk/conditions/migraine/

[412] Dodick D. W. (2018). Migraine. *Lancet (London, England)*, *391*(10127), 1315–1330. https://doi.org/10.1016/S0140-6736(18)30478-1. P. 1315

[413] *ibidem*

[414] Schwedt T. J. (2014). Chronic migraine. *BMJ (Clinical research ed.)*, *348*, g1416. https://doi.org/10.1136/bmj.g1416.

[415] Vetvik KG, MacGregor EA. Cit. P. 78

The economic burden affecting migraineurs is high and includes both direct and indirect costs. Direct costs refer to expenses directly associated with the disease, such as medical exams, diagnostic tests, and drug purchases. Indirect costs refer to the loss of workdays, decreased productivity, and time spent managing the illness and diverted from other activities.[416] However, the burden depends on the national healthcare system and local policies. For instance, in Italy, the economic impact of migraine, including loss of productivity, health services, and formal support from professionals, has been calculated to be an average of four thousand euros per patient annually, excluding medical treatment covered by the national healthcare system. Professor Tarricone from the Department of Policy Analysis and Public Management at Bocconi, Italy, highlights the importance of comprehensive welfare policies to address the needs of those affected by migraine[417].

Moreover, an American study explored the impact of migraine on various aspects of life, including family and social relationships. The results showed that migraine sufferers often experience feelings of guilt, inadequacy, anger, and dissatisfaction in their relationships. The disease can negatively affect intimacy in relationships, leading to a reduction in leisure and family activities. Women with migraine are especially affected due to their social role expectations and responsibilities[418]. The impact of migraine varies greatly depending on several factors, such as the type and recurrence of pain, the presence of comorbidities, and the psychological and social aspects of the patient. Chronic pain caused by migraine, depression, stigma, and constant focus on pain can all contribute to the social withdrawal of the patient[419].

The concept of migraines being a trivial disorder of privilege or an excuse has a long history, with literary and medical figures often portraying those with migraines

[416]Istituto Superiore di Sanità Centro di Riferimento per la Medicina di Genere, (2018) *Emicrania: Impatto Sociale ed Economico in Italia*.
[417] Tarricone R. (2006). Cost-of-illness analysis. What room in health economics?. *Health policy (Amsterdam, Netherlands)*, *77*(1), 51–63. https://doi.org/10.1016/j.healthpol.2005.07.016
[418] Buse, D. C., Scher, A. I., Dodick, D. W., Reed, M. L., Fanning, K. M., Manack Adams, A., & Lipton, R. B. (2016). *Impact of Migraine on the Family: Perspectives of People With Migraine and Their Spouse/Domestic Partner in the CaMEO Study. Mayo Clinic Proceedings, 91(5), 596–611.* doi:10.1016/j.mayocp.2016.02.013
[419]*ibidem*

as neurotic and privileged. Despite the existence of biological explanations for migraines, doctors have often linked the disorder to a patient's personality and emotions[420]. Even though many 20th-century doctors believed that migraines had a physiological basis, they still created a highly gendered and moralized image of the typical migraine patient[421]. Dr Wolff conducted experiments showing that migraines involve the dilation of the vascular system, therefore placing the reasons for the pain on physiological grounds, he still believed that migraines were caused by psychological and personality-related factors[422]. Additionally, he used to describe male patients as ambitious and successful, but he portrayed women as overly concerned with small annoyances and resistant to feminine duties, specifically sex[423]. Up until the turn of the century, migraines were commonly viewed by the medical community as a psychological condition that affected those with controlling personalities. However, technological advancements and genetic research have helped redefine migraines as a neurobiological disorder. This research has also disproved the idea of a "migraine personality" shaped in the 1940s portraying women with migraines as high-strung neurotics who abstained from sexual activities.[424]

While there is still much to be discovered about the causes of migraines, it is now widely accepted as a biological disease, like any other, but it is still strongly stigmatized[425]. According to Kempner, an associate professor of sociology at Rutgers University, there is a "legitimacy deficit" when it comes to migraine. Although recognized as a disease, it still lacks moral legitimation since it is strongly belittled[426]. Western societies are used to legitimate a disease only when it is visible and when its symptoms are linked to a biological pathology[427]. However, diseases are not merely something related to biology, how diseases are shaped and conceived

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[420] Kempner J. (2016). What Biology Can't Do. *Headache*, *56*(6), 1047–1052. https://doi.org/10.1111/head.12854 p.1048

[421] *ibi* p.1051

[422] *ibi*p.1048

[423] *ibidem*

[424] Kempner, J. (2014). *Not Tonight: Migraine and the Politics of Gender and Health*. Amsterdam University Press. P.21

[425] Kempner, J. (2014). Cit. P.2

[426] Kempner, J. (2014).cit. Pp.11 -12

[427] Foucault, M. (1973) *The Birth of the Clinic: An Archaeology of Medical Perception*. New York: Random House.

by the patient, people, societies, public policy etc. is also important, thus, diseases are as biological as social, and they can change over time and over culture[428]. Headache disorders, like many other pain conditions, are not properly visible. The symptoms, such as head pain, visual auras, and sensitivity to sound, are hard to quantify and can be dismissed by practitioners as they lack physical evidence. These disorders lack external indicators, such as broken bones or physical deformities, even though a person with a severe headache disorder may appear healthy upon examination[429]. Invisibility in chronic conditions such as headache disorders strongly affects its legitimacy[430]. For many people with headache disorders, especially women, the medical encounter becomes a performance in which they must avoid being perceived as "hysterical," "malingering," "hypochondriacal," or a "drug seeker." To be taken seriously, patients must find a balance between being assertive and conveying the severity of their pain. Despite their efforts, patients often report feeling dismissed, ignored, and belittled by their doctors, leading to feelings of scepticism and a lack of comprehension[431].

Migraine sufferers are often found to have a higher likelihood of depression, anxiety, or other mental health conditions; indeed, mental distress is common in migraines, but these conditions are not responsible for migraines. Instead, they are often comorbidities[432]. In addition, migraine is still treated effectively using anti-depressants, though it is not because the patients are depressed, but instead because a small amount of these drugs have a transversal effect helping with the prevention of migraines[433]. Balancing the treatment and perception of migraine, which is often comorbid with mental disorders, is challenging. This is made even more difficult

[428] Conrad, P., & Barker, K. K. (2010). *The Social Construction of Illness: Key Insights and Policy Implications. Journal of Health and Social Behavior, 51(1_suppl), S67–S79.* doi:10.1177/0022146510383495
[429] Kempner, J. (2014).cit. P. x
[430] Toye, F., Seers, K., Allcock, N., Briggs, M., Carr, E., Andrews, J., & Barker, K. (2013). *Cit p*p. 46-47
[431] Kempner, J. (2014). *Cit.* P.xi
[432] Minen, M. T., Begasse De Dhaem, O., Kroon Van Diest, A., Powers, S., Schwedt, T. J., Lipton, R., & Silbersweig, D. (2016). Migraine and its psychiatric comorbidities. *Journal of neurology, neurosurgery, and psychiatry*, *87*(7), 741–749. https://doi.org/10.1136/jnnp-2015-312233
[433] Burch R. (2019). Antidepressants for Preventive Treatment of Migraine. *Current treatment options in neurology*, *21*(4), 18. https://doi.org/10.1007/s11940-019-0557-2

due to the gendered and feminized cultural stereotypes surrounding these mental conditions[434].

Kempner's research delves into the connection between gender and the legitimization concerning migraine in medicine. For instance, despite being recognized as an actual medical disease by biomedicine, why is migraine still frequently dismissed and not taken seriously? The author argues that despite the recent biomedical acknowledgement of migraine, it is not powerful enough to eradicate the deep-seated sexism present in both culture and medicine. The transformation of migraine from a psychological disorder to a brain disease has only perpetuated the same outdated gender stereotypes[435] (i.e., hysteria). Gender constructs do have significant consequences on how patients perceive and respond to pain and suffering on a personal level, but also in the medical practice, research, and policy-making, allowing gender stereotypes to continue has far-reaching negative effects. These stereotypes not only stigmatize individuals with migraine by creating false assumptions about their personality but also negatively impacts their healthcare[436]. For instance, there is a study showing that women with migraine may fear being judged by their doctors if they seek help or do not respond to treatment, while men are less likely to seek help for head pain in the first place and are less likely to be diagnosed with migraine even when they have the same symptoms as women[437].

Feminist theory can provide insight into why migraine is recognized as a legitimate medical condition yet is still inadequately treated, funded, and supported. By considering the ways in which neurobiological explanations are influenced by gender, we can understand how individuals with migraine are often perceived as overly sensitive and exaggerating their symptoms, despite it being a brain disease. As a result, the lack of legitimacy for migraine persists in society, healthcare, and government policies[438]. Feminists believe that it is crucial to uncover and

[434] Kempner, J. (2014). *Cit.* P. 49
[435] *ibi*. P.xii
[436] *ibidem*
[437] Lipton, R. B., Stewart, W. F., & Simon, D. (1998). Medical consultation for migraine: results from the American Migraine Study. *Headache*, *38*(2), 87–96. https://doi.org/10.1046/j.1526-4610.1998.3802087.x
[438] Kempner, J. (2014). *Cit.* P.16

understand how societal power dynamics shape medical understanding and practices[439].

b. Cluster headache

The International Headache Society classifies cluster headaches as a primary headache, along with tension-type headaches and migraines [440]. Cluster headache is a rare and severe disorder characterized by intense one-sided headaches located around the eye and accompanied by various symptoms such as red, swollen eyes, congestion, restlessness, sweating, and pupil dilation or contraction[441]. In a study, some patients vent their agitation or restlessness by engaging in certain physical activities such as jumping jacks, jogging, and push-ups[442]. This disorder affects less than 1% of the population and is more common in men than women, with a ratio of 2.5-3.5.:1, however, women may have a delay in their diagnosis. This could be due to the fact that women often experience more nausea and vomiting during their attacks, which can be mistaken for migraine headaches rather than cluster headaches[443].

> *«Cluster headache is probably the most dramatic of all the headache types. . .. Cluster pain is so excruciating that it brings even the strongest of men to their knees. It is no wonder that cluster headache has been termed suicide headache. Rather than retreating to a dark, quiet room, as do migraine sufferers, cluster patients cannot sit or lie still. Rather, they pace, rock, and drive their fists into the painful eye. Some patients may even show unusual*

[439] Kempner, J. (2006). Uncovering the Man in Medicine: Lessons Learned from a Case Study of Cluster Headache. *Gender and Society*, *20*(5), 632–656. http://www.jstor.org/stable/27640920 p.633

[440] Headache Classification Subcommittee of the International Headache Society (2004) , *The International Classification of Headache Disorders: 2nd edition*, in *Cephalalgia*, vol. 24, Suppl 1 pp. 9-160, DOI:10.1111/j.1468-2982.2004.00653.x, PMID 14979299.

[441] Headache Classification Committee of the International Headache Society (IHS) (2018). The International Classification of Headache Disorders, 3rd edition. *Cephalalgia : an international journal of headache*, *38*(1), 1–211. https://doi.org/10.1177/0333102417738202 p.41

[442] Schindler, E. A. D., Cooper, V., Quine, D. B., Fenton, B. T., Wright, D. A., Weil, M. J., & Sico, J. J. (2021). "You will eat shoe polish if you think it would help"-Familiar and lesser-known themes identified from mixed-methods analysis of a cluster headache survey. *Headache*, *61*(2), 318–328. https://doi.org/10.1111/head.14063 p. 325

[443] Wei, D. Y., Khalil, M., & Goadsby, P. J. (2019). Managing cluster headache. *Practical neurology*, *19*(6), 521–528. https://doi.org/10.1136/practneurol-2018-002124 p. 521

behavior, such as hitting themselves in the head, banging their heads against the wall, or engaging in intense physical activity such as push-ups or running[444]».

The language used in this description of cluster headaches reinforces societal notions of masculinity, portraying the disorder with intense and aggressive symptoms[445]. The use of this gendered language in medical literature describes people with cluster headaches with an "excess of masculinity". Even female patients were described in masculine terms or as lacking feminine qualities[446]. Although recent studies do not support this gendered portrayal, this language persists and serves as an example of how gender shapes medical understanding. Medical literature on cluster headaches reinforces stereotypes of hypermasculinity, despite evidence to the contrary. This portrayal of the typical cluster patient as a masculine, athletic man is based on cultural norms and ideas of hegemonic masculinity rather than any inherent characteristics of men[447]. Dr Graham and Dr Kudrow associated cluster headache patients with having male personality traits, such as ambition or hard work, and physically he described the patients as having rugged and aggressive looks with athletic appearances, signs of masculinity[448]. He proposed that the headaches were related to a psychological tension between appearing masculine and feeling passive, which was reflected in the patient's appearance. In addition, he described female cluster headache patients as having masculine traits[449].

Despite the lack of evidence backing up Dr Graham's profile of cluster headache patients, it still persisted in the medical field[450]. Since its early days in medical literature, cluster headache has been primarily associated with men. This

[444] Rapoport, A., F. Sheftell, and S. Tepper. 2003. Conquering headache. 4th ed. Hamilton, Ontario, Canada: B. C. Deck, p. 13
[445] Kempner, J. (2006). Cit. p. 634
[446] Kudrow, L. (1979). *Cluster Headache: Diagnosis and Management. Headache: The Journal of Head and Face Pain, 19(3), 142–150.* doi:10.1111/j.1526-4610.1979.hed1903142.x
[447] Connell, R. W. (1995). *Masculinities*. Berkeley: University of California Press
[448] Graham, J. R. (1972). Cluster Headache. *Headache: The Journal of Head and Face Pain, 11(4), 175–185.* doi:10.1111/j.1526-4610.1972.hed1104175.x
[449] *ibidem*
[450] Kempner, J. (2006). Cit. pp. 645-646

observation eventually led to the idea that it was a disorder of excessive masculinity, depicted as affecting rugged, athletic men[451]. However, this portrayal of cluster headache patients is based on western norms of hegemonic masculinity rather than a natural or universal attribute of men[452]. Despite the lack of evidence, medical professionals tend to perpetuate the hypermasculine depiction of cluster headache patients, distancing it from the forms of headaches associated with the hysterical discourse[453]. In fact, some doctors and patients admire the cluster personality, which is characterized by qualities such as strength, stoicism, athleticism, and ruggedness that are valued and pathologized[454].

In addition, in Kempner's paper, she claimed that the persistence of this stereotype highlights the need for a deeper understanding of how cultural stereotypes can shape medical research and understanding. Feminist scholars have successfully challenged stereotypes about women in medicine and provided a framework for interpreting data in a more inclusive way. Applying this same approach to men's health can help to undermine traditional gender binaries and provide a more accurate understanding of illnesses, deconstructing them[455].

« *Identifying the gendered man in medicine unmasks the universal patient for what he really is: part of a broader sociocultural gender system that promotes gender essentialism*[456]».

4. Endometriosis: not only gynaecology

Endometriosis is a systemic disease affecting around 10% of women of reproductive age, causing pain and chronic symptoms. It is characterized by the

[451] Geweke, L. O. (2002). *Misdiagnosis of cluster headache. Current Pain and Headache Reports, 6(1), 76–82*. doi:10.1007/s11916-002-0028-3
[452] Connell, R.W. cit.
[453] Kempner, J. (2014). *Cit.*. P.156
[454] *ibidem*
[455] Kempner, J. (2006) cit. pp. 650-651
[456] Kempner, J. (2006). p. 651

growth of endometrial-like tissue outside the uterus leading to inflammation[457], mainly in the pelvic area, affecting the peritoneum, ovaries, and rectovaginal septum. Extra pelvic endometriosis is rare, but there are cases in the brain, the gastrointestinal tract, the musculature[458], the diaphragm, the pleura[459], and the pericardium[460,461]. Symptomatology includes chronic pelvic pain, fatigue, heavy, painful menstrual bleeding, and deep dyspareunia[462], and it is estimated that around half of infertile women have endometriosis, however, there are also people with no symptoms[463]. The severity of pain does not always correspond with the severity of the disease[464]. Moreover, many women with endometriosis experience comorbidities, including migraine, depression, anxiety, irritable bowel syndrome, interstitial cystitis/painful bladder syndrome, chronic fatigue syndrome, fibromyalgia, uterine fibroids, and ovarian cysts[465]. Endometriosis also increases the risk of certain types of cancer and other health conditions like cardiovascular disease[466]. The average age at diagnosis is approximately 28 years[467] , and usually, it takes women 7 to 12 years from the start of pain symptoms to receive a clinical diagnosis[468]. An accurate diagnosis can be made only through laparoscopic inspection[469] and biopsy of endometrial tissue[470]. The exact cause of the condition

[457] Adamson GD, Kennedy S, Hummelshoj L. Creating Solutions in Endometriosis: Global Collaboration through the World Endometriosis Research Foundation. Journal of Endometriosis. 2010;2(1):3-6. doi:10.1177/228402651000200102 p. 3

[458] Goldberg, J., & Davis, A. (2016). *Extrapelvic Endometriosis. Seminars in Reproductive Medicine, 35(01), 098–101.* doi:10.1055/s-0036-1597122

[459] the membrane that surrounds the lungs

[460] the membrane that surrounds, supports and protects the heart

[461] Giudice, L. C., & Kao, L. C. (2004). Endometriosis. *Lancet (London, England)*, *364*(9447), 1789–1799. https://doi.org/10.1016/S0140-6736(04)17403-5

[462] Painful sexual intercourse

[463] De Nardi P, Ferrari S. *Deep Pelvic Endometriosis: A Multidisciplinary Approach*. Milan: Springer, 2011, pp.18-19

[464] Falcone, T., & Flyckt, R. (2018). *Clinical Management of Endometriosis. Obstetrics & Gynecology, 131(3), 557–571.* doi:10.1097/aog.0000000000002469

[465] Practice Committee of the American Society for Reproductive Medicine (2014). Treatment of pelvic pain associated with endometriosis: a committee opinion. *Fertility and sterility*, *101*(4), 927–935. https://doi.org/10.1016/j.fertnstert.2014.02.012

[466] Mu, F., Rich-Edwards, J., Rimm, E. B., Spiegelman, D., & Missmer, S. A. (2016). Endometriosis and Risk of Coronary Heart Disease. *Circulation. Cardiovascular quality and outcomes*, *9*(3), 257–264. https://doi.org/10.1161/CIRCOUTCOMES.115.002224

[467] Falcone, T., & Flyckt, R. cit.

[468] Nnoaham, K. E., et al. (2011). Impact of endometriosis on quality of life and work productivity: A multicenter study across ten countries. *Fertility and Sterility 96* (2): 366–73. P.367

[469] Surgical procedure that involve small incisions on the abdomen allowing the access and examination of the pelvic area

[470] Falcone, T., & Flyckt, R. cit.

is still unknown and controversial[471]. There is no cure for endometriosis, and management focuses on relieving symptoms through various methods, including pain medication, hormonal therapy, surgery, and fertility treatment, with varying levels of success[472].

Despite its high prevalence, endometriosis is still underfunded and under-researched, hindering progress in diagnosing and treating the disease[473]. To improve diagnosis, treatment, and care, interdisciplinary approaches, increased education, awareness and research are needed to accelerate progress so that healthcare professionals are up to date and hopefully reduce patient delays in diagnosis and treatments[474]. Education concerns medical professionals but also patients. Educating young women on menstrual health through school health workers and providing information on menstrual pathologies can prevent disruptive events and improve overall health[475].

Furthermore, there are studies highlighting the economic burden as well. Before and after diagnosis, pain can take women not to work, lose their jobs or have a loss in productivity in work[476]. Endometriosis affects patients at a young and productive age, causing significant barriers to their career and earning potential, moreover, the financial burden of facing healthcare costs is very high, which affects women's ability to save, work and improve career opportunities[477]. Unfavourable work environments can make it challenging for these women to take sick leave, receive

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[471] Burney, R. O., & Giudice, L. C. (2012). *Pathogenesis and pathophysiology of endometriosis. Fertility and Sterility, 98(3), 511–519.* doi:10.1016/j.fertnstert.2012.06.

[472] European Society of Human Reproduction and Embryology (2013). *Guideline on the management of women with endometriosis,.* http://www.eshre.eu/ ESHRE/English/Guidelines-Legal/Guidelines/Guidelines-in-development/page. aspx/1518 pp.6-7

[473] Adamson GD, Kennedy S, Hummelshoj L. cit. p. 3

[474] As-Sanie, S., Black, R., Giudice, L. C., Gray Valbrun, T., Gupta, J., Jones, B., … Nebel, R. A. (2019). *Assessing Research Gaps and Unmet Needs in Endometriosis. American Journal of Obstetrics and Gynecology.* doi:10.1016/j.ajog.2019.02.033

[475] Manderson, L., Warren, N., & Markovic, M. (2008). *Circuit Breaking: Pathways of Treatment Seeking for Women With Endometriosis in Australia. Qualitative Health Research, 18(4), 522–534.* doi:10.1177/1049732308315432

[476] Fourquet J, Báez L, Figueroa M, Iriarte RI, Flores I. (2011) Quantification of the impact of endometriosis symptoms on health-related quality of life and work productivity. *Fertil Steril*. Jul;96(1):107-12. doi: 10.1016/j.fertnstert.2011.04.095. Epub 2011 May 31. PMID: 21621771; PMCID: PMC3129383.

[477] Ellis, K., Munro, D., & Clarke, J. (2022). Endometriosis Is Undervalued: A Call to Action. *Frontiers in global women's health*, *3*, 902371. https://doi.org/10.3389/fgwh.2022.902371

sufficient time off for doctor appointments, and negatively impact their lives[478]. Endometriosis results in significant loss of work hours and income due to frequent “absenteeism”, not going to work, and "presenteeism," continuing to work despite the pain and other symptoms having however reduced productivity[479].

Due to its chronicity and no proper cure, it has negative impacts on patients' quality of life and productivity, causing economic and social burdens[480], and impacting a patient's daily life in several aspects, such as appetite, exercise, sleep, emotional well-being, sexual relations, social activities, childcare, and work and household productivity[481].

4. 1. When “invisibility” means hysteria

Endometriosis was first documented in medical literature in 1896, however, it was not given a name until 1925 by Dr Sampson. Despite this, according to Shahot, suggestions of its existence can be seen in an advertisement from the 19th century for Lydia E. Pinkham's Vegetable Compound, which depicts a white woman in bed with the words "Nervous Breakdown" beneath the image (*fig.3.1.*)[482]. The Vegetable Compound by Lydia E. Pinkham was marketed as a cure for "female complaints”, a term used in the 19th century to describe women's pain concerning their reproductive system. Initially, it was advertised

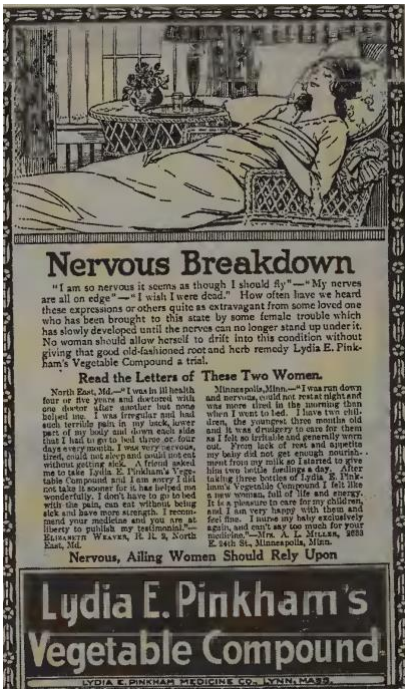
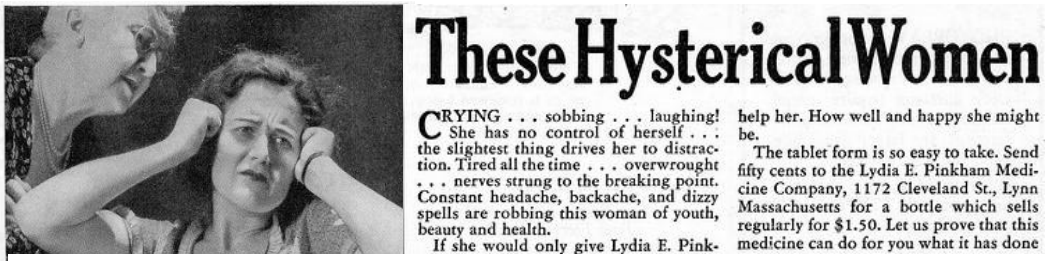


FIGURE 3.1.

[478] As-Sanie, S., Black, R., Giudice, L. C., Gray Valbrun, T., Gupta, J., Jones, B., … Nebel, R. A. cit. p. 5
[479] Nnoaham, K. E., et al. Cit.
[480] Fourquet J, Gao X, Zavala D, et al. (2010) Patients’ report on how endometriosis affects health, work, and daily life. *Fertil Steril;*93:2424–8. P. 2427
[481] *ibidem*
[482] Shohat, E. (1998). *‘Lasers for Ladies’: Endo Discourse and the inscriptions of science*, in The Visible Woman: Imaging Technologies, Gender and Science, edited by P.A. Treichler, L. Cartwright and C. Penley. New York: New York University Press, 240–70, p. 242

as a remedy for menstrual cramps and menopause symptoms. As the product gained popularity, the Pinkham family started to claim that it also helped with conception, lowered the risk of miscarriage and cure ovarian diseases[483]. The connection between painful experience to an issue of "nerves" to describe ailing women perpetuates a stereotype of women as being overly emotional or having a "hysterical" demeanour (*fig.3.2.*)[484].



These Hysterical Women

CRYING . . . sobbing . . . laughing! She has no control of herself . . . the slightest thing drives her to distraction. Tired all the time . . . overwrought . . . nerves strung to the breaking point. Constant headache, backache, and dizzy spells are robbing this woman of youth, beauty and health.

If she would only give Lydia E. Pinkham's Vegetable Compound a fair trial, it would help her. How well and happy she might be.

The tablet form is so easy to take. Send fifty cents to the Lydia E. Pinkham Medicine Company, 1172 Cleveland St., Lynn Massachusetts for a bottle which sells regularly for $1.50. Let us prove that this medicine can do for you what it has done

FIGURE 3.2.

Pain experienced by women, particularly in the reproductive area, is often dismissed as imaginary, a symptom of neurosis, or simply the melancholic reality of being a female[485].

The effort to connect women's behaviour with endometriosis is entangled in the social construction of gender[486]. For instance, if we trace back to the first half of the 20th century, in an article from 1940 in the Annals of Surgery, Dr Meigs argues that the high incidence of endometriosis is not due to tumours, but rather to abnormal physiology caused by late marriage and not frequent childbearing[487]. Infertility in women with endometriosis is common (around 30-40% of women with endometriosis result infertile)[488], and possible causes are numerous but still unclear. Many infertility treatments exist, such as surgery; however, the effect is unpredictable and uncertain[489]. Socially, infertility has always been stigmatized by

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[483] Horwitz, R., (2017) Lydia Pinkham's Vegetable Compound (1873-1906). *Embryo Project Encyclopedia*). ISSN: 1940-5030 http://embryo.asu.edu/handle/10776/11506.

[484] Shohat, E. cit., p. 242

[485] *Ibi* p. 244

[486] *Ibi* p. 246

[487] Meigs Joe Vincent, (1940) , "Endometriosis: Its Significance," Annals of Surgery, vol. 114 (1940): 866-874, pp. 866 -869.

[488] Macer, M. L., & Taylor, H. S. (2012). Endometriosis and infertility: a review of the pathogenesis and treatment of endometriosis-associated infertility. *Obstetrics and gynecology clinics of North America*, *39*(4), 535–549. https://doi.org/10.1016/j.ogc.2012.10.002

[489] Tanbo, T., & Fedorcsak, P. (2017). Endometriosis-associated infertility: aspects of pathophysiological mechanisms and treatment options. *Acta obstetricia et gynecologica Scandinavica*, *96*(6), 659–667. https://doi.org/10.1111/aogs.13082

society, sometimes reinforced by religious beliefs and justified with biological reasons, however, this social stigma has always been more harmful to women rather than men[490]. For instance, in 1950, Dr Scott and Te Linde claimed that « *A large number of women must accept this childless state as God's will or fate's bidding until the element of pain presents itself*»[491]. The language used in the study is akin to biblical condemnation, suggesting that women who delay or avoid having children are failing in their inherent purpose. Since the 1940s, the main theory about the cause of endometriosis has centred around late marriage and childbearing[492] However, since the 1960s, in the context of the second wave of feminism, endometriosis started to be labelled as the "disease of the career woman," due to its connection to choosing not to have children and work instead[493]. In 1980, Dr Buttram described the typical endometriosis patient as an ambitious woman who delays marriage until finishing college and postpones having children until financial stability is achieved[494]. Moreover, still, nowadays, women with endometriosis may face pressure to have babies as a form of treatment, even if they have mixed feelings about or are not interested in motherhood. Despite this, doctors continue to prescribe pregnancy as a cure for endometriosis, ignoring the reality that many women with endometriosis might not be fertile because of it[495]. Moreover, the treatment of endometriosis is often focused on helping women conceive rather than addressing their overall health. The idea that pregnancy can cure endometriosis creates a problematic situation, as endometriosis can impact fertility. The emphasis on motherhood and heterosexual parenting as the goal of endometriosis treatment distracts from finding a real cure for the disease. The medical establishment's narrow view of endometriosis as an obstacle to normal motherhood should be re-

[490] Sharma, R. S., Saxena, R., & Singh, R. (2018). Infertility & assisted reproduction: A historical & modern scientific perspective. *The Indian journal of medical research*, *148*(Suppl), S10–S14. https://doi.org/10.4103/ijmr.IJMR_636_18

[491] Scott RB., Te Linde R W., (1950), External Endometriosis: The Scourge of the Private Patient,*Annals ofSurgery*, vol. 131 697-720,701.

[492] Shohat, E. p. 247

[493]*Ibi* pp. 247-248

[494] Buttram Veasy C., (1980) in an interview that appeared in the Houston Chronicle, Evidence for the Risk of Pelvic Endometriosis by age, rage and socioeconomic status, *Epidemiologic Reviews*, Volume 6, Issue 1, 1984, Pages 167–191,

[495] Shohat, E. cit., p. 248

evaluated, as it ignores the needs and desires of women with endometriosis and ignore the disease itself[496].

Moreover, a study conducted in 2007 analysed women's narratives related to their chronic pelvic pain and found that the notion of pain is considered "normal" for women was perpetuated by medical professionals attributing it to hormones and the portrait of women's bodies as inherently "unbalanced."[497] Women experiencing pelvic pain often show a desire for a visible source of pain within the body that can be medically legitimized. The absence of visible pathology leads to the consideration of pain as "normal" and justifying it to the intrinsic nature of people with the pelvis[498]. Further, a typical pain that afflicts several women with endometriosis is dyspareunia, pain during and following sexual intercourse[499]. A study by Danny et al. unveiled ways of coping with painful intercourse. Danny et al., through qualitative research, revealed that some women would tolerate the pain in order to achieve pregnancy, while others would endure pain to keep intimacy and connection with their partner, and others would limit or avoid completely sex intercourse[500]. The decision of those who endure the pain leads to thinking that they somehow learnt to prioritise the presumable partner's "need" over their pain[501]. The issue of dyspareunia is often overlooked due to the taboo associated with sex[502]. Negative consequences have been reported in their self-esteem, using words such as guilty and inadequate to describe their feelings, resulting thus in negative impacts on their quality of life[503].

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[496] *Ibi* p. 250

[497] Grace VM, MacBride-Stewart S. (2007) Women get this: gendered meanings of chronic pelvic pain. *Health* (London);11:47–67.

[498] *Ibi* P. 61

[499] Ferraro S, Esposito F, Abbamonte LH, Anserini P, Remorgida V, Ragni N. Quality of sex life in women with endometriosis and deep dyspareunia Fertil Steril 2005; 83: 573–579.

[500] Denny, E., & Mann, C. H. (2007). Endometriosis-associated dyspareunia: the impact on women's lives. *The journal of family planning and reproductive health care*, *33*(3), 189–193. https://doi.org/10.1783/147118907781004831 p.191

[501] Jones, C. E. (2016). *The Pain of Endo Existence: Toward a Feminist Disability Studies Reading of Endometriosis. Hypatia, 31(3), 554–571.* doi:10.1111/hypa.12248 p.10

[502] Denny, E., (2004). 'You are one of the unlucky ones': delay in the diagnosis of endometriosis. Divers. Health Social Care 1, 39–44.

[503] Denny, E., & Mann, C. H. (2007). Endometriosis-associated dyspareunia: the impact on women's lives. *The journal of family planning and reproductive health care*, *33*(3), 189–193. https://doi.org/10.1783/147118907781004831 p.191

The stigma surrounding endometriosis symptoms, which are often related to infertility and menstruation, results in delayed diagnosis by healthcare providers, particularly in younger women who tend to have longer diagnostic delays[504]. Seear, Associate Professor at La Trobe University, suggests that the cultural portrayal of menstruation as a source of shame that should be kept hidden is a major barrier to women seeking help for endometriosis[505]. The societal normalization of women's pain and the taboo surrounding menstruation and painful sex can prevent women from seeking care or seeking support from healthcare providers, friends, and family[506]. Women and those around them often do not understand endometriosis as a condition. The view of menstrual irregularities as normal and menstrual pain as something to endure can also lead to a delay in seeking help, particularly for adolescents[507]. Indeed, there is a societal "etiquette of menstruation" that views menstruation as private and to be hidden[508]. Menstruation is viewed as deviant, and efforts are made to minimize its visibility. If the female menstrual cycle is praised, it is only seen as a reproductive aspect[509].

Despite the high number of cases of endometriosis, the average time for a diagnosis is still really high due to difficulties in classifying and identifying the disease. Notwithstanding being more prevalent than diabetes in the United Kingdom, endometriosis has received limited attention from government policy and research funding globally, resulting in a lack of acknowledgement and awareness about the disease and its impact on women, families, and society[510]. The uncertainty of its

[504] As-Sanie, S., Black, R., Giudice, L. C., Gray Valbrun, T., Gupta, J., Jones, B., Laufer, M. R., Milspaw, A. T., Missmer, S. A., Norman, A., Taylor, R. N., Wallace, K., Williams, Z., Yong, P. J., & Nebel, R. A. cit.

[505] Seear K. The etiquette of endometriosis: stigmatisation, menstrual concealment and the diagnostic delay. Soc Sci Med 2009;69:1220–7.

[506] As-Sanie, S., Black, R., Giudice, L. C., Gray Valbrun, T., Gupta, J., Jones, B., Laufer, M. R., Milspaw, A. T., Missmer, S. A., Norman, A., Taylor, R. N., Wallace, K., Williams, Z., Yong, P. J., & Nebel, R. A. cit. p.87

[507] Denny E. (2009) 'I never know from one day to another how I will feel': pain and uncertainty in women with endometriosis. *Qual Health Res*;7:985 –995

[508] Laws, S. (1990). Issues of blood: The politics of menstruation. Hampshire: Macmillan

[509] Shohat, E. cit, p. 245

[510] Simoens, S., Dunselman, G., Dirksen, C., Hummelshoj, L., Bokor, A., Brandes, I., Brodszky, V., Canis, M., Colombo, G., DeLaire, T., et al., 2012. The burden of endometriosis: costs and quality of life of women with endometriosis and treated in referral centres. Hum. Reprod. 5, 1292–1299.

aetiology and the considerable delay in diagnosis led endometriosis to be often referred as the "missed disease[511]". Individuals who have experienced symptoms such as pain and infertility for an extended period without receiving a proper diagnosis, they just seek validation and legitimacy, they «*just want the permission to be ill*[512]».

Endometriosis should not be viewed as solely a disease related to a woman's reproductive capabilities. It is a systemic condition that affects multiple organs outside of the sole gynaecology jurisdiction[513]. Additionally, people also contribute to the problem by not understanding endometriosis and trivializing symptoms, making it challenging for affected women. Societal factors such as gender bias and unequal treatment of pain based on gender have a strong impact on women[514]. Feelings such as isolation, guilt, worry, worthlessness, hopelessness, and difficulty to cope together with the experience of pain can result in mental and emotional repercussions on women, such as depression, anxiety and emotional distress. The complex experience of endometriosis needs to be addressed thoroughly[515].

To conclude, endometriosis is often associated with "female problems" affecting only white, wealthy, straight women, which limits access to diagnosis for people from other communities, such as people of colour, LGBTQ+ individuals, low-income individuals, and gender non-conforming individuals[516]. It is important to note that not all people with endometriosis are women, and not all of them have menstrual cycles. Endometriosis has been found in various individuals, including

[511] Overton, C., Park, C., (2010). Endometriosis. More on the missed disease. *BMJ* 341, c3727. https://doi.org/10.1136/bmj.c3727

[512] Nettleton, S. (2006). "I just want permission to be ill": Towards a sociology of medically unexplained symptoms. *Social Science & Medicine, 62(5), 1167–1178.* doi:10.1016/j.socscimed.2005.07.0

[513] Jones, C. E. (2016). *The Pain of Endo Existence: Toward a Feminist Disability Studies Reading of Endometriosis. Hypatia, 31(3), 554–571.* doi:10.1111/hypa.12248

[514] Samulowitz, A., Gremyr, I., Eriksson, E., & Hensing, G. Cit.

[515] Culley, L., Law, C., Hudson, N., Denny, E., Mitchell, H., Baumgarten, M., & Raine-Fenning, N. (2013). The social and psychological impact of endometriosis on women's lives: a critical narrative review. *Human reproduction update*, *19*(6), 625–639. https://doi.org/10.1093/humupd/dmt027

[516] Jones, C. E. (2016). *The Pain of Endo Existence: Toward a Feminist Disability Studies Reading of Endometriosis. Hypatia, 31(3), 554–571.* doi:10.1111/hypa.12248 p.8

infants[517], postmenopausal women[518], those who have had hysterectomies[519], transgender men[520], and even some cisgender men[521],[522]. Disabilities intersect with various identities such as gender, race, class, nationality, and sexuality from a social-constructionist perspective. Medical constructions of endometriosis as a reproductive disorder should be criticized, but medical treatment for the condition should not be forsaken. Endometrioses deserve recognition, support, and access to resources without being victimized. They also emphasize that disability access involves more than just physical accommodations but also how we treat and value those who are chronically ill and their contributions to society[523].

5. Conclusions

A large population of individuals in Western countries suffer from chronic pain, with the majority of these individuals being women[524]. Diseases characterized by chronic pain are often unexplained and subjective and, therefore, difficult to treat. As outlined by Foucault in 1973, the biomedical model of disease portrays disease as a tangible and identifiable pathology within the physical body that can be charted and explored. By using diagnostic tools and exams, biomedicine aims to make the body more visible and associated it with pathological facts. According to the biomedical model, the existence of diseases is primarily based on their pathophysiological presence within the body[525]; if not, the patient's complaint is likely to be considered unfounded[526].

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[517] Schuster, Meike, and Dhanya A. Mackeen. (2015). Fetal endometriosis: A case report. *Fertility and Sterility 103* (1): 160–62

[518] Manero M.G., Royo P, Olartecoechea B., Alcazar J.L.. (2009). Endometriosis in a postmenopausal woman without previous hormonal therapy: A case report. *Journal of Medical Case Reports* 3 (1): 135.

[519] Bawin, I., E. Troisfontaines, and M. Nisolle. 2013. Rare case of ureteral endometriosis nine years after hysterectomy. Revue Medicale de Liege 68 (7–8): 378–81.

[520] Fox, L.(2014). Endometriosis and transgender: Beyond gendered reproductive health. Hormones Matter. http://www.hormonesmatter.com/endometriosis-transgender-beyondgendered-reproductive-health/

[521] Fukunaga, M. 2012. Paratesticular endometriosis in a man with prolonged hormonal therapy for prostatic carcinoma. Pathology Research and Practice 208 (1): 49–61.

[522] Martin, J. D.,. Hauck A. E. (1985) Endometriosis in the male. American Surgery 51 (7): 426–30.

[523] Jones, C. E. cit. p. 13

[524] International Association for the Study of Pain. (2018). Cit.

[525] Foucault, M. cit.

[526] Englehardt, H. Tristram Jr. 1986. The Foundations of Bioethics. Oxford: Oxford University Press. Pp.183-184

The current medical approach is to diagnose health problems based on both subjective symptoms (patient-reported) and objective findings (observable by the healthcare provider) and it also assumes that with proper diagnosis and treatment, a person's health can be restored[527]. However, in many cases, objective findings are absent or difficult to find, thus it can be challenging for healthcare providers to diagnose and treat the patient. This can be especially true in the case of chronic unexplained disorders, such as fibromyalgia, endometriosis, and headache disorders, where clear-cut aetiology, treatment or cure is hard or even impossible to find, yet.

Individuals suffering from chronic pain often need a biomedical explanation or a diagnosis to have their symptoms considered legitimate. Without a diagnosis, they find themselves in a state of uncertainty, not fully recognized as ill, but also not symptom-free. The experience of alienation from the medical model results in the perception that their pain is not considered legitimate[528].

Women often face unequal treatment in the healthcare system due to societal gender biases. This is an additional challenge, as they have to convince doctors of the seriousness of their pain and to result credible in order to receive appropriate treatment. The lack of credibility in reporting pain symptoms leads to the downgrading of assistance and treatment and perpetuates a cycle of invalidation and harm. In turn, it results in deep distress and further marginalization of the patient's experience, creating a sense of humiliation, social exclusion, denial of proper assistance, and a waste of time and money to find a practitioner who will take their pain seriously[529]. However, receiving a diagnosis can also be a burden. For instance, fibromyalgia is still highly stigmatized and often associated with the hysteria discourse. People with this diagnosis may come to realize that it is made

[527] Engel G.(1977) The need for a new medical model: a challenge for biomedicine. Science 1977;196:129–36. http://dx.doi.org/10.1126/science.847460
[528] Rhodes, L. A., McPhillips-Tangum, C. A., Markham, C., & Klenk, R. (1999). *The power of the visible: the meaning of diagnostic tests in chronic back pain. Social Science & Medicine, 48(9), 1189–1203.* doi:10.1016/s0277-9536(98)00418-3
[529] Mengshoel, A. M., Sim, J., Ahlsen, B., & Madden, S. cit.

through a process of exclusion and does not fit the conventional medical model that seeks a specific underlying cause[530].

A lack of objectivity can also be translated into invisibility. The impossibility of seeing a symptom or effect of the disease might lead laypeople and the medical community to underestimate patients' symptomatology[531]. If something cannot be seen, it does not mean it does not exist, thus it would be better to define these diseases as invisibilized, rather than invisible, since people do not want to see them.

The primary symptom of these three diseases is pain. Pain is invisible and impossible to quantify objectively, but it does exist. Therefore, professionals should also value the person's experience and symptomatology, not only the objective manifestations. Patients should be treated as active subjects, not passive objects[532], this is the core of patient-centred interactions[533]. Medical professionals who follow only clinic objectivity without taking into consideration patients' experiences lead women to have often their pain dismissed as psychological or psychiatric, being met with scepticism, and feeling disregarded or belittled by healthcare providers[534]. This tendency towards psychosomatic diagnosis is common for all the diseases analysed previously and such allegations can have a negative impact on the patient's quality of life. Nevertheless, individuals living with chronic pain are more susceptible to emotional or psychological disorders such as anxiety, depression, and anger[535], as well as maladaptive thoughts like catastrophizing[536] and poor coping skills. The treatment of treating these conditions can lead to improved management of the pain[537]. Studies do not support the theory that psychological conditions are

[530] Toye, F., Seers, K., Allcock, N., Briggs, M., Carr, E., Andrews, J., & Barker, K. cit..p. 41
[531] *Ibi* pp. 46-47
[532] *Ibi* p. 63
[533] Mead N, Bower P. (2000) Patient-centredness: a conceptual framework and review of empirical literature. *Soc Sci Med* 2000;51:1087–110. http://dx.doi.org/10.1016/S0277-9536(00)00098-8
[534] Briones-Vozmediano, E., Öhman, A., Goicolea, I., & Vives-Cases, C. cit.
[535] Gatchel, R. J., Peng, Y. B., Peters, M. L., Fuchs, P. N., & Turk, D. C. (2007). The biopsychosocial approach to chronic pain: scientific advances and future directions. *Psychological bulletin*, *133*(4), 581–624. https://doi.org/10.1037/0033-2909.133.4.581
[536] Pain catastrophizing can be defined as an exaggerated negative orientation toward actual or anticipated pain experiences. - Gatchel, R. J., Peng, Y. B., Peters, M. L., Fuchs, P. N., & Turk, D. C. (2007). The biopsychosocial approach to chronic pain: scientific advances and future directions. *Psychological bulletin*, *133*(4), 581–624. https://doi.org/10.1037/0033-2909.133.4.581
[537] Bair, M. J., Mathias, M. S., Nyland, K. A., Huffman, M. A., Stubbs, D. L., Kroenke, K., & Damush, T. M. (2009). Barriers and facilitators to chronic pain self-management: A qualitative study

considered responsible for chronic pain, but rather comorbidities, triggers, or symptoms of the disease[538,539,540] , rejecting the hysteria discourse.

A common trend that emerged among the three diseases discussed is their severe impact on women's quality of life. They can affect various areas, such as professional and academic life, as well as personal relationships. Chronic pain hinders women from attending work regularly, and the fear of experiencing pain at any moment reduce their productivity and job satisfaction, making it challenging to manage their professional life[541] . Chronic pain might affect personal relationships as well, such as family, romantic relations and friendships, as it affects not only the suffering individual but also the people close to them[542]. For instance, this is particularly evident in the case of dyspareunia mentioned above.

To conclude, today's society does not easily accept the concept of being "abnormally ill". The societal expectation that one can only be considered "ill" if respects the biomedical standards might harm people, in particular women suffering from invisibilized diseases. The biomedical categorizations that exist are constructed by society and serve to stabilize identity and bring coherence[543]. Unfortunately, they do not consider individuals with chronic pain or unexplained disorders, women above all. In addition to that, the prevalence of andronormativity and hegemonic masculinity in Western society exacerbates the issue. These cultural ideals are deeply ingrained in our society and institutions and used as a standard to judge the behaviour of both men and women, perpetuating power relations between genders. The evidence suggests that these beliefs, which are present in medical

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of primary care patients with comorbid musculoskeletal pain and depression. Pain Medicine, 10(7), 1280–1290. https://doi.org/10.1111/j.1526-4637.2009. 00707.x

[538] Minen, M. T., Begasse De Dhaem, O., Kroon Van Diest, A., Powers, S., Schwedt, T. J., Lipton, R., & Silbersweig, D. cit.

[539] Thieme, K., Turk, D. C., Gracely, R. H., Maixner, W., & Flor, H. (2015). The relationship among psychological and psychophysiological characteristics of fibromyalgia patients. *The journal of pain*, *16*(2), 186–196. https://doi.org/10.1016/j.jpain.2014.11.009

[540] Zale M, Lambert E, LaNoue MD, Leader AE (2020). Shedding light on endometriosis: Patient and provider perspectives on a challenging disease. *Journal of Endometriosis and Pelvic Pain Disorders*. 2020;12(2):69-76. doi:10.1177/2284026520905239

[541] Hill J. C., Harrell L. S. cit. p. 9

[542] *Ibi* pp. 10-11

[543] Comaroff, J. (1982). Medicine: Symbol and ideology. In P. Wright, & A. Treacher (Eds.), The problem of medical knowledge: Examining the social construction of medicine. Edinburgh: Edinburgh University Press

institutions and practices, may explain differences in men's and women's experiences with chronic pain with negative impacts on everyone[544].

The medical community tends to grant physicians the power to determine what is credible in terms of symptoms and medical knowledge. But empowering practices can eventually challenge medical authority and provide valuable insight into understanding medical disorders that have no obvious explanation[545]. Empowerment can take place within the medical community, through better communication between doctors and patients and a patient-centred and gender-sensitive interaction, for example, asking questions about their health issues and their experience with them[546]. Empowerment dynamics often take place outside the medical network, indeed, having social support is crucial for one's overall well-being, but it can be challenging for women with chronic pain to establish supportive relationships due to their physical limitations. Thus, online support groups offer a solution by connecting people from all over the world who share the same condition and allowing for communication without the pressure of in-person meetings.[547]

A care approach that so far is being considered helpful for patients with chronic pain is the biopsychosocial approach, first proposed by George Engel in 1977. In fact, the biopsychosocial approach is considered the most comprehensive approach in the literature for understanding the impact of chronic pain on various aspects of life and functioning. It views illness as the result of intricate interactions between biological, psychological, and socio-cultural factors and acknowledges the subjective experience of illness and response to the patient's symptoms. This model was developed as a response to the limitations of the reductionistic biomedical philosophy that dominated medicine for centuries[548].

Finally, this discussion wants to demonstrate that chronic diseases should be considered disabling since they can significantly impact a person's quality of life in

[544] Bernardes, S. F., Keogh, E., & Lima, M. L. (2008). Bridging the gap between pain and gender research: a selective literature review. *European journal of pain (London, England)*, *12*(4), 427–440. https://doi.org/10.1016/j.ejpain.2007.08.007 p. 435
[545] Malterud K. (2000). Symptoms as a source of medical knowledge: understanding medically unexplained disorders in women. *Family medicine*, *32*(9), 603–611. p. 605
[546] *Ibi* P. 606
[547] Hill J. C., Harrell L. S. cit. p. 11
[548] Gatchel, R. J., Peng, Y. B., Peters, M. L., Fuchs, P. N., & Turk, D. C. cit.

their entirety. Just like other disabilities, chronic diseases can limit a person's mobility, dexterity, and ability to perform daily tasks, as well as affect their mental and emotional well-being. The chronic nature of these conditions often means that the limitations and symptoms persist for an extended period of time. Recognizing chronic diseases as disabling can also help to reduce stigma and raise awareness about the challenges that people with these conditions face. Additionally, it can encourage employers, healthcare providers, and other organizations to take the necessary steps to support individuals with chronic diseases.

Governments and healthcare policies should view chronic pain as a public health issue and implement strategies to prevent and manage it, promoting patient-centred care, addressing gender-based disparities, and finally reducing its impact on the patients as well as on the health care national systems[549]. This can be achieved by applying gender medicine and precision medicine with tailored treatments where possible and incorporating a multi-disciplinary approach to healthcare that interdependently addresses patients' physical, mental, and social needs. The increase of promotion for research in social sciences, particularly in the field of feminist, gender, and intersectional studies, is crucial in safeguarding vulnerable populations. Policymakers and healthcare providers must work together to address gender and social determinants of health. The goal should be to ensure that all women with chronic diseases have access to the resources and support needed to manage their conditions and live dignified and fulfilling lives.

[549] Cohen, S. P., Vase, L., & Hooten, W. M. (2021). Chronic pain: an update on burden, best practices, and new advances. *Lancet (London, England)*, *397*(10289), 2082–2097. https://doi.org/10.1016/S0140-6736(21)00393-7

Chapter IV

1. Introduction

As previously analysed, women have historically been excluded or inadequately included in the medical field. The result has been a serious discrepancy between the recognition of the right to health for all and its effectiveness in practice. Therefore, gender medicine has emerged from the intersection of gender equality and the right to health in order to achieve the right to health for everyone, reducing discrimination and privileges. Gender medicine is an interdisciplinary field that recognises the importance of taking into account biological sex and the social construction of gender in medical research, diagnosis, and treatment. In recent years, it has gained increasing recognition and attention globally, thanks also to the European Union (EU henceforth) and the United Nations (UN henceforth) taking steps to promote gender equality in healthcare.

In this chapter, the analysis aims to be multi-level, from the international system of the UN and the regional system of the EU to conclude into the national level of Italy. There will be no dwelling on the specific findings concerning gender-specific medicine made by international and national actors since they are the equivalent to notions introduced in the second chapter. Firstly, the role of the UN in the promotion of women's health will be presented, spacing from the drafting of the Convention on the Elimination of All Forms of Discrimination Against Women to the Sustainable Development Goals. Then, the focus will shift towards the EU which has recognised the importance of gender medicine in achieving gender equality in healthcare, and it has taken steps to promote research, education, and training in this field. Afterwards, it will conclude with a focus on a specific country, Italy. Indeed, in Italy, gender medicine has gained increasing recognition and attention. In particular, recently, a huge step was taken with the passage of Law N. 3/2018, which aims to promote gender equality in the health sector, making Italy the first country worldwide to recognise gender medicine legally.

2. International Framework

2.1. United Nations

Since the inception of the UN, several steps have been taken to improve individual's health. According to the World Health Organization (WHO henceforth), health is « *a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*[550]». Therefore, the understanding of health encompasses more than just healthcare and takes into account the broader societal aspects and surroundings that contribute to the well-being of individuals and populations, which means that it entails several other rights, including civil, political, economic, social and cultural rights[551]. Moreover, the Preamble of the Constitutive Act of the WHO entails that health has two components, one pertaining to the individual and the other to the collective. From an individual standpoint, health means having complete physical, mental, and social well-being, and everyone has the fundamental right to enjoy the highest achievable standard of health. Whereas from a collective perspective, the health of all people is crucial for achieving peace and security, and it requires the best possible cooperation among individuals and states[552]. In 2011, Huber et al. proposed a new concept of health as a challenge to the WHO definition formulated in 1948. The new concept defines health as « *the ability to adapt and manage oneself in the face of social challenges, physical and emotional* »[553]. Indeed, in the last decades, life expectancy has greatly increased as it did the ageing of the population. The WHO 1948 definition has been criticised for being static, difficult to measure, and contributing to the medicalisation of society. Additionally, the changing patterns of morbidity have made it challenging to apply the definition. The new conceptualisation of health is more dynamic and emphasises resilience and the ability to cope with chronic

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[550] World Health Organization (1946). Constitution of the World Health Organization. Basic Documents, Geneva: World Health Organization.

[551] Mann, J. M., Gostin, L., Gruskin, S., Brennan, T., Lazzarini, Z., & Fineberg, H. V. (1994). Health and Human Rights. *Health and Human Rights*, *1*(1), 6–23. https://doi.org/10.2307/4065260 p. 9

[552] Rescigno F. (2022). Gender medicine as a tool for implementing the right to health. *The International journal of risk & safety in medicine*, *33*(2), 185–192. https://doi.org/10.3233/JRS-227009

[553] Huber, M., Knottnerus, J. A., Green, L., Horst, H. v. d., Jadad, A. R., Kromhout, D., … Smid, H. (2011). *How should we define health? BMJ, 343(jul26 2), d4163–d4163.* doi:10.1136/bmj.d4163

disease, allowing more people to be considered "healthy" despite living with chronic illness. It also focuses on the opportunities available to individuals rather than their disabilities[554]. The shift from the 1948 definition towards the 2011 definition highlights that individuals are therefore considered as active participants who have a significant role in achieving and maintaining optimal physical and mental health[555].

In the UN framework, the right to health is linked to the elimination of gender-based disparities, as such disparities affect both health outcomes and access to healthcare services. In 1981, the Convention on the Elimination of All Forms of Discrimination Against Women (henceforth Women's Convention) entered into force with the aim of ceasing discrimination towards women[556]. The realisation of their right to health encompasses the right of non-discrimination enshrined in the Women's Convention, summarised in Art. 12, which calls for the obligation to respect women's right to receive adequate healthcare[557]. Afterwards, in 1994, the Cairo Conference on Population and Development particularly emphasised the promotion of women's health[558] and one year later, the Beijing Platform for Action of the World Conference on Women presented a more comprehensive approach. Indeed, it acknowledged the necessity for health systems to cater to all facets of women's health throughout their lifespan, addressing structural inequalities and social determinants of health[559].

In 1998, the UN launched the “Gender challenge”. Resolution 1997/2 explains the meaning of gender mainstreaming and its cruciality. Gender mainstreaming involves considering the impact on women and men in all planned actions, policies,

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[554] Jambroes, M., Nederland, T., Kaljouw, M., van Vliet, K., Essink-Bot, M.-L., & Ruwaard, D. (2015). *Implications of health as “the ability to adapt and self-manage” for public health policy: a qualitative study. The European Journal of Public Health, 26(3), 412–416.* doi:10.1093/eurpub/ckv206 p. 412

[555] Rescigno F. citl

[556] UN General Assembly (1979), *Convention on the Elimination of All Forms of Discrimination Against Women*, United Nations, Treaty Series, vol. 1249, p. 13, available at: https://www.refworld.org/docid/3ae6b3970.html

[557] *ibidem*

[558] UN Population Fund (1995), *Report of the International Conference on Population and Development, Cairo, 5-13 September 1994*, A/CONF.171/13/Rev.1, available at: https://www.refworld.org/docid/4a54bc080.html

[559] United Nations, (1995) *Beijing Declaration and Platform of Action, adopted at the Fourth World Conference on Women*, available at: https://www.refworld.org/docid/3dde04324.html

and programs to achieve gender equality. It requires recognising gender differences and the institutionalisation of gender mainstreaming through specific mechanisms and processes without replacing women-specific policies or programs[560].

In 1999, the Committee on the Elimination of Discrimination against Women issued a General Recommendation 24 calling for state parties to prioritise a gender perspective in policies and programs related to women's health and removing barriers to women's access to healthcare, education, and information. It also suggested requiring gender-sensitive courses on women's health and human rights, including gender-based violence, in the training curricula for health workers[561].

Another essential step the UN took was forming a Commission on Social determinants of health. In 2008, this Commission wrote its final report highlighting that despite unprecedented global wealth and technological progress, health equity gaps continue to widen worldwide. Moreover, it upheld that healthcare-related policies must be conducted jointly with social and economic policies in order to promote good health and productivity. The Commission highlighted that factors such as poverty, poor housing, unemployment, and low education levels affect health and those women, who face economic, social, and cultural subordination, have a health gap due to discrimination in various spheres.[562]

In a 2009 report related to women's health, the WHO emphasised that women are being failed by societies and their health systems due to biases they face. Women often face higher health costs and are more likely to be in poverty or have jobs without health benefits. Removing financial barriers to healthcare can increase demand and uptake of essential services. Health services must also be appropriate,

[560] UN Economic and Social Council (1997), *UN Economic and Social Council Resolution 1997/2: Agreed Conclusions*, 1997/2, available at: https://www.refworld.org/docid/4652c9fc2.html
[561] UN Committee on the Elimination of Discrimination Against Women (1999), *CEDAW General Recommendation No. 24: Article 12 of the Convention (Women and Health)*, 1999, A/54/38/Rev.1, chap. I, available at: https://www.refworld.org/docid/453882a73.html
[562] Commission on Social Determinants of Health (2008). *Closing the gap in a generation: health equity through action on the social determinants of health.* Final Report of the Commission on Social Determinants of Health. Geneva, World Health Organization.

high quality, and responsive to women's needs[563]: «*Improve women's health – improve the world*»[564].

Currently, the UN prioritises gender quality in health through the Sustainable Development Goals (SDGs), in particular with goal number three: «*Ensure healthy lives and promote well-being for all at all ages*». Both males and females have an equal right to live decent and healthy lives, but, to be accurate, it is crucial to bear in mind that women and men have different healthcare needs[565]. Thus, to achieve goal number three is fundamental to incorporate the concept of gender equality in the medical and health domain. Gender equality is enshrined in SDG number five, which also aims at women's empowerment. Gender bias hinders the full realisation of human rights, and this affects primarily women, but it has negative consequences on everyone, denying people the chance to live their lives to their fullest. The eradication of prejudice and the full implementation of equal rights will benefit all the world's citizens and societies[566]. However, gender norms are not fixed and can evolve over time, vary across cultures, and be transformed to promote equity. Gender equality implies that men and women have equal access to and benefit from social and economic resources, such as healthcare, laws, and policies. Harmful gender norms and power imbalances can negatively affect women's and men's health and well-being. The SDGs offer a unique opportunity to advance gender equality and promote well-being for all. Reducing gender inequalities is critical to achieving SDG 3 and addressing related targets in SDG 5 is necessary to accomplish some SDG 3 targets[567].

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[563] WHO, (2009), *'Women and Health: Today's Evidence Tomorrow's Agenda'*, World Health Organisation, Geneva p.4

[564] *ibi*p.6

[565] UN Women – Headquarters (2022). *SDG 3: Ensure healthy lives and promote well-being for all at all ages*. Available at: <https://www.unwomen.org/en/news/in-focus/women-and-the-sdgs/sdg-3-good-health-well-being>.

[566] United Nations, (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development*. New York: UN Publishing, p.20.

[567] WHO Regional Office for Europe. (2019). *Health and gender equality: policy brief*. World Health Organization. Regional Office for Europe. https://apps.who.int/iris/handle/10665/346823

2.2. European Union

Gender equality is a fundamental principle and objective of the EU, enshrined in the Treaty on the Functioning of the European Union (TFEU) and protected by the Fundamental Rights Charter of the European Union. Article 8 of the TFEU requires the elimination of inequalities and the promotion of equality between men and women in all its activities. The EU also has complementary competence in public health under Article 168 TFEU, which mandates a high level of individual health protection in all policies[568].

In Europe, the organisations concerning women's health from a gender perspective are several. For instance, in 1996, The European Institute of Women's Health (EIWH henceforth) was established. This NGO promotes gender equity in public health, research, and social policies in Europe and recognises that women and men have different health needs and face different obstacles and opportunities due to biological differences, access to resources, and gender roles. The EIWH uses evidence-based arguments to influence policy and has worked closely with the European Commission, Member States, and the World Health Organization to prioritise gender mainstreaming in health and research[569].

In the European Union framework, a gender-sensitive approach to healthcare has been present since the first health programme in 2002[570]. In 2006, the Council of the European Union released a statement emphasising the values of universality, access to good-quality care, equity, and solidarity in healthcare systems[571]. It also urged the European Commission to integrate gender aspects in health research, support good practice in gender-sensitive health promotion and prevention, develop strategies to reduce health inequalities with a gender dimension and promote the

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[568] European Commission, Directorate-General for Justice and Consumers, Franklin, P., Bambra, C., Albani, V. (2021). *Gender equality and health in the EU*, Publications Office. **https://data.europa.eu/doi/10.2838/991480**

[569] European Institute of Women's Health. (2018). *Right from the Start: Resetting the Agenda in Women's Health Conference Executive Report*. https://eurohealth.ie/report-21st-anniversary-expert-conference/

[570] European Parliament and the Council of the European Union,(2002) Decision No 1786/2002/EC. Adopting a programme of Community action in the field of public health (2003-2008) -. *Official Journal of the European Communities* L 271/1

[571] Council of the European Union (2006),Council Conclusions on Common values and principles in European Union Health Systems.. *Official Journal*, C 146, 1-3. CELEX: **https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52006XG0622(01)**

comparability and compatibility of gender-specific health information across Member States[572]. In the same year, The European Commission established the European Institute for Gender Equality to focus specifically on gender equality in EU countries[573] . One of its priorities is to help emphasise the importance of gender as a critical factor in health and illness[574]. In 2010, the Council of the European Union expressed concerns about health disparities among EU member states and vulnerable groups and urged the development of policies to reduce inequalities, improve data collection, and enhance public health capabilities[575]. In 2011, the European Parliament passed a resolution aimed at reducing health disparities acknowledging that gender plays a role in health, with women having an inadequate representation in clinical trials and an economic barrier to accessing healthcare.

Additionally, the resolution recognises that violence against women is a public health concern and advocates for greater involvement of women in the development of health policies and programs[576]. In 2013, a new project called European Gender Medicine (EUGenMED) was launched; it aimed to address the lack of consideration for gender differences in disease treatment by summarising scientific data and formulating policy recommendations. The project also urged the European Medicines Agency, the EU agency in charge of assessing and supervising medicines, to include women and older people in clinical trials[577]. Several initiatives took place in Europe aiming at ameliorating research and future policies with a gender approach to health. However, the European Institute for Gender Equality, in the "Beijing +25 policy brief", noted that it is essential to integrate

[572] Council of the European Union (2006) Council conclusions on women's health—outcome and proceedings. No. prev. doc.: 9502/06 SAN 127 SOC 245.
[573] European Parliament and of the Council of the European Union (2006), Regulation No 1922/2006 on establishing a European Institute for Gender Equality. *Official Journal of the European Union L 403/9*
[574] Ministero della salute, (2019), Piano per l'applicazione e la diffusione della medicina di genere, in attuazione dell'articolo 3, comma 1, della legge 11 gennaio 2018, n. 3. p.13
[575] Council of the European Union, (2010) *Council Conclusions on equity and health in all policies: solidarity in health* http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/lsa/114994.pdf
[576] European Parliament, (2012) Reducing health inequalities European Parliament resolution of 8 March 2011 on reducing health inequalities in the EU (2010/2089(INI)). *Official Journal*, C 199, 25-36.CELEX: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011IP0081
[577] EUGENMED - European Gender Medicine Network (2016) Final Report Summary https://cordis.europa.eu/project/id/602050/reporting

gender considerations into key EU health strategies and highlight the gendered aspects of physical and mental health in employment and social policies to improve the gender sensitivity of EU health policy [578]. Effective implementation of gender-sensitive measures at the EU level, like enforcing the EU Clinical Trial Regulation and promoting women's representation in health governance and decision-making roles, would greatly enhance the gender sensitivity of medical research and healthcare. Member States were encouraged to develop gender-sensitive health policies and healthcare services; this included providing gender-sensitive training for healthcare professionals, ensuring access to healthcare services that meet gendered health needs, and providing sex and relational education to young people[579]. Additionally, targeted initiatives should be implemented to improve access to healthcare for vulnerable groups, such as delivering multilingual information on healthcare services[580]. An important step taken by the EU is represented by Horizon 2020, a research and innovation program of the EU aimed at supporting scientific excellence and addressing societal challenges. It is the most extensive EU research program to date, with a budget of over €80 billion[581]. Horizon 2020 is essential for gender equality in health because it prioritises research on gender-specific health issues and aims to address gender-based health inequalities. The program encourages researchers to consider sex and gender differences in their work and provides funding for projects that aim to improve women's health outcomes and promote gender-sensitive healthcare[582].

[578] EIGE (2020). *Beijing +25 policy brief: Area C - Health of women: achieving gender equality in treatments, services and outcomes*. DOI: 10.2839/684499 https://eige.europa.eu/publications/beijing-25-policy-brief-area-c-health-women

[579] *ibidem*

[580] *ibidem*

[581] European Commission (2011), Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020) COM/2011/0809, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011PC0809&from=EN

[582] European Commission (2016), H2020 Programme Guidance on Gender Equality in Horizon 2020 https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/gender/h2020-hi-guide-gender_en.pdf

3. National level – Italy

In Italy, the correlation between the right to health and gender equality has started to gain attention in the late '90s. Gender Medicine has been a focus since 1998 thanks to the interest of the Ministries of Equal Opportunities and Health, with support from organisations such as the Italian Drug Agency (AIFA henceforth), the National Agency for Regional Health Services (AGENAS), and the main centre of research on public health in Italy, the Istituto Superiore di Sanità (ISS henceforth)[583]. In 2005, the Italian Minister of Health organised a roundtable discussion that involved various entities, and the primary objective was to create guidelines for clinical and pharmacological trials that would consider a gender-based approach. As a follow-up, the Ministry of Health formed the Women's Health Committee in 2007[584].

In 2005, Fondazione Onda was established, a National Observatory focused on improving women's and gender health. Its role is essential to conduct research and projects on prevalent diseases affecting women, evaluate their socio-economic and legal consequences, and inform and engage institutions, healthcare professionals, patient groups, and the community. It also promotes healthy lifestyles and early detection of female diseases and motivates women to participate actively in their own healthcare[585].

In 2008, the Women's health commission, of which the Health Minister was head, published the "State of Women's Health" first report providing an interim snapshot of the Italian female population's health. It consists of preparatory documents that will guide the Commission's work towards identifying gender gaps and proposing strategies to reduce gender inequalities in health[586]. According to the Commission, promoting women's health requires collaboration among different institutions and

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[583] Carè A. et al (2021), Informazioni generali - Chi se ne occupa in Italia https://www.epicentro.iss.it/medicina-di-genere/chi-se-ne-occupa

[584] Signani F., (2015) Medicina di genere: a che punto è l'Italia? *Ital J Gender-Specific Med* 2015;1(2):73-77 doi 10.1723/2188.23644, p.74

[585] Onda - Osservatorio Nazionale sulla salute della donna e di genere. (2021). *Onda per La salute della donna*. Onda - Osservatorio Nazionale Sulla Salute Della Donna E Di Genere. https://fondazioneonda.it/it/chi-siamo/onda-osservatorio/

[586] Ministero della Salute, (2008), LO STATO DI SALUTE DELLE DONNE IN ITALIA - Primo Rapporto sui lavori della Commissione "Salute delle Donne" https://www.salute.gov.it/imgs/C_17_pubblicazioni_764_allegato.pdf

decision-making levels. It is a strategic objective for improving the whole population's health and measuring a country's civilisation, democracy, and development. Women's well-being and health are indicators of society's overall well-being, and their inequalities are intertwined with other economic, social, and cultural inequalities[587]. In 2009, the Italian Group of Health and Gender (GISeG) was formed in order to advance scientific research, promote health professional training, and inform the public about gender medicine[588]. In the same year, The National Study Centre on Health and Gender Medicine was established in 2009. Over the years, the Study Centre has engaged numerous individuals and organisations in Italy to promote awareness and knowledge of Gender Medicine. This has been achieved through various activities, including conferences, conventions, courses, meetings with scientific societies and political leaders, and involvement in developing gender medicine in different regions. The Study Centre also maintains connections with all entities and associations dedicated to this aspect of medicine. Another important institution is the Associazione Italiana Donne Medico (AIDM), a Medical Women's International Association member. Its primary goals are to promote an interdisciplinary approach that considers gender differences and encourages multidisciplinary research between medical and scientific disciplines, focusing on studying gender as a determinant of health and identifying how gender inequalities and differences impact health. Additionally, the Association aims to disseminate knowledge and support research in gender medicine across all medical and surgical disciplines. It also strives to promote ethical values to prevent discrimination and ensure gender equity in the workplace[589].

The “Italian Journal of Gender-Specific Medicine” was founded in 2015, and it is a peer-reviewed publication whose primary objectives are to advance and advocate for gender-specific medicine. It publishes research on sex and gender differences in

[587] *Ibi* pp. 33-34
[588]GISEG - Gruppo Italiano Salute e Genere. (2023). *CHI SIAMO - GISEG - Gruppo Italiano Salute e Genere*. GISEG - Gruppo Italiano Salute E Genere. https://www.giseg.it/chi-siamo/
[589] Associazione Italiana Donne Medico. (2019). *Storia - AIDM*. AIDM. https://www.donnemedico.org/storia

all human illnesses and is intended for several stakeholders, such as clinical researchers, pharmacologists, health professionals, and decision-makers[590].

In 2015, Health Minister Lorenzin established a national day to raise awareness and draw attention to the health issues faced by women[591]. On the first-ever National Women's Health Day on the 22nd April 2016, an important monograph was published: "*Il genere come determinante di salute Lo sviluppo della medicina di genere per garantire equità e appropriatezza della cura*" (Gender as a determinant of health. Developing Gender Medicine to ensure equity and appropriateness of care)[592]. This monograph, created with the collaboration of experts, highlights the significance of gender medicine in developing personalised healthcare for both women and men. It primarily targets family doctors who are responsible for promoting and monitoring citizen health and implementing gender-based diagnosis and treatment. It focuses on health policies, determinants of health, and health organisations, but it also discusses various diseases such as tumours, dementia, cardiovascular diseases, autoimmune diseases, endocrine diseases etc. It describes the significant differences in incidence, symptoms, clinical course, and response to pharmacological therapies between men and women[593]. On the same day, the AIFA issued a press release stating that it aims to fund more independent research projects focused on drugs for women which are developed by women. The female population is still underrepresented in clinical trials, and AIFA wants to address this by promoting trials that adequately include women. AIFA is working at the European level to ensure trials are representative of the population that will use the drug in clinical practice. AIFA is also focused on gender communication to increase awareness of the specific healthcare needs of women. The agency wants to develop a culture of gender sensitivity that can facilitate the development of appropriate therapeutic pathways[594].

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[590] *Presentazione | Italian Journal of Gender-Specific Medicine*. (n.d.). Italian Journal of Gender-Specific Medicine. https://www.gendermedjournal.it/presentazione/

[591] Direttiva del presidente del consiglio dei ministri (2015), Istituzione della "Giornata nazionale dedicata alla salute della donna" (15A06130) G.U. Serie Generale, n. 184,

[592] Ministero della salute. (2016). *Cit.*

[593] *ibidem*

[594] AIFA (2016), *AIFA alla Prima Giornata della salute della donna: una ricerca clinica gender-oriented "dalle donne per le donne."*

Moreover, In 2017, The Reference Centre for Gender Medicine was established within the ISS[595]. The centre's main objectives are to develop training and dissemination activities, establish a network of Italian centres dealing with gender medicine, and promote research for identifying the pathophysiological bases responsible for gender differences[596]. In 2018, the University of Ferrara established the first University Centre for Gender Medicine Studies in Italy. Since its inception, the centre has actively pursued research in the field of gender medicine. It has published numerous scientific articles, undertaken targeted projects, and engaged in dissemination activities, including participation in conferences on gender medicine across the country[597].

The National Prevention Plan for 2020-2025 represents an innovative tool for planning and implementing prevention and health promotion interventions throughout the territory. Its innovation lies in recognising social and economic factors that must be addressed to ensure equitable outcomes. A significant element of the Plan is the focus on the centrality of the individual and the community, which are essential in achieving optimal health outcomes[598]. Additionally, the Plan highlights the importance of incorporating a gender perspective to ensure that assessments of biological, environmental, and social variables are standard practice and that differences in health status between sexes are appropriately considered. This gendered approach is a vital component of the Plan, as it seeks to improve the effectiveness of prevention interventions and contribute to strengthening the "centrality of the person"[599]. Furthermore, the Plan recognises that the gender dimension must be supported in every field and sector to avoid stereotypes and promote strategies that prevent inequalities. Thus, the Plan highlights the need for

https://www.aifa.gov.it/documents/20142/241024/Comunicato_AIFA_N483.pdf

[595]Carè A. (2021). *Gender Medicine in Italy*. https://www.epicentro.iss.it/en/gender-medicine/in-italy

[596] ISS (2019), *Centro di riferimento per la medicina di genere*. ISS. https://www.iss.it/it/centro-di-riferimento-per-la-medicina-di-genere

[597] Centro Universitario Di Studi Sulla Medicina Di Genere Unife (2022) *The center - Centro Universitario di Studi sulla Medicina di Genere Unife*. https://www.gendermedicineunife.eu/en/the-center/

[598] Ministero della salute (2020), Piano Nazionale della Prevenzione 2020-2025, Direzione Generale della Prevenzione Sanitaria. P. 6 https://www.salute.gov.it/imgs/C_17_notizie_5029_0_file.pdf

[599]*ibi*p. 6

a change of perspective and culture in assessing the health status of individuals to achieve equitable outcomes[600]. By emphasising the importance of a multidisciplinary, intersectoral, and coordinated approach that considers social and economic factors and incorporates a gender perspective, the National Prevention Plan for 2020-2025 seeks to improve individuals' and communities' overall health and well-being across the country[601].

3.1. From policies to law

For what concerns the legislative framework of gender medicine, Italy is considered a trailblazer worldwide. The first steps were taken in 2007 when the Senate received three motions related to gender medicine. These motions stated that women in the country faced significant disadvantages in terms of health protection despite the absence of blatant discrimination. The motions requested the creation of a specialisation course in gender medicine[602]. Afterwards, in 2010, it was proposed to strengthen the existing structures dedicated to gender medicine, including the National Institute of Health and ONDa Association. It emphasised the usefulness of adopting a gender medicine approach for the National Health Service (SSN henceforth)[603]. In 2012, the Parliamentary Intergroup "Supporters of gender medicine" signed the "Manifesto for gender medicine" with the purpose of raising awareness of the need for medical research to consider the differences between men and women. The Intergroup developed a motion on gender medicine, which was approved by the Chamber of Deputies but not discussed by the Senate[604].

The motion committed the Government to include it in the National Health Plan, promote its applications, encourage its inclusion in healthcare degree courses, and identify healthcare pathways considering gender. The motion also stressed the importance of prevention and early diagnosis, tax incentives for research studies that consider sex and gender differences, and information campaigns to increase knowledge[605]. In 2013, two bills with the same title ("Provisions on Gender

[600] *Ibi* p. III
[601] *ibidem*
[602] Signani F (2015). Cit. p. 76
[603] *ibidem*
[604] *ibidem*
[605] *ibidem*

Medicine") were filed with the Chamber of Deputies, but they did not complete the parliamentary process[606].

In 2016, Italian Senator Boldrini, had the opportunity to propose a bill aimed at promoting the application of gender medicine[607]. In a 2016 interview, the Senator claimed that the purpose of this bill was to promote and disseminate Gender Medicine in Italy by establishing specific provisions and milestones to achieve equality and appropriateness in the exercise of the right to health[608]. The objectives it aims to achieve include the support of interdisciplinary research projects, the adoption of gender-focused guidelines for clinical practice, the establishment of public registries of gender-based violence, the inclusion of gender as a clinical and organisational indicator in quality assessment plans, and the promotion of scientific information and education initiatives on gender medicine. Overall, the bill seeks to acknowledge and address sex and gender differences in healthcare and promote a new approach in clinical practice that ensures equal respect for the right to health of all men and women[609].

In December 2017, the Italian Senate approved the Lorenzin Decree-Law after much effort from individuals in the institutions and health sector. Article 3 of this Decree-Law aimed to promote gender-specific medicine in Italy, and it is basically the summary of the bill that Senator Boldrini already presented to the Chamber of Deputies in 2016[610]. This was a significant achievement as it was the first time Italian law recognised the importance of considering gender differences in medical research, diagnosis, prevention, and treatment. The law aims to ensure fairness and appropriateness in care while respecting the right to health[611]. The Ministry of Health is responsible for implementing a plan to disseminate gender-specific

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[606] *ibi*, p.77

[607] Baggio, G., & Malorni, W. (Eds.). (2019). La normativa sulla medicina di genere in Italia. *The Italian Journal of Gender-Specific Medicine*, *5*(3). p.3

[608] Salmi M. (2016), Medicina di genere. Ci vuole una legge - colloquio con Paola Boldrini July - September 2016, Vol. 2, *N. 3*, *Ital J Gender-Specific Med* 2016;2(3):130-132. doi 10.1723/2625.26999. pp. e130-e131

[609] *ibidem*

[610] Boldrini P., (2017) Approvata la legge: finalmente arriva la medicina di genere *Ital J Gender-Specific Med* 2017;3(3):128-129 doi 10.1723/2882.29064

[611] Salmi M (2017) Medicina di genere: è legge in Italia *Ital J Gender-Specific Med* 2017;3(3):89-91 doi 10.1723/2882.29055. P. E89

medicine, including training and information about healthcare practices that consider gender-related differences[612].

According to Baggio and Malorni, in the age of personalised and precise medicine, it is crucial to apply gender medicine to all medical specialities[613]. This means that men and women require a gender-specific approach for diagnosis, therapy, prevention, and cure. To achieve this goal, healthcare personnel, especially physicians, need training in gender differences. Universities, medical and health professionals associations, and other training agencies should offer courses that consider gender-specific issues. Instead of gender medicine, they prefer to use the term gender-specific medicine, as all diseases affecting women and men in all fields of medicine should be studied and taught based on gender differences[614]. This attention to gender differences in diagnostics, therapy, and clinical pathways must be incorporated into all university courses and fields of investigation, from cardiology to oncology, neurology, infectious diseases, immunology, and metabolic diseases[615]. Gender-specific medicine should be developed as a holistic approach that involves pharmacologists, biologists, toxicologists, psychologists, nurses, healthcare managers, humanists, sociologists, and social players. Private companies, such as pharmaceuticals, can play a critical role in providing detailed information on appropriate dosages and adverse effects of drugs, as well as contributing to the improvement of gender-tailored prevention and specific screening paths for men and women[616]. Biomedical research can provide further evidence-based data and suggest new solutions and innovations. Regional authorities coordinating the health system must organise regional networks among various health agencies and universities to foster training and create gender-specific diagnostic and therapeutic healthcare pathways in their territory. Regulatory agencies, such as the Italian Medicines Agency, should revise or develop new aspects of its activity, proposing new rules for drug evaluation studies that take into

[612] *ibidem*
[613] Baggio G., Malorni W., (2019) p. 105
[614] *ibidem*
[615] *ibidem*
[616] *ibidem*

account both sexes[617].

3.2. Law 3/2018, Art. 3

Since the 15th of February 2018, Law 3/2018, "Delegation to the Government concerning clinical trials of medicinal products and provisions for the reorganisation of the health professions and for the healthcare officials of the Ministry of Health[618]" has been in force. Herein, the focus will stay on Article 3 of this law, "Application and dissemination of gender medicine in the National Health System[619]". After consulting with other authorities, the Minister of Health created a plan within one year of the law's implementation. This Plan focuses on spreading awareness, providing training, and guiding health practices that consider gender differences in research, prevention, diagnosis, and treatment. This Plan aims to ensure that the National Health Service provides high-quality and appropriate services in a consistent manner throughout the country[620].
The Plan is divided into two sections; a general overview will follow, dwelling briefly on some relevant features. The first part explains the general framework of gender medicine, providing an overview of its status in Italy and internationally. It describes the cruciality of its approach in healthcare, providing also studies of some pathologies in different specialisations[621]. An interesting paragraph regards the centrality of the patient. Indeed, it outlines how gender medicine is considered a multidimensional approach that encompasses all aspects of a patient's experience, including their personal, cultural, and social factors. By incorporating the patient's narrative, healthcare professionals can better understand how gender affects their daily life, treatments, and social relationships impacted by their illness[622]. The use of narrative in medicine is recommended for healthcare professional training and innovative clinical care methodologies. Gender is a significant determinant of

[617] *Ibi* p. 106
[618] Legge 11 gennaio 2018 , n. 3, Delega al Governo in materia di sperimentazione clinica di medicinali nonche' disposizioni per il riordino delle professioni sanitarie e per la dirigenza sanitaria del Ministero della salute (GU n.25 del 31-1-2018) https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:legge:2018;3
[619] Art. 3, Legge 11 gennaio 2018 , cit.
[620] *ibidem*
[621] Ministero della salute, (2019). Pp. 4-13
[622] *ibi* P. 11

health, affecting both the number and type of comorbidities. The patient's centrality and participation in their care pathway are key factors in this clinical care model, responding to cultural and social evolution and regulatory and governance guidelines for the quality of care[623]. In this light, in the Plan, concern is expressed about the health of transgender and intersex people who, although sharing many of the general public's health demands, require specialised needs[624].

The second part focuses on the Plan's objectives, principles and governance strategy. The aims are divided into four macro groups:

a) Clinical pathways:
   Providing gender-sensitive prevention, diagnosis, and treatment to all individuals, considering gender differences in all stages of life, as well as in all living and working environments[625]. To effectively implement gender-specific prevention, diagnosis, and treatment pathways, it is crucial to engage and enable all relevant components, including individuals and the larger health system, which encompasses not only healthcare services but also all institutional and social actors that impact community and individual health[626].

b) Research and innovation:
   Promoting and supporting research in biomedical, pharmacological, and psycho-social fields with a focus on gender differences in order to implement them into clinical practice, then transferring the outcomes to the SSN[627]. Gender medicine lacks comprehensive humanistic research that integrates biological and psychological-social aspects of prevention, diagnosis, and treatment. Humanistic research methods rely on self-reporting and can provide valuable insights into non-medical factors that influence access to care. These methods include action research, ethnographic research, discursive analysis, and the study of archival data

[623] *Ibi* P.12
[624] *ibi*. P. 5
[625] *ibi* P. 17
[626] *Ibi* P. 21
[627] *ibi*. P. 18

using interviews, questionnaires, tests, and scales. However, these tools have yet to be entirely gender sensitive. The dissemination of humanistic research results can help balance the relationship between gender and health by reducing interferences and penalties for women[628].

c) Professional training and refresher courses:
Providing training and ongoing education programs for all healthcare professionals.

In Italy, various health authorities are actively implementing measures to address gender bias and promote equitable healthcare. These initiatives are widespread across the country and involve training and other interventions[629].

d) Communication and information:

Raising awareness of gender medicine among healthcare professionals, patients and the general public, including the journalism and media industry[630]. Institutional communication can play a crucial role in promoting awareness and creating a culture of gender medicine. By spreading knowledge about factors that impact health, communication can empower individuals to take responsibility for their own health. Reliable and independent information is essential to guide healthy behaviour, and technology offers valuable tools to communicate and interact with the public. Both online and offline communication channels must be improved and optimised to promote gender medicine[631].

For what concerns the governance strategy, effective coordination of actions at the national, regional, and local levels is essential for the dissemination of Gender Medicine involving interventions in different areas. At the regional level, it is recommended to identify a Regional Referent in Gender Medicine responsible for promoting and coordinating activities, implementing and monitoring the Plan, and transposing documents issued at the national level. Additionally, a Regional

[628] *ibi*. P. 29
[629] *Ib i*P. 35
[630] Ministero della salute, (2019), Piano per l'applicazione e la diffusione della medicina di genere, in attuazione dell'articolo 3, comma 1, della legge 11 gennaio 2018, n. 3. P. 18
[631] *ibi*. P. 39

Technical Group should be established to plan activities for disseminating Gender Medicine[632]. A network system should be created to promote and develop Health and Gender Medicine throughout the regional territory. Finally, gender-stratified indicators should be defined and included in collecting and processing information flows and in formulating health budgets[633]. The Plan aims to promote a system where each region has autonomy in making organisational and operational decisions. However, when designing projects on gender medicine, regions must consider the strengths and weaknesses of their local contexts and ensure that they align with the National Plan[634].

In 2020, the former Undersecretary of the Minister of Health claimed that the Italian National Health Service needs to adapt to gender medicine paradigms to prioritise individuals' needs[635]. The health system must utilise technological, pharmaceutical, managerial, and organisational innovations to collaborate effectively between healthcare and social sectors. This includes anticipating future trends through research and development, implementing gender-specific medical records to improve patient-doctor relationships and treatment adherence, promoting gender medicine on a regional level, utilising the Recovery Fund to prioritise gender-specific health planning and research, and incentivising the industry to consider gender balance in clinical trials. Such a cultural change requires collaboration between institutions, health professionals, and civil society[636]

4. Conclusions

Overall, it is possible to note that efforts towards disseminating and implementing the intertwining of the right to health with gender equality have existed already for about four decades. The right to health and gender equality have been recognised as fundamental human rights by the United Nations, the European Union, and Italian legislation. The notion of health has changed over the years, and actors

[632] *ibi* p.19
[633] *ibi* pp.19-20
[634] *ibi* P.21
[635] Zampa S Gender medicine: the role of Institutions *Ital J Gender-Specific Med* 2021;7(1):1-3 doi 10.1723/3528.35159 p. 2
[636] *Ibi* p. 3

accommodated to it. In recent years, the importance of recognising the right to health and gender equality has become increasingly apparent. Governments, international organisations, and civil society groups have been working to promote and advance these fundamental human rights, recognising their crucial role in creating a healthier and more equitable world. The need for such efforts is significant in the field of healthcare, where gender-specific needs and inequalities have been documented in numerous studies. The United Nations has been at the forefront of this effort. The Beijing Declaration and Platform for Action is considered one of the first steps towards the universal right to health, calling for gender-sensitive health policies and programs. The "gender challenge" launched by the UN has had several positive impacts on regional and national levels. More recently, the SDGs have been a critical driver of global efforts to improve health outcomes and promote gender equality. They provide a framework for governments, civil society, and other stakeholders to work together towards achieving these goals.

At the regional level, the European Union has been working to promote and advance gender equality within its member states. Ad hoc organisations have been created to integrate policies and invest in studies and research. For instance, the European Institute for Gender Equality (EIGE) has been pivotal in promoting and advancing gender equality within the European Union.

At the national level, Italy has been a leading country in promoting and advancing gender-specific medicine. Over the years, gender-specific medicine centres have been established, scientific studies have continued in several fields of medicine, and institutionally giant steps have been made thanks to essential authorities in the political and medical fields. It is worth highlighting the important role played by scientific research in advancing gender medicine in the country. The Italian National Institute of Health (ISS) has been at the forefront of promoting gender-specific medicine. Moreover, Italy is the first country worldwide to succeed in having a law on gender medicine. The law recognises the need to integrate a gender perspective in all aspects of medical research and practice, ensuring that health policies and programs are designed to meet the specific health needs of women and

men. Despite these efforts, there are challenges to be adequately addressed. For instance, one issue is the lack of awareness and education among healthcare professionals about the importance of gender-specific medicine, which can lead to misdiagnosis and inappropriate treatment of women's health issues. It is crucial to properly inform civil society as well since proper awareness can help in spreading positive practices. Another challenge is the need for greater representation of women in clinical trials and research studies, which can help ensure that gender-specific differences are taken into account in the development of new drugs and treatments. Accessibility of services is also a critical issue. The quality of services has to ameliorate to provide better patient care. According to National Statistical Institute, in Italy, a significant number of men and women have experienced delays and even renunciation of necessary healthcare services due to waiting lists, transport issues, and economic reasons. The situation has worsened in the last two years due to the pandemic and hospital bed saturation[637]. In addition, healthcare services have to be homogeneous throughout regions in order not to create regional discrepancies. Finally, cultural resistance might be a considerable challenge for Italy. There is still much cultural resistance to gender-sensitive approaches. This may limit the law's adoption and implementation by doctors and health professionals. It is essential to raise awareness of the benefits of gender medicine and its importance in promoting gender equality in the health sector.

In conclusion, while much has been achieved in promoting and advancing the right to health and gender equality, more work is needed to ensure that gender-specific health needs are fully implemented, and that gender equality is achieved in all aspects of health policy and practice. Implementing these rights requires concerted efforts from all stakeholders, including governments and civil society. The recognition of the right to health and gender equality as fundamental human rights by international bodies and national governments is a significant achievement. It reflects the acknowledgement that the right to health is not solely about access to healthcare services, but it also encompasses the broader social, economic, and cultural factors that affect people's health. Gender-sensitive policies and programs

[637] Collicelli C (2022) Women and health in Italy: steps taken and challenges to be faced *Ital J Gender-Specific Med* 2022;8(2):112-122 doi 10.1723/3853.38367

are vital for ensuring that all individuals have access to the highest attainable standard of health. By working together towards this common goal, it is possible to achieve a future where everyone has access to the highest attainable standard of health.

Conclusions

The discipline of medicine has long been considered an objective and empirical field of study grounded in scientific evidence. However, recent scholarship has highlighted the ways in which social and cultural factors shape medicine. In particular, feminist movements have played a significant role in challenging the supposed objectivity of medicine and exposing how medical authority, often led by men, has dismissed and even harmed women. The second wave of feminism was particularly influential in the realm of women's health. The Women's Health Movement emphasized the importance of challenging the biological determinism that had been prevalent in medicine and advocated for greater recognition of the social and cultural factors that shape health outcomes. Through their activism, feminists were pivotal in helping researchers distinguish between sex and gender. Despite this critical distinction, the interconnection between sex and gender remains complex and entangled, particularly in the medical field. A deep understanding of the complex interactions between biology, culture, and social factors led to the shaping of a new dimension of medicine: Gender-specific medicine. This dimension of medicine aims to provide better outcomes for everyone encompassing all medical specialities. A gender-sensitive approach should also be applied in biomedical research and pharmacology in order to be able to provide more equitable outcomes. Moreover, education should be pivotal in disseminating gender-specific medicine and raising awareness among medical students and healthcare professionals to achieve optimal outcomes. There can be no improvement in practice without changes in medical education and training. Clinical practice is a crucial domain for gender-specific medicine. A competent physician not only understands the principles of gender-specific medicine but can also apply them effectively in practice, with sensitivity and respect for patients' experiences and needs. Unfortunately, there are numerous examples of diseases and health conditions that have been misdiagnosed or undertreated, particularly in women. These failures highlight the urgent need for greater awareness of gender-specific medicine and its potential to improve patient outcomes. This research work scrutinizes the gender perspective of three debilitating diseases, namely fibromyalgia, migraine, and endometriosis, which medical practices neglected and

overlooked. The analysis discloses a failure in diagnosing and treating patients affected by these conditions, particularly women. The severity of this dismissal emphasizes the urgent need to implement gender medicine to provide adequate medical care to everyone, especially women.

Efforts towards promoting the right to health and gender equality have been ongoing for decades and have been recognized as fundamental at the UN and EU levels and also by national legislation in the specific case of Italy. Implementing gender-sensitive policies and programs is vital to ensure that everyone has access to the highest attainable standard of health. Gender-specific needs and inequalities in healthcare have been documented, and governments, international organizations, and civil society groups have been working towards promoting and advancing these rights. While progress has been made, several challenges still need to be faced. Although Italy has made a significant accomplishment with the adoption of the law regulating the implementation of gender-specific medicine, several barriers in the country's institutions and framework may hinder the proper accomplishment of the purposes of this legislation. For instance, the overloaded and obsolete Italian healthcare system needs to be updated to better support gender-sensitive policy implementation. The public sector is plagued with unsustainable long waiting times or even closed waiting lists, forcing many Italians to turn to private healthcare and cover the expenses with their personal funds. The Italian healthcare system is struggling to meet the needs of its citizens, resulting in a significant divide between those who can afford to pay for private healthcare and those who cannot[638]. Another issue in the Italian context is the lack of humanities in the medical curricula. Scientific research does not limit to medicine and biology; it needs to comprehend also social sciences to understand and study features of the human condition related to health and medicine. In Italy, there is an urgent call for an integration of health humanities in the medical curricula. A review of the Italian literature on medical humanities and healthcare education concluded that the situation in Italy is poor. The medical curricula in Italy do not adequately incorporate humanities, lacking

[638] De Falco, R., (2019) Access to Healthcare and the Global Financial Crisis in Italy: A Human Rights Perspective, *e-cadernos CES* URL: http://journals.openedition.org/eces/4452; DOI: https://doi.org/10.4000/eces.4452

recognition as independent subjects and hindering their significance in the training of physicians[639]. The importance of this integration is also stressed in the Italian Plan for the application and promotion of Gender Medicine. Moreover, in the Italian framework, there is limited research on disability studies, and this is compounded by scarce research that examines the intersection of gender and disabilities, creating obstacles to conducting thorough intersectional research and achieving optimal outcomes[640].

Another issue encountered is that policies do not go at the same pace as medical research. In Italy, there is a too-slow policy-making process and even slower implementation. For instance, this is particularly true for what concerns migraine. Scientific studies concerning migraine have always highlighted patients' economic and social issues. Currently, there is also a national law which has been issued to recognize chronic migraine as an invalidating disease, however it has never been enacted because the implementing decrees have never been issued. Migraine is also used as an example in the Italian Plan for the application and promotion of Gender Medicine, however, it is not enough the recognition of migraine as a gendered disease unless gender-sensitive policies are concurrently implemented to protect patients in various sectors.

Since 2017, Italy has recognized endometriosis as a chronic disease. Hence, patients suffering from this disease are entitled to special protection measures. However, the available measures are insufficient and apply only to severe cases (stages III and IV). Thus, I and II stages, as well as people who did not undergo a surgery, are not included in support measures. This categorization of endometriosis based on surgical diagnosis does not align with individuals' lived experiences and symptoms since endometriosis symptoms do not necessarily indicate the severity of the disease stage. Chronic pain poses a challenge to the biomedical health/illness dichotomy, as it is not easily identifiable. This has resulted in the exclusion of women's experiences of pain from legal and social protection, and it reflects how the lack of

[639] Orefice, C., Pérez, J., & Baños, J.-E. (2018). The presence of humanities in the curricula of medical students in Italy and Spain. *Educación Médica.* doi:10.1016/j.edumed.2017.10.008
[640] Malaguti, E. (2011). Donne e uomini con disabilità. Studi di genere, disability studies e nuovi intrecci contemporanei. *Ricerche Di Pedagogia E Didattica. Journal of Theories and Research in Education*, *6*(1). https://doi.org/10.6092/issn.1970-2221/2238

knowledge and representation of women in the medical field has excluded them from shaping the agenda and contours of knowledge production. Therefore, the revision of *Tabella di Invalidità Civile*, the table for assessing the percentage of disability in the legal context, should be one of the actions taken to promote understanding of pain and its impact.

In Italy, fibromyalgia is not recognized as a chronic disease by the SSN, and due to strong resistance among medical professionals who believe that the condition is not real, obtaining a diagnosis and treatment for fibromyalgia is challenging. Women who present medically unexplained disorders and whose symptoms do not fit neatly into the medical framework run several risks, as previously highlighted. The healthcare professional's role is crucial since no policies and regulations protect these patients. Nonetheless, doctors can assist patients in legitimizing their pain, enabling them to live respectable life. Thus, it is crucial that physicians, particularly those in the public sector, are competent, well-trained and up-to-date, and able to comprehend patients' experiences. However, contemporary models for medical communication rarely challenge the distribution of power between the two parts, especially regarding women. Discrimination can result from a conscious decision or intentional action by individuals, but more commonly, it is an outcome of the broader societal power structures that are perpetuated. Medical practice cannot evolve without corresponding changes in society. Gender-sensitive policies must involve all the facets of society in order to overcome gender bias in clinical practices.

To conclude, the gender approach to healthcare can trigger a significant shift in the healthcare system by redefining the entire context, from collecting and analysing data and results to studying epidemiology, care, treatment, and research. Despite formal declarations by national and international institutions and scientific evidence, women's health is still undervalued and receives inadequate investment in the gender approach. Delays, prejudices, stereotypes, and confusion surrounding the definition of sex and gender result in either the underestimation or devaluation of women's health as a critical area of public health intervention. The current emphasis on gender in medicine underscores the need to understand gender within

larger political and structural contexts. Achieving true gender equality requires more than just numerical balance; there is a vital need for a cultural shift that prioritizes values such as transparency, fairness, and justice. The evolving landscape provides an opportunity to demand better evidence, innovate beyond existing frameworks, and ensure that everyone enjoys the benefits of gender equality. Gender equality is not only essential for health and development but also a matter of fairness and social justice for all.

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