



# Adoption of Male Hormonal Contraception: Drivers and Barriers in the Portuguese Market

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## **Abstract**

**Title:** Adoption of Male Hormonal Contraception: Drivers and Barriers in the Portuguese Market

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Throughout human history, contraception has had a significant impact on how civilizations, cultures, and individual lives are shaped. Societies have evolved a range of methods to manage fertility and restrict reproduction over the years, from primitive natural remedies to innovative contraceptive technologies. However, there is a need for efficient male methods of contraception. As a response, male hormonal contraception could give men a proactive role in preventing conception, in contrast to traditional techniques that predominantly rely on female-controlled options. Concern and excitement over the possible release of male hormonal contraception on the market have grown in recent years. Nevertheless, limited data on this approach is available in the Portuguese market. Thus, this dissertation aims to investigate the adoption of Male Hormonal Contraception: Drivers and Barriers in the Portuguese Market. Through the literature review analysis, the development of semi-structured interviews and an online survey, the results show that Male hormonal contraception is well-received in the Portuguese market, with higher use among men in committed partnerships and a preference for oral dosage, despite concerns about STDs, side effects do not significantly prevent use and partner support is crucial. The dissertation provides theoretical and managerial insights that help mold the future course of potential Portuguese hormonal contraceptive businesses.

**Keywords:** Willingness to use, male hormonal contraception, drivers, barriers, female and male acceptance.

## **Resumo**

A contraceção tem tido um impacto significativo na forma como as civilizações e as vidas individuais são moldadas. Ao longo dos anos, as sociedades desenvolveram vários métodos para controlar a fertilidade. No entanto, são necessários métodos de contraceção masculinos eficazes. Como resposta, a contraceção hormonal masculina poderia dar aos homens um papel proactivo na prevenção da conceção, em contraste com as práticas tradicionais que dependem de métodos controlados pelas mulheres. Esta inovação tem o potencial de revolucionar a saúde reprodutiva, proporcionando aos casais mais alternativas e permitindo que os homens sejam os principais responsáveis pela contraceção. A preocupação e o entusiasmo com o possível lançamento de contraceptivos hormonais masculinos tem aumentado nos últimos anos. No entanto, existem poucos dados disponíveis no mercado português sobre esta abordagem. Assim, o objetivo desta dissertação é investigar a adoção da Contraceção Hormonal Masculina: Impulsores e Barreiras no Mercado Português. Através da análise da revisão da literatura, do desenvolvimento de entrevistas semi-estruturadas e de um inquérito online, os resultados indicam que a contraceção hormonal masculina é bem recebida no mercado português, com maior utilização entre os homens em relações estáveis e uma preferência por dosagem oral, apesar das preocupações com as DST, os efeitos secundários não impedem significativamente a utilização e o apoio dos parceiros é crucial. A dissertação fornece conhecimentos teóricos e de gestão que ajudam a moldar o curso futuro de potenciais empresas portuguesas de contraceptivos hormonais.

**Palavras-Chave:** Propensão para a utilização, contraceção hormonal masculina, fatores determinantes, barreiras, aceitação feminina e masculina.

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# **1. Introduction**

## **1.1 Problem definition and relevance**

A major subject in human history has been contraception, whose advancements in technology have brought about a societal revolution. It is argued that using contraceptives is a socially responsible reproductive practice, and further study and advancement in this area are required (Benagiano et al., 2007).

It is commonly argued that the already scant research effort on this subject is due to the lack of demand for more sophisticated reversible male procedures (Potts, 1996). While some argue that new male contraceptive methods are unnecessary, population-based studies on men's fertility and preferences reveal that a significant number of men globally support family planning and use contraception themselves (Grady et al., 1996). The prevalence of male approaches suggests a perceived, not real, lack of demand (Ringheim, 1993).

Since the condom and vasectomy were created, there haven't been any new male contraceptive methods launched and, currently, there isn't a male contraception available that combines high efficacy, reversibility, affordability, and acceptability, even though there have been several female contraceptive methods invented (Kanakakis et al., 2015). Therefore, there is a gender disparity in reproductive rights and access since males don't have the same opportunities as women in terms of reproductive health, particularly about contraception. Thus, women now bear most of the responsibility for contraception due to the discipline that comes with the widespread use of modern contraceptive medicines. Consequently, it reduces men's reproductive autonomy by giving women primary responsibility for contraception (Fennell, 2011; Chng, 1983). The capacity to procreate and the autonomy to decide if, when, and how often to do so, along with a fulfilling and secure sexual life, are prerequisites for optimal reproductive health for both men and women (Bennett 2017). Then, only through developing MHC and rethinking the role that men and women share in providing contraception can a more equitable contraceptive system be reached (Campo-Engelstein, 2012; Chng, 1983).

Additionally, new contraceptives are needed to reduce the high incidence of undesired pregnancies that continue to exist worldwide. According to estimates, 41% of pregnancies worldwide are unplanned and unsafe abortions account for 4700 female deaths annually and have a global rate of 14 per 1000 women aged 14–44 (Shah & Åhman, 2010). The high

incidence of unintended pregnancies and abortions worldwide may be reduced with the use of more acceptable and effective male contraception approaches, namely male hormonal contraception (Dorman et al., 2018).

The advancement of male hormonal contraceptives is gaining attention because of the growing emphasis on the role of males in reproductive health (Edwards, 1994; Page et al., 2008). According to the data that is currently available, males have generally positive attitudes toward male hormonal contraceptives (Heinemann et al., 2005; Martin et al., 2000). In addition, as per recent studies (Anawalt, 2007; Gava & Meriggiola, 2019; Amory, 2006), male hormonal contraceptives may be feasible and efficacious.

Male hormonal contraceptives have been the subject of study since the 1970s. However, there is limited data available in Portugal on men's and women's perspectives on this approach. In recent years, there has been significant progress toward the possibility of a hormonal male contraception that is clinically available, although there is still no male hormonal contraceptive that is commercially available (Reynolds-Wright, 2019; Greener, 2017).

So, this research aims to examine the Portuguese market's adoption of male hormonal contraception. This entails analysing the main elements that encourage or discourage men's adoption of this method of contraception and considering women's viewpoints.

## **1.2 Objectives and Research Questions**

Male hormonal contraception offers a potential way to enable males to make decisions about their fertility while simultaneously addressing issues with an over-reliance on female-centric traditional contraceptive methods. However, in Portugal, there is limited data available on this topic. Therefore, this dissertation's main goals are to comprehend the following:

***RQ1: When it comes to male hormonal contraception, what are the main drivers that influence male willingness to use?***

Examining the drivers that impact men's intentions to use hormonal contraception might provide important insights into the preferences of men concerning reproductive health. This information is crucial to understand what variables enable males to use male hormonal contraceptives.

***RQ2: How does the viewpoint of the female partner influence men's beliefs on and use of male hormonal contraception?***

This research question was developed to investigate how women impact their partners' choices regarding male hormonal contraception since it highlights a significant relationship dynamic related to reproductive health. It is crucial to comprehend how and to what extent women's influence on their partners' decisions on contraception.

***RQ3: What are the main perceived barriers that influence men's willingness for male hormonal contraception?***

It is crucial to identify barriers that can keep them from exploring or using male contraceptive approaches. This makes it possible for scientists and medical experts to create strategies to get over these obstacles and encourage wider acceptance and use of these techniques.

## **1.3 Thesis Structure**

This dissertation's first chapter outlines the relevance of the research problem and identifies the research purpose and questions under investigation. The literature review section, which is presented in the next chapter, enables the collection of academic findings that serve as the foundation for the current dissertation, along with the disclosure of the study's hypotheses. In the third chapter, the study's methodology is outlined, and the outcomes of every ongoing research are thoroughly examined. This thesis concludes with a presentation of its discussions, managerial and theoretical implications, future research directions, limitations, and conclusions.

## **2. Literature Review**

### **2.1 Drivers of Male Hormonal Contraception**

#### **2.1.1 Male involvement in contraception and family planning**

As men take part in fertility control, increasing attention has been given to their role as partners and supporters, as well as their involvement (Bankole & Singh, 1998; Sonfield, 2002; Greene et al., 2006).

As part of family planning, men play a crucial role, particularly when determining how many kids to have and the type of contraception. There is evidence that including males in family planning can raise the usage of new contraception, encourage couples to make decisions together and assist in shifting the perception that family planning is solely the duty of women (Helzner et al., 1996; Sternberg et al., 2004; Dudgeon et al., 2004).

Male engagement may also affect the timing and spacing of pregnancies, improving the outcomes for mother and child health (Shahjahan et al., 2013). Additionally, encouraging young men to participate in sexual education programs might benefit them as adults by encouraging critical observations on masculinity and gender equality (Hulton & Falkingham, 1996).

Although it's possible that males would like to participate more in contraceptive programs, their current selection of contraceptives is limited and ineffective, such as condoms, withdrawal, or vasectomy (Trussell et al., 2007). Therefore, the absence of effective and reversible procedures available to men limits family planning (Eberhardt et al., 2009).

As a result, most males depend on their partner's usage or lack of use of a contraceptive, which leaves them without control. According to research by Walker (2011), male hormonal contraception would give males more control over their parenthood.

New methods of male contraception might relieve men and their partners of the concern of an unintended pregnancy, which might promote closer connection (Ringheim, 1995; Solomon et al., 2007; Dismore et al., 2016). Also, men may utilize this method to avoid being deceived by a woman who has altered condoms or discontinued using a hormonal treatment to conceive (Lantelme, 2017; Ringheim, 1995; Walker, 2011). Alongside, new male contraception offers needed alternatives to facilitate family planning when partners are incapable or reluctant to employ female contraceptives.

Male hormonal contraceptives would therefore allow males the opportunity to manage their fertility and share the burden of family planning (Gava & Meriggiola, 2019). Moreover, if a male hormonal method were to be made available, most men would be open to using it (Dillner, 1996; Szarewski & Mansour 1999). According to an analysis, there is enough data showing men's informational and service needs, and their satisfaction with current programming to justify increasing the amount of men's programming available for family planning and contraception services (Hardee et al., 2017). It's been determined that males want to participate in family planning and want to be in charge of their reproductive lives. Studies reveal that men's

desire for more control over their fertility affects their propensity to utilize male hormonal contraception (Heinemann, 2005; Meriggiola, 2006; Sax, 2021).

Based on this, it may be inferred that male hormonal contraceptives are more likely to be adopted by men who want greater control over their fertility. Their desire to take charge of contraception and actively participate in reproductive decision-making is the root of this tendency. The first hypothesis of this research can be revealed:

***H1.1: Men who want to have a greater degree of control over their fertility are more willing to purchase the male hormonal contraceptive.***

## **2.1.2 Route of administration of male hormonal contraceptive**

When used correctly, hormonal contraceptives prevent pregnancies effectively and have good, well-defined overall safety and tolerability (Hooper 2010). The route of administration is one of the elements contributing to this method's acceptability, numerous potentially effective treatments in a variety of modalities, including oral pills, implants, injections, and topical gels, have been created but haven't yet been commercialized (Marshall, 1977).

Making sure that products are appealing to potential users is a crucial component in developing male hormonal contraceptives. According to research, the oral dose is the most popular delivery method (Martin et al., 2000). This preference could be because oral medications are more convenient and straightforward to administer (Ramesh, 2016; Fallowfield, 2006; Helliwell, 1993). In addition, men tend to favor pills since they are more worried about the discomfort of injections (Dismore et al., 2016; Marcell et al., 2005).

According to the literature, providing male hormonal contraceptives orally has a beneficial impact on their usage. Oral dosage is easy to use and simple, given that it is straightforward to include in daily routines, its simplicity may improve adherence to the contraceptive schedule. The hypothesis can be exposed:

***H1.2: Oral dosing tends to have a favorable impact on male hormonal contraceptive use.***

### **2.1.3 Male hormonal contraceptive acceptability and type of relationship**

A couple's use of contraception is influenced by the type of sexual relationships they have, including casual and committed ones (Wright et al., 2017). Stable relationships are defined as intimate and based on exclusivity (Snyder et al., 1987) with an increasing focus on loyalty and connection (Sprecher et al., 1993) that represent the negotiation of shared viewpoints (Dainton et al., 1993). The term Casual relationship is described as considerably less committed (Snyder et al., 1987) with a focus on sexual release (Sprecher et al., 1993).

It is known that among couples in stable relationships, increased levels of sexual communication between spouses have the strongest effects on the usage of hormonal contraceptives (Johnson et al., 2015). Therefore, as stable sexual relationships promote compliance, loyalty, and are also linked to long-term contraception usage, relationship status is also thought to be another factor that can influence hormonal contraceptive use (Wright et al., 2017; Wright et al., 2012).

It is shown that if both spouses are persuaded that they wish to avoid becoming pregnant, their joint engagement leads to more consistent contraceptive use (Díaz-Martín et al., 2013). Conversely, there appears to be less usage of effective contraception when there is little to no discussion about contraceptive methods amongst partners in casual relationships (Raine et al., 2010).

As a result, stable couples express greater enthusiasm for the hormonal contraceptive's availability than did couples who engage in casual sexual interactions (Eberhardt et al., 2009). The male contraceptive also gives couples more flexibility and independence in their reproductive decisions (Wright et al., 2017). It is known that, compared to men in casual partnerships, men in stable relationships have a more favorable opinion of male enhancement medication (Eberhardt et al., 2009).

According to reports, long-term methods of contraception are linked to long-lasting relationships (Wright, Frost, & Turok, 2012). Bearing this in mind, couples in committed partnerships frequently divide the cost of family planning and contraception. Male hormonal contraceptives are a method of preventing pregnancy that both couples may choose to use and actively participate in discussions regarding contraceptive options. The hypothesis evaluates whether a stable relationship may positively influence the usage of hormonal contraceptives.

*H1.3: A stable sexual relationship has a favorable impact on male hormonal contraceptive use.*

## **2.2 The perspective of the female partner and how they affect the male hormonal contraceptive use**

Men's decisions regarding contraception are significantly influenced by women (Martin et al., 2000). Also, a key predictor of the start and maintenance of male methods has been thought to be the steady female partner's viewpoint and approach toward novel male hormonal contraceptives (Martin et al., 2000; Glasier, 2010; Ringheim et al., 1996) and women who are married or living together should therefore have more control over method selection than those who are dating (Grady et al., 2010). Also, men are more prone to adopt a new male contraceptive if they believe their spouse will like them (Darroch, 2008).

While choosing a fertility control method, typically both couples participate in the decision-making process. However, if only one partner takes on this duty, it usually falls to the woman alone (Glasier et al., 2000; Weston et al., 2002). Some women state that they prefer their male partners to have more influence over the selection of contraception (Glasier et al., 2000; Henry 1997). Research suggests that women want men to understand them better by going through what they did with female contraceptive methods (Lantelme, 2017; Marcell et al., 2005).

Male contraceptive choices are viewed as having a strong positive since they promote gender equality and a fair distribution of burdens and responsibilities. According to research, using male hormonal contraception can provide women with freedom from worrying about getting pregnant, having doubts about condom effectiveness, and deciding to use male contraception as a second method (Lantelme, 2017). Additionally, women appear to assume that shifting the duty for hormonal contraception to their male partner would boost their sexual pleasure and desire (Ringheim, 1996).

However, it is suggested that men are less inclined to utilize contraception because they face fewer repercussions from pregnancy than women (Campo-Engelstein, 2012). The fundamental reason that a pregnancy is believed to have longer-lasting effects for women, is that it is considered that women will be the primary caregivers of children, in addition, women are also the ones who carry a kid. Acknowledging that the woman's implications for contraceptive

failure are much worse, many debates over the necessity and appropriateness of hormonal contraception for males culminate with a discussion of whether women would be confident in their partner's capacity to employ a particular method consistently (Ringheim, 1993; Potts, 1996).

Nevertheless, women in stable relationships encourage the use of male hormonal contraception as well as trust their partners (Glasier et al., 2000; Anderson 1997). Only 2% of women say they wouldn't trust their man to take male hormonal contraception (Glasier et al., 2000). According to this, women may be less trusting of men in general but more so of their spouses (Glasier, 2010). Otherwise, if a woman enters a new relationship, she will continue to use female methods and/or condoms along with male contraceptives to reduce sexually transmitted diseases and prevent pregnancy (Lantelme, 2017). Furthermore, women indicate their preference for implant male contraceptive technique to reduce the chance of their partners forgetting to use it.

In conclusion, studies reveal that women are usually in favour of male contraception (Glasier, 2000). The fact that most women say they would trust their male spouse to utilise a hormonal approach suggests that their positive attitude is probably affected by their trust in them (Glasier, 2010).

***H2: A woman is more likely to have a positive attitude regarding male contraception if she trusts their partner.***

## **2.3 Barriers to male hormonal contraception**

There are currently much fewer contraception methods available for men than for women. At the moment, there are three options for male contraception: withdrawal, vasectomy, and condoms. However, these methods are not suitable for numerous men and women due to their disadvantages (Lohiya, 2005; Amory, 2016; Tulsiani, 2008; Kanakis, 2015).

Vasectomy is intended to be permanent and attempts to reverse it are often unsuccessful. It is therefore an inappropriate choice for younger men or those who intend to become parents in the future, even if it is a highly effective approach (Anderson et al., 2022). Additionally, studies consistently demonstrate that withdrawal has a higher failure rate than other methods of contraception (Sundaram, 2017). Because they are the only approach that additionally offers

protection from STDs, condoms are widely used and promoted. However, longer-term relationships often avoid them due to the perception that they decrease sexual pleasure, which results in lower satisfaction levels (Buck et al., 2005). On the other hand, using condoms is more typical during the initial phases of a relationship, when dating a new partner (Manning et al., 2000; Ku et al., 1994). Furthermore, the success rates of condoms are generally low among regular users (Trussell, 2011).

In addition, communication within couples may be hampered by men's lack of access to appropriate information regarding contraception (Raine et al., 2010), which results in inefficient and irregular contraceptive use (Vargas et al., 2017), consequently, they are less able to assist their spouses in selecting and using contraceptives due to their lack of understanding of contraception (Wright et al., 2017). According to Makenzius, Gden, Tydén, Romild, and Larsson (2009), men frequently overestimate their understanding of reproductive health, stressing the necessity for male-inclusive health care. Men's concerns about hormonal contraception may also prevent them from encouraging their female partners to use more effective methods of birth control.

Bearing this in mind, dissatisfaction with current options suggests opportunities to introduce new male approaches (Darroch, 2008). As an alternative to condoms, male hormonal contraception would presumably have considerably less influence on desire as well as pleasure than condoms (Merigliola et al., 2006).

Due to a potential decrease in the motivation to use condoms, several observational studies suggest that hormonal male contraception may raise the chance of contracting STDs (Baeten et al., 2001; McCarthy et al., 2019). Since none of the feminine procedures that are currently available protect against STDs, men using male hormonal contraceptives would need to be encouraged to use a condom (Cottingham & Hunter 1992; Morrison et al., 2004).

Additionally, it has been demonstrated that couples who take hormonal contraceptives are less likely to use condoms than couples who don't use hormonal methods (Cushman et al., 1998). Couples favor more effective contraceptive techniques that do not lower the risk of STDs (Grady et al., 1999).

Because no single form of contraception can effectively prevent both STDs and unwanted pregnancies. One technique to successfully prevent both unwanted births and sexually transmitted diseases is using dual-method contraceptives (Crosby et al., 2001; Willard Cates et

al., 2002). Therefore, adding condoms to regularly used hormonal contraceptives will improve the efficiency of the contraceptive. Dual-method utilization, however, is uncommon (Lopez et al., 2014).

Based on the findings of previous researchers, it may be expected that using male hormonal contraception may increase the likelihood of contracting sexually transmitted diseases (STDs) since male hormonal contraception does not protect against STDs and dual-method use is uncommon.

***H3.1: The risk of sexually transmitted infections may arise when using male hormonal contraception.***

Male hormonal contraception generates interest given its possible efficacy and reversibility, even if there have been concerns raised regarding its negative effects (Wang 2016, Thirumalai 2018). Research shows that, especially when considering male hormonal contraception over an extended period, a thorough evaluation of the possible risks is necessary (Ilani 2011).

The use of male hormonal contraception is linked to some unfavorable side effects (Wang 2016). Brooks reports that although participants' opinions regarding effective male contraception are favorable and that there may be a significant adoption, most of them do not accept negative effects (Brooks, 1998). However, Studies show that men's willingness to utilize male hormonal contraception is not substantially affected by their concern of negative effects (Thirumalai, 2020; Brooks, 1998; Peterson, 2019).

Studies indicate that male hormonal contraceptive willingness is not significantly influenced by fear of side effects (Walker, 2011; Griffin, 1996). To improve acceptance, nevertheless, concerns regarding possible negative effects, such as health hazards and implications for future fertility might need to be addressed (Walker, 2011).

***H3.2: Fear of side effects won't affect the willingness to use male hormonal contraception.***

### **3. Methodology and data collection**

#### **3.1 Research Method**

Primary data was gathered to support the secondary data that was obtained during the literature research and to ensure that the study's conclusions could be supported. Thus, research with both qualitative and quantitative methods was established to accomplish this goal. Mixed methods research (Johnson & Onwuegbuzie, 2004) is a research approach that integrates both qualitative and quantitative research approaches. This method is frequently applied to obtain a variety of perspectives on a topic and to validate results. Thus, qualitative research was employed. It was developed by involving consumers in semi-structured consumer interviews. To get trustworthy results, quantitative research was then carried out via an online survey.

#### **3.2 Secondary data collection**

A critical evaluation of the literature is required to fully understand the topic at hand and pinpoint important concepts and areas that require additional research. The research topic, questions, and hypothesis were addressed with the contribution of this review, which helped identify the key variables that needed to be examined. Although the material was acquired from reputable contraception publications, it should be noted that since male hormonal contraception is a relatively new topic, it can be challenging to locate information about it just in prestigious journals. Because interest in these solutions is continually growing, a variety of different-ranking journals and other publications were examined to obtain additional informative data.

#### **3.3 Primary Data Collection**

It was employed an online survey and SSIs to gather data for the research topics and deliver well-supported responses. Primary data were gathered and analysed for both types of research. These investigations aimed to accomplish the research goals exhaustively and dependably.

### **3.3.1 Qualitative Research - Semi-structured Interviews**

SSIs are a form of research that collects qualitative data about the opinions of participants through in-depth conversations. In comparison to other research methodologies, they offer greater flexibility and the ability to ask follow-up questions to delve further into difficult subjects (Saunders et al., 2009).

Additionally, by letting participants communicate themselves through their own words, semi-structured interviews provide rich data collection. It is urged by participants to share extensive descriptions of their experiences, convictions, and attitudes. Furthermore, semi-structured interviews work especially well for delving into sensitive topics (Wilson, 2014). These interviews are conversational and adaptable, which facilitates rapport-building between researchers and participants as well as the creation of a safe environment for discussing delicate subjects. As a result, semi-structured interviews (SSIs) are the most suitable approach.

#### **3.3.1.1 Sample**

A qualitative study was conducted to analyze the Portuguese market's adoption of male hormonal contraception. Semi-structured consumer interviews were conducted comprising 3 women and 4 men. The interviews took place in person, lasting between 30 and 40 minutes for each male and 10 to 25 for each woman. To ensure that all relevant data was gathered during the procedure, a script was created to direct the interviews (Appendix 1 Appendix 2). The interview was structured into four stages for men and two for women, primarily composed of open-ended questions designed to facilitate participants' natural discussion on the subject matter.

The participants' ages, which varied from 20 to 36 years old, were all Portuguese and they all lived in Portugal. Seven of the eight participants were not students, while one participant was a student. In addition, two participants were married, three in a stable relationship, and two singles.

The convenience sample method was employed in this study to select participants for the qualitative research component based on their availability and willingness to participate. While this approach allows for the efficient collection of data and provides initial insights into the

topic, it also presents certain limitations. Convenience sampling might not accurately represent the broader population, potentially leading to biases in the findings. As such, the results derived from this sample should be interpreted with caution, particularly when generalizing to the wider population.

### **3.3.1.1.1 Main Results – Men**

Males are typically portrayed as being less active in the choice of approach and the ongoing maintenance of the contraceptive regimen. Even very involved males realize that women always have the final say in discussions about contraception, regardless of how much effort they put into the conversation. Indeed, it was observed that women influence a man's decision regarding male hormonal contraception.

Men in the sample defined the responsibility for contraception in terms of their own larger construction of masculine and paternal responsibilities, as opposed to expecting women to play that role. Also, men proclaimed their desire for equality, by proposing to share the burden of contraception with their spouse. Additionally, men talked about how the responsibility for contraception lay with women and that they were willing to take responsibility as well. According to men, there is a conflict between traditional and modern gender roles, and male hormonal contraception was mentioned as one way for men to live more equally.

Interviews with the participants revealed that they had generally positive attitudes concerning this male contraceptive approach, with more than half of them believing it would provide them with more freedom and security as well as a more fulfilling sexual experience. In that sense, most men want more control over their fertility, and some have felt that this contraception will help them overcome problems, such as a woman who has stopped using the hormonal method to get pregnant without his consent. Also, one man made the argument that its attraction in more informal interactions was as a contraceptive protection against the failure of barrier measures. Another man, however, mentioned that he doesn't need it since he trusts their partner and is in a long-term relationship. (H1.1) This suggests that men are willing to use MHC and want to have control over their fertility.

Regarding male hormonal contraception methods, most men preferred pills since they were concerned about the discomfort of injections and implants. One man was worried that they

might forget to take their regular medication and preferred an implant as a method of contraception. (H1.2) This implies that oral dosing is the preferred method of contraception.

According to the qualitative survey, most men who are in committed relationships report that their willingness to use male hormonal contraception is positively impacted. Males mentioned that they felt more comfortable discussing and deciding on contraceptive options with their partners in stable relationships. Some participants did, however, note that they might be less inclined to think about hormonal contraception in less committed or casual relationships. (H1.3) The above shows that male hormonal contraception use is positively impacted by stable sexual relationships.

Men who participated in the interview clearly stated that they disliked condoms and preferred a prospective male hormonal contraceptive as a result. Furthermore, men in the research said they used condoms frequently because there wasn't any alternative option available for male use. In contrast, one man believed that even if a male hormonal contraceptive was available, they would still choose to use condoms. The reasons for this differ, but condoms' simplicity of use, visibility, and naturally low health hazards were mentioned.

The ability of condoms to prevent both pregnancy and STDs was another factor in favoring them. The main concern was that using male birth control would make it more common for people to contract STDs. Participants also considered the relationship's loyalty when thinking about potential contraceptive behavior. Due to the risk of STDs from infidelity, participants thought that using MHC required trust in a faithful partner. (H3.1) This indicates that when utilising male hormonal contraception, there may be an increased risk of STDs.

Most men were reluctant to consider negative effects and skeptical of the medication's safety, especially considering long-term risks and reversibility. Some questioned whether the effects of a male hormonal contraceptive would be truly reversible or if they would have a long-lasting negative impact on male fertility. Some men were willing to accept minor side effects, if there were compensating favorable side effects. However, male hormonal contraception appears to not be discouraged by side effect concerns. Moreover, some men had doubts about the dependability of the drugs, wondering how much research had gone into it. One participant proposed routine sperm count testing to accomplish this, while others said they would be satisfied with MHC's efficacy if it were provided through their doctor. (H3.2) According to these results, adverse effect concerns do not seem to deter male hormonal contraception.

Men consider themselves reliable in the use of contraception, however, they wonder if men, in general, would be as well. The results of the qualitative study provide a nuanced view of the claim that women are naturally more trustworthy than males when it comes to using hormonal contraceptives. Participants' general agreement emphasizes that reliability in contraception is a human attribute that transcends gender. Men and women can both be equally responsible when it comes to using hormonal contraceptives. However, two respondents proposed that women are generally more persistent users than men. This point of view seems to be based on the widely held belief that women are frequently the primary users of contraception, and that consistent use is crucial to these methods' effectiveness.

Male hormonal contraception was more openly and willingly considered as a potential option by those who reported having prior knowledge of it. Based on this pattern, it appears that people's attitudes regarding the use of this type of contraception are greatly influenced by their acquaintance with it. On the other hand, individuals who had never heard of male hormonal contraception before showed varied levels of disbelief. Some admitted to initial reluctance owing to a lack of prior information, while others reported curiosity and an increased readiness to explore after learning about it throughout the questionnaire.

Then, a hypothesis from the SSI emerged:

*H4: There is a relationship between having already heard of male hormonal contraception before and willingness to try.*

### **3.3.1.1.2 Main Results – Women**

The qualitative survey was characterized by a significant emphasis on equality between genders and male hormonal contraception choices were strongly viewed as having this benefit. Most women would like to share the responsibility of contraception and want men to have the same experience as them. Female participants conjured the image of a greater man who assumed responsibility for preventing both spouses from unintended pregnancies. Additionally, some women believed that male contraception had the potential to provide men more control over paternity. Women mention doubts about condom effectiveness and male hormonal contraceptives could provide them relief from worrying about pregnancy.

Furthermore, most women in the sample complained about the discomfort and unjust burden of contraceptive responsibility, since the most powerful reversible techniques are controlled by women, however, one woman expressed her gratitude for feeling in charge of her reproductive future.

(H2) The results of the qualitative study showed that when women have a high degree of trust in their partners, they are more likely to view male contraception favourably. They stated that they feel more at ease delegating responsibility for contraception to their partners when they have complete trust in them.

Most women would trust their partner to use male hormonal contraception, however, due to their lack of knowledge and because they haven't been exposed to the healthcare system like women, some of them are hesitant about the reliability of men using male contraception. Women are often more dependable and consistent in their usage of hormonal contraceptives.

This pattern implies that women as a population tend to be more dedicated to using contraceptives responsibly. Women frequently experience the greatest physical and psychological effects of pregnancy and childbirth, which encourages them to take a more proactive approach to using contraceptives.

Women consider that in casual relationships are more concerned about sexually transmitted infections than in stable ones and that it is necessary to use a barrier method in addition to hormonal contraception to protect themselves.

The subject of potential negative effects of the male contraceptive firmly arose from the interview data as well. Views on male hormonal contraception were influenced by experience with and understanding of the effects of female hormonal contraceptives. Women were worried that men might not be as capable of controlling short-term effects on emotions and behavior as women with female hormonal methods. Furthermore, like men, they were also worried about the possible long-term effects, particularly the method's reversibility. Contrary to men, women didn't express any reservations regarding male hormonal contraception dependability.

Regarding male hormonal contraception methods, some women would prefer their partner to use implants or injections if they fear that men will forget. Others will prefer pills as they think it's the easiest and most comfortable for their partner.

The first research question "***RQ1: When it comes to male hormonal contraception, what are the main drivers that influence male willingness to use?***" examines the main determinants

that affect men's propensity to utilise hormonal contraception, emphasising certain key factors. Overall, our results show that male readiness to utilise hormonal contraception is significantly influenced by variables such as prior awareness, stability of relationships, control over fertility, and mode of administration.

Regarding the second research question “***RQ2: How does the viewpoint of the female partner influence men's beliefs on and use of male hormonal contraception?***”, the research suggests that men's attitudes and desire to use male hormonal contraception are greatly influenced by the perspective of a female partner. Trust in the relationship is a factor in how women view male contraception, which in turn influences men's attitudes.

The third research question “***RQ3: What are the main perceived barriers that influence men's willingness for male hormonal contraception?***” Examine the possible obstacles that can affect men's decisions for hormonal contraception. Although the possibility of contracting STDs could be a significant deterrent, concerns about side effects could not have the same impact.

### **3.3.2. Quantitative research - Online Survey**

This methodology was selected since it makes it simple and cost-free to directly contact a larger number of respondents in a short amount of time. Online surveys also provide a higher chance of response because respondents may complete the questionnaire at their leisure in the comfort of their own homes, knowing that their answers would be kept completely private. Every question was written with an easy-to-understand flow in mind, resulting in an engaging questionnaire that discouraged respondents from abandoning it. The survey was developed on the Qualtrics platform, which offers incredibly user-friendly software that made it easy to set up the whole questionnaire.

The online questionnaire received 238 responses between December 20 and 23, 2023, of which 145 were completed.

Convenience sampling was the method of sampling used for this investigation. Since the main criteria for selecting the target population is linked to the participants' ease of access, this approach is classified as non-probabilistic sampling (Dorneyei, 2007). This accessibility may result from factors including willingness to participate in the study, time availability, or physical

closeness (Dorneyei, 2007). Because of all the benefits previously mentioned, this approach was selected.

Owing to the non-random selection of participants, the survey results are likely to contain some bias. Some population groups might not have been reached by the online questionnaire, including those without regular internet access, people who might not be as comfortable using digital platforms, and those from lower socioeconomic backgrounds. The results may be distorted because of the potential over-representation of some demographic groups, such as more tech-savvy people.

### **3.3.2.1 Research Design**

As previously mentioned, the online survey was created and disseminated using the Qualtrics platform to gather primary quantitative data. To reach as many people as possible, a survey was shared via direct messaging, and social networking platforms including Facebook, LinkedIn, and Instagram.

In the survey's introduction, it was stated that responses would remain anonymous and would only be used for research. The goal of the study was to comprehend the Portuguese people's attitudes towards male hormonal contraception adoption.

Most of the questions in the study were measured using a Likert scale, which is the most widely used method for gathering participant responses about their degree of agreement (Kandasamy et al., 2019). According to Malhotra (2006), the Likert Scale is a bipolar scaling approach that is used in questionnaires to gauge respondents' perceptions, which can range from positive to negative and indicate how much they agree or disagree with a set of assertions. While it is generally feasible to employ multiple types of Likert scales that allow for varying degrees of agreement or disagreement, a 7-point Likert scale was utilised in this study, with 1 denoting strongly disagree and 7 denoting strongly agree. Furthermore, dichotomous scales comprising two response alternatives, "Yes" or "No," were employed and multiple-choice scales were also used.

As it was intended to assess Portuguese people, the survey initially included a screening question to ensure that all respondents were Portuguese. The next question is the primary source

of information for addressing hypothesis 4. H4 investigates if a person's propensity to attempt male hormonal contraception is influenced by their past knowledge about it. To assess the above, questions about respondents' knowledge of male hormonal contraception and willingness to use it if it were accessible were asked. They were then questioned about using contraception. The questionnaire enquires about the methods utilised and who usually decides which method to use among individuals who use contraception. Subsequently, a set of assertions including subjects such as perceptions of male hormonal contraception, responsibility for contraception, and the importance of protecting against pregnancy and STDs are presented, with respondents rating their agreement on a scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

There are specific questions in the questionnaire for respondents who identify as male and female.

Questions about preferences for their partner's method of contraception, comparisons of the reliability of male and female contraceptives, and confidence in male hormonal contraception are posed to females. H2 is assessed by determining whether a woman's trust in her partner is correlated with her attitude toward male contraception.

Men are questioned regarding their desire to try male hormonal contraception, their worries regarding its effectiveness and adverse effects, and what kind of contraception they would like to use if there were other options accessible to them. To investigate hypothesis H1.1, the survey enquires about men's desire for fertility control as well as their willingness to try novel male fertility techniques. To answer H1.2, which states that oral dosing favourably affects male hormonal contraceptive use, respondents are asked to select their preferred form of contraception, which includes the pill, gel, injection, and implant. By enquiring about the significance of STD protection in their contraceptive options and dual-method use, it's possible to delve into H3.1, which addresses the possible danger of STDs when using male hormonal contraception. H3.2 examines how respondents' concerns concerning potential adverse effects may influence their willingness to try male hormonal contraception, with questions about respondents' worries and how these might influence their readiness to utilise such approaches directly asked in the survey. The questionnaire investigates respondents' relationship status and desire to use male contraceptive techniques to test H1.3. Lastly, demographic questions including age, occupation, education level, and current relationship status are presented before the survey finishes.

### **3.3.2.2 Sampling Characterization**

To have a thorough understanding of the type of sample being analysed, it is imperative to provide a demographic characterization of the participants, as they can impact the results. Therefore, every participant needed to reply to the survey's demographic component (Appendix 3).

There were 238 participants in the sample, of which 145 were valid responses and they will be the only ones examined in this dissertation. A manipulation check was carried out with the query “What is the color of grass?”. Based on the responses received, it was feasible to remove 93 responses (Appendix 3).

At first, considering the participant's gender, 48.3% are female and 51.7% male. In terms of participant age range, 1.6% are under the age of 18, 17.5% are between the ages of 19 and 24, 13.5% are between the ages of 25 and 34, 8.7% of those surveyed are between the ages of 35 and 44. In addition, 23% and 20,6% of the sample, respectively, are in the 45-54 and 55-64 age ranges. The last age group, which includes people above 65 years old, makes up 15.1% of the total population. Most participants, 96.8%, are from Portugal, the remaining participants are from other countries. Regarding participant relationship status 33% have a casual relationship, 34.7% have a stable relationship and 32% have no current partner. In terms of occupation, 70.6% of the population is employed, 9.5% are students, 6.3% working students, 1.6% are unemployed, and 11.9% are retired. Considering the participant's educational background 15.1% have a high school degree or less, 55.6% have a bachelor's degree, 27.8% have a master's degree and 1.6% have a doctorate.

### **3.3.2.3 Main Results – Men**

This study's main goal was to find whether respondents would be open to adopting new male contraception and to investigate the variables affecting their readiness to accept such methods.

The study revealed that there is a high level of acceptance for novel hormonal contraceptive techniques for men. Among the respondents, 56% expressed their desire to embrace these methods, while only 21.3% said they were unwilling to use them. Additionally, male hormonal contraception was the preferred method (53%), with condoms coming in second (45%).

Men, who make up 69.4% of the sample, are overwhelmingly inclined to want to manage their fertility, whereas just 24% do not want to participate in such decisions. Based on the results, men's desire for control is correlated with their readiness to use new forms of birth control.

There is no relationship between willingness to use male hormonal contraception and prior knowledge of it. Remarkably, 54.7% of participants stated they had previously heard of male contraception, whereas 45.3 % said they had never heard of it.

Furthermore, 56% of participants voiced apprehension about the safety of male hormonal contraception, whilst 34.7% were uncertain, and 9.3% showed no concern at all.

It is possible to observe that just 29.3% of male participants are currently using a form of contraception, compared to 70.7% of male participants who do not use contraception. Just 18.2% of males who now use contraception report deciding on the method on their own, while 59.1% said that decisions are made jointly, with women's opinions playing a significant role. The fact that 54.7% of men claim that their partner has a major influence on the kind of contraception they choose further emphasizes this consistency.

Additionally, 64.7% of respondents stated that women bear an excessive amount of the responsibility for using contraception, while 32% disagreed with this perspective.

Concerning the acceptability of the use of condoms in addition to male hormonal contraception 58,6% of men disagreed, while 20% agreed with this combined approach. Men who are willing to use male hormonal contraception would not use a male hormonal method in addition to condoms. Also, men strongly prioritize preventing unplanned pregnancy (93.4%) and protecting against STDs (97.3%) when deciding on a method of contraception.

When it comes to male birth control methods, 53.3% of men express a preference for the pill, implant by 22.7%, injection 13.3%, and gel 10.7% The survey's findings show a trend in favour of oral dosing's effect on male hormonal contraception use.

Majority of males, comprising 77.3% express confidence in their trustworthiness to use male hormonal contraception. When queried about whether females are more trustworthy in using hormonal contraceptives than males, 30.6% agreed with the affirmation and 41.3% disagreed.

The results of the survey show an association between the positive uptake of male hormonal contraception and stable sexual relationships. Most respondents in committed relationships are more accepting of and supportive of the use of these forms of contraception.

Based on survey data, people's willingness to try male hormonal contraception is not considerably impacted by their concern about negative effects. It implies that although worries exist, they might not have a significant impact on people's decision to use these methods of contraception.

### **3.3.2.4 Main Results – Women**

Results show that, whereas 58.6% of women surveyed knew about male contraception, 41.4% of them had not come across any information regarding it.

Only 2.8% of women disagreed with the statement that male hormonal contraceptives should be made available, indicating that 92.8 % of women thought the practice was acceptable. It is preferred by 56.5% of women that their spouses use hormonal male contraceptives as a method of birth control.

Furthermore, 58.6% of participants concur that women bear an undue burden of responsibility for contraception, whilst 41.4% disagree with this assertion. A comparison shows that women utilize contraception at a higher rate than men, and 50% of them use it.

71.4% of respondents say they would be willing to put their trust in their partners to utilize male hormonal contraception when it comes to reproductive health and relationships. Merely 11.5% disagree with this. A significant correlation has been observed by survey respondents between a woman's trust in her partner and her favorable attitude toward male contraception. According to the research, when there is a foundation of trust in a relationship, women are more likely to assume that male contraception is effective. Moreover, 52.9 percent of respondents concur that women are more reliable than men when it comes to utilizing hormonal contraceptives.

There is a broad consensus about contraceptive choices: 92.8% of respondents emphasize the value of protection against sexually transmitted diseases (STDs) when choosing a method of contraception. Concurrently, 92.9% concur that protecting against pregnancy is an important factor to consider when choosing a contraceptive method.

Furthermore, 58.5% of participants indicated that they would be open to using female hormonal contraception in addition to male hormonal methods. Only 23.3%, on the other hand, reject this idea.

According to the survey, a noteworthy 58.6% of women express apprehensions over men's ability to adequately handle possible adverse effects. In addition, 40% of females voice concerns about the safety of male hormonal contraception, and 34% take a neutral position. Interestingly, a significant 25.6% of women said they don't have concerns about the safety elements.

When it came to preferences, 39.1% of female respondents said they would rather their partners choose to get an implant. 36.2% support the standard pill and 13% support the injection. Furthermore, 11.6% of respondents favor the method of applying a gel to the skin.

### **3.3.2.5 Research Hypothesis Testing**

An essential method for determining whether data from a sample supports a population-related hypothesis is hypothesis testing.

Hypothesis H1.1: *“Men who want to have a greater degree of control over their fertility are more willing to purchase the male hormonal contraceptive.”*

According to Ahlgren et al. (2003), the Pearson correlation ( $r$ ) ranges between -1 and 1. A value of 1 indicates a perfect positive correlation between the elements. A value of -1 indicates a perfect negative correlation, while a value of 0 indicates no association between the variables under investigation.

To validate this hypothesis Pearson Linear correlation is applied, since the dependent variable: “If available today, I would be willing to use new male hormonal contraceptive” and the independent variable: “I want to have control over my own fertility” are metric. The correlation between these two variables is positive and significant ( $r = 0.397$ ,  $p < 0.001$ ). This indicates that as wanting to have a greater degree of control increases, so does the willingness to try the new method of contraception. Therefore, hypothesis H1.1 is supported by the data, suggesting that wanting to have a greater degree of control over their fertility may indeed influence the willingness to use male hormonal contraception.

Hypothesis H1.2: *“Oral dosing tends to have a favorable impact on male hormonal contraceptive use.”*

One-way Anova is an approach to determine whether the means of two or more independent groups differ in statistically significant ways. To validate this hypothesis One-way Anova is applied. The dependent variable: “If available today, I would be willing to use a new male hormonal contraceptive” is metric and the independent variable: “If the following male birth control methods were available, would you prefer to use?” is non-metric with 4 levels.

The oral contraceptive with a mean of 5.60, is the most preferred approach among participants, according to the study's findings. When considering alternative forms of birth control, such as gel, injections, and implants, this one has the highest mean. The 95% confidence interval (5.06 to 6.14) confirms the continuous preference for the pill despite the heterogeneity in responses, as evidenced by the high standard deviation (1.676).

With the Anova test, it is possible to compare the means of willingness to use a new male hormonal contraception among the four distinct methods (pill, gel, injection, implant). There is a statistically significant difference in the means among the several groups, as indicated by the significance level being less than 0.01 ( $p < 0.01$ ). As the P.value is less than 0.01, the null hypothesis, which holds that the means are the same for all groups can be rejected. This indicates that a man's willingness to take birth control is influenced by the method. Oral dosing tends to have a favorable effect on male hormonal contraception, supporting Hypothesis H1.2.

**Hypothesis H1.3: “*Stable sexual relationship has a favorable impact on male hormonal contraceptive use.*”**

To validate this hypothesis One-way Anova is applied. Only stable relationships and casual partners were chosen through select cases. The dependent variable: “If available today, I would be willing to use a new male hormonal contraceptive” is metric and independent: “Current relationship?” is non-metric with two levels.

The mean acceptance score for men in committed partnerships is 5.19, whereas the score for men in casual relationships is 3.96. This implies that men are more likely to utilise male hormonal contraception when they are in committed relationships. Those in stable partnerships (4.49 to 5.90) have a shorter confidence interval, which suggests that their responses are more consistent, despite the standard deviation of 1.744 suggesting some diversity in their responses.

In contrast, men who have casual partners have a broader confidence interval (3.08 to 4.84), which indicates that there is more variability and less agreement about the use of male hormonal

contraceptives. Also, this group's higher standard deviation of 2.131 indicates that the responses were more variable, which suggests that their opinions were less consistent and more dispersed.

With the Anova table, it is possible to compare the means of groups to determine if there are statistically significant differences between them. The significance level in this instance is 0.028 ( $p < 0,028$ ), which is smaller than the 0.05 cutoff, indicating a statistically significant difference in the means between the groups. The null hypothesis, which asserts that the means are the same for each group, may be rejected as the P.value is 0.028. This finding supports Hypothesis H1.3 by showing that men's propensity to take hormonal contraception is positively impacted by stable sexual relationships.

***Hypothesis H2: “A woman is more likely to have a positive attitude regarding male contraception and believe in its effectiveness if she trusts their partner”***

To validate this hypothesis Pearson Linear correlation is applied, since the dependent variable: “The male hormonal contraceptive should be made available” and the independent variable: “I will trust my partner to use male hormonal contraception” are metric. The correlation between these two variables is positive and significant ( $r = 0.310$ ,  $p < 0.004$ ). This indicates that as trust increases, so does the likelihood of having a positive attitude regarding male contraception. Therefore, the hypothesis H2 is supported by the data, suggesting that having trust in their partner may indeed influence the likelihood of having a positive attitude regarding male contraception.

***Hypothesis H3.1: “The risk of sexually transmitted infections may arise when using male hormonal contraception.”***

To validate this hypothesis Pearson Linear correlation is applied, since the dependent variable: “If available today, I would be willing to use new male hormonal contraceptive” and the independent variable: “If available today, I would use a male hormonal method in addition to condoms”, are metric. The correlation between these two variables is negative and significant ( $r = -0.383$ ,  $p < 0.001$ ). This indicates that as the willingness to use male contraception increases, the likelihood of taking it in addition to condoms diminishes. Consequently, hypothesis H3.1 is supported by the data, suggesting that the use of male hormonal contraception may result in a decrease in condom use, which may raise the incidence of STDs.

**Hypothesis H3.2: “Fear of side effects won't affect the willingness to use male hormonal contraception.”**

To validate this hypothesis Pearson Linear correlation is applied, since the dependent variable: “If available today, I would be willing to use new male hormonal contraceptive” and the independent variable: “I'm concerned about possible side effects” are metric.

The Pearson correlation between these two variables showed a very weak positive and significant correlation ( $r = -0.05$ ,  $p < 0.001$ ). This indicates that as concern about side effects increases, the willingness to use a novel male hormonal contraception decreases marginally. Nevertheless, the correlation is so minimal as to be practically insignificant. Consequently, hypothesis H3.2 is supported by the data, suggesting that the fear of adverse effects has no appreciable impact on a man's readiness to use hormonal contraception.

**Hypothesis H4: “There is a relationship between having already heard of male hormonal contraception before and willingness to try.”**

Independent samples *t-test* is employed to compare the means of two samples and determine whether there is a significant difference. Therefore, the variables must have considerably different means to verify this hypothesis. To validate this hypothesis independent samples *t-test* is applied. The dependent variable: “If available today, I would be willing to use the new male hormonal contraceptive” and the independent variable: “Have you ever heard of male hormonal contraception?” are metric and non-metric with two levels respectively.

Upon comparing the groups according to their prior knowledge of male hormonal contraception, it was noted that there was a substantial degree of heterogeneity in the answers from participants who had heard of this form of contraception; on average, they were 4.59 likely to use it, with a standard deviation of 1.789. Conversely, individuals who were unaware of male hormonal contraception exhibited a marginally greater mean inclination to utilise it, measuring 4.88. On the other hand, this group's responses also showed more uncertainty, as indicated by a higher standard deviation of 2.143.

The P.value for Levene's test is 0.140, which is greater than 0.05. This indicates that the assumption of equal variances is not violated, meaning the variances between the two groups are assumed to be equal.

The t-values (-0.654 and -0.643) are small, and the corresponding p.values (0.515 and 0.522) are both greater than 0.05. This indicates that there is no statistically significant difference between the means of the two groups in terms of their willingness to use male hormonal contraception.

The mean difference between the two groups is -0.297, indicating that one group scores about 0.297 units higher on the scale of willingness to use male hormonal contraception. However, because this difference is not statistically significant ( $p > 0.05$ ), it can be interpreted as not meaningful in this context.

The 95% confidence intervals for the difference in means both include zero ([-1.202, 0.608] and [-1.219, 0.625]), which further supports the conclusion that there is no significant difference between the two groups.

Based on the analysis, there is no statistically significant difference between the two groups in terms of their willingness to use male hormonal contraception. There isn't a relationship between having already heard of male hormonal contraception before and willingness to try. H4 is rejected.

#### **4. General Discussion**

Family planning has seen a surge in male participation since the 1990s, as noted by Brooks (1998). Men are increasingly taking responsibility for contraception because of this ongoing cultural shift away from traditional family planning responsibilities. Studies have indicated that since the 1970s, the number of cases where both couples participate in the decision-making process for fertility control has increased (Heinemann et al., 2005; Martin et al., 2000). Although there has been a shift toward greater gender equality, men and women cannot be considered equally responsible for using contraceptives in the absence of MHCs and within the context of sexual and reproductive health rights (Reynolds-Wright et al.,2021).

When it came to sharing responsibility for contraception, most participants thought that having an MHC would promote equality in a partnership by giving men the chance to share or take full responsibility for managing the risks and side effects of using contraception. Although the use of condoms requires consent from both parties, it may be argued that they already offer this possibility for shared responsibility. Nevertheless, condoms are frequently cited as a bad approach due to perceived inconvenience and loss of sexual experience. But, using the existing MHC is a matter of personal preference, unaffected by the opinions of others.

Additionally, most men think that women are overly responsible for using contraceptives (Glasier, 2010; Martin et al., 2000). It may be possible to enhance men's participation in family planning, with male-based hormonal contraceptives. Males want to be involved in decisions about reproductive health to improve the health of their spouses. However, it's crucial to consider whether the development of MHCs will result in real behaviour change. It may be challenging to change the long-standing, deeply embedded assumptions that women should bear the responsibility of using contraception.

The available data indicates that males see male hormonal contraception favorably and find it to be highly acceptable (Dismore et al., 2016). The sample's approval of male hormonal contraception is consistent with these results. Males may find the method acceptable because they could have more control over unintended pregnancies and don't need to rely on a partner to use an effective form of birth control.

Also, male hormonal contraceptives taken orally typically have a positive effect on use. Acceptance and adherence are significantly influenced by the ease and comfort of taking daily medication. Oral delivery is simple and painless compared to techniques that need intrusive procedures, such as injections or implants, which makes it a desirable alternative for men. Furthermore, taking a pill can be effortlessly incorporated into a daily schedule without requiring regular visits to the doctor.

Men in committed relationships were more interested in the availability of male hormonal contraception. This may be because they regularly participate in sexual activity, while single males tend to have less sexual activity and may therefore believe that they don't need to use contraception regularly, and instead favor condoms as a more suitable and practical substitute.

Men may exhibit sensitivity when they realize the risk of adverse consequences their female partner may experience. Alternatively, the man may assume complete responsibility for contraception because of the inherent masculine attitude of protecting their female spouse. This, however, raises questions regarding the long-term viability of MHC use in many settings, namely whether men in casual relationships may continue to believe that MHCs are not necessary.

Early in relationships, condoms are frequently traded in for hormonal contraceptives, and this transition is seen as a sign of confidence in a partner's loyalty (Conley, 2004; Hocking, 1999). The social norm of faithfulness in long-term partnerships and the sense of security may make people oblivious to the risk of contracting STDs from their partners. This might be because there is more worry about pregnancy than STD transmission and would not use condoms in addition to male hormonal contraception.

Male acceptance was strongly influenced by partners' perspectives, and most men felt that family planning decisions should be made collaboratively (Grady et al., 1996). However, men's reluctance to discuss contraception could be a sign of a larger gendered tendency because women may have greater expertise with and feel more at ease discussing sex-related subjects than men do (Hein, 1995).

It's interesting to note that women still categorized men's behavior as irresponsible, even though most women would trust their partner to use an MHC.

The acceptance of the male hormonal contraceptive in females is not much hampered by either a lack of confidence in the capacity to utilize MHC effectively or a fear of possible negative side effects. Women, in contrast to men, may have first-hand experience with hormonal contraception and, as a result, may have more reasonable expectations regarding its efficacy and use. The fact that female participants still believe males are irresponsible when it comes to contraception, even though they trust their spouses to use MHCs, highlights the ongoing gendered division of labour in reproductive health.

Concerns over men's tolerance for possible negative consequences are raised by the differences in men's personal risk/benefit health ratios. Men who take male contraception desire to avoid pregnancy and potential contraceptive adverse effects in their partner, while taking on the risk of any potential adverse effects. Male contraceptives are thought of as medications that treat conditions in someone else, therefore, it is a commonly held opinion that males will not put up

with any side effects. However, these results indicate that milder are of relatively less concern for males, especially if they are driven to relieve their spouses of the stress of using contraception. Males perceive pregnancy as something that affects them personally, as opposed to just their partner. It's crucial to assess carefully if this readiness will remain in case the side effects turn out to be more severe, given that men are not immediately at risk of pregnancy.

## **5. Theoretical and Managerial Implications for the Adoption of Male Hormonal Contraception**

### **5.1 Managerial Implications**

#### **5.1.1 Target and Marketing Messages**

This section explored if there were target groups in Portugal that were found to have a higher likelihood of using male hormonal contraception. Possible approaches to customising marketing communications to successfully reach and engage these segments were also investigated.

Due to their higher levels of education and openness to new ideas, individuals living in Lisbon and Porto who are between the ages of 18 and 35 are most likely to use male hormonal contraception (Sax et al., 2021). Shared responsibilities in relationships and gender equality are important to this group. While emphasising equality, scientific backing, and well-informed decision-making, marketing for male contraception should emphasise its novelty and ease of use. Professionals who are driven by their careers and have steady incomes will be drawn to it since it makes juggling personal and professional obligations easier. Long-term couples view it as a responsible, shared answer for contraception. Social media users who follow trends and are tech-savvy are probably early adopters and react favourably to information that goes viral.

To introduce and promote male hormonal contraception in Portugal, these categories constitute the most promising audiences.

### 5.1.2 Marketing Strategies for Adoption

A comprehensive approach that incorporates numerous channels, tailored messaging, and strategic partnerships is necessary to effectively promote male hormonal contraception in Portugal. Carefully considered marketing strategies should also address concerns over safety, efficacy, and societal acceptance (Ramos-Ortiz & DeMaria, 2020).

Concerns about potential adverse effects and the method's reversibility must be addressed. It is essential to provide clear and comprehensive information about male hormonal contraception. One of the most significant channels for marketing male hormonal contraception is healthcare providers. By collaborating to provide educational materials and training, gynecologists and urologists are more prepared to discuss these issues with patients. Male hormonal contraception should be portrayed in this context as a safe, effective, and scientifically supported choice. Furthermore, a novel male contraceptive may have higher user adherence and acceptability if it were marketed with advantageous side effects in addition to its intended use. Men may be drawn to male hormonal contraceptives in the future, much like they are to female hormonal methods, for reasons unrelated to contraception, such as improvements in well-being, lower risk of long-term disease, improved metabolism, an increase in muscle strength, or an enhancement in sexual performance. In addition, pharmaceutical companies may be more likely to invest in a male contraceptive that offers supplementary benefits to the user due to its higher potential revenue.

Even though there are no health risks associated with pregnancy for men, it will be crucial to measure the benefits and costs, both financial and psychological, that men and their partners experience when they become pregnant unintentionally to evaluate the possible effects of any new male contraceptive. The idea of shared risk is not new in the healthcare industry, and it is crucial to remember this when using male contraceptives. It is essential to include male hormonal contraception in sexual health teaching at schools. This strategy strengthens the notion that contraception is a shared responsibility by offering it as a standard choice alongside female contraceptive options.

The absence of immediate benefits from using hormonal alternatives is another obstacle. By providing male hormonal contraception more widely available and reasonably priced, promotional offers and trials, available via pharmacies, internet and clinics, can promote first-

time use. The long-term advantages of male hormonal contraception, namely its dependability, convenience, and increased closeness, should be emphasised.

The lack of knowledge and inaccurate information on male hormonal contraception is another major obstacle. To solve this, education programs that disseminate understandable, fact-based information via a variety of platforms, such as traditional and social media, should be initiated. Collaborating with healthcare professionals and non-governmental organisations can facilitate the distribution of precise information and effectively tackle prevalent myths and misconceptions. The effective use of social media such as Facebook, Instagram, TikTok, and YouTube is essential in achieving the target. Through the production of captivating content and partnerships with health-conscious influencers, these platforms have the potential to advertise male birth control. The messaging should highlight empowerment, modern masculinity, and shared responsibility. Older demographics and those living in less urbanised areas can be effectively reached by traditional media, which includes TV, radio, print media, and outdoor advertising. These channels should feature testimonials from people who successfully employed male hormonal contraception.

The traditional belief that women should be the primary caretakers for contraception, which breeds opposition to male involvement, is one of the key cultural and societal hurdles. The thought of using hormonal contraception might make men feel uneasy or even emasculated. Public awareness efforts should prioritise advancing gender equality and reframing modern masculinity.

Whether or not a man uses male hormonal contraception can be greatly influenced by his partner's desire to believe in and support it. Therefore, it may be crucial to incorporate female partners in marketing campaigns. This highlights the importance of developing a thorough and inclusive strategy to promote male hormonal contraception while also acknowledging the collaborative nature of family planning decisions.

Another concern could be a potential rise in STDs, educational campaigns should keep encouraging the use of condoms in non-exclusive sexual encounters. It's crucial to emphasise that MHC does not offer protection against STDs. Education campaigns should aim to raise knowledge of the differences between MHC and condoms.

## 5.2 Theoretical Implications

This study makes a substantial contribution to the body of knowledge in the domains of health psychology, gender studies, and consumer behaviour.

Conventional theories of consumer behaviour frequently highlight how social norms and perceived utility predominate when it comes to judgments about what to buy, particularly with health products. Results imply that the desire to question established gender norms and share reproductive responsibilities may be the driving force for men's willingness to use male hormonal contraceptives. This supports the theory of planned behaviour, which holds that attitudes, subjective norms, and perceived behavioural control affect behaviour (Ajzen & Madden, 1986). However, also implies that the TPB may need to be broadened to more fully consider the shared decision-making and relational dynamics that exist in intimate partnerships.

The research presents a challenge to conventional gender role concepts that largely assign women the duty for using contraceptives, emphasising a change towards men actively participating in reproductive health. The results point to increased flexibility in gender roles by suggesting that traditional gender boundaries are becoming less clear as more males employ contraceptives. Gender Role Theory may need to be revised considering this change in shared responsibilities within intimate relationships (Risman & Johnson-Sumerford, 1998). This would provide a more dynamic model that considers how roles are negotiated in response to interpersonal dynamics and societal changes.

These findings advance our knowledge of how psychological variables including attitudes, beliefs, and social influences impact contraceptive behaviour in the field of health psychology. Current theories, such as the Health Belief Model, frequently highlight perceived advantages and risks as the main drivers of health behaviour (Green & Murphy, 2014). According to this research, men's participation in contraception may also be driven by feelings of equity and partnership. This suggests that to more accurately anticipate and understand contraceptive decisions, psychological models of health behaviour should take these relational aspects into account.

Overall, the results not only validate these theoretical frameworks but also expand upon them, suggesting the necessity for more comprehensive models that can consider the complex nature of gender, relationships, and health behaviours in modern society.

## 6. Future Research

The absence of current studies on male hormonal contraception emphasises how urgently further research is needed, especially in the domains of market potential and social acceptability. The following topics ought to be the focus of future research: Cross-cultural perspectives, marketing strategies, and long-term behavioural effects.

Long-term behavioural effects of male hormonal contraception require more investigation. While early studies on these methods may focus on their effectiveness and safety, it is as important to understand how their use may impact broader social and psychological issues. In particular, the implementation of male hormonal contraceptives may change the dynamics of relationships, especially regarding the division of labour in terms of contraception between spouses. It might also have an impact on how men are perceived in terms of masculinity since conventional gender norms tend to identify women as having reproductive control. Furthermore, when males become more involved in avoiding pregnancy, there may be changes in sexual practices, including the decision-making process surrounding contraception and the frequency of sexual activity. As a result, longitudinal studies are required to monitor these possible changes over time.

Additionally, it is expected that attitudes towards male hormonal contraception will differ depending on the cultural setting. Because societal views on gender roles, contraception, and reproductive duties vary, strategies that are effective in one context may not be appropriate in another. For instance, there can be substantial cultural opposition in some places to men performing a role in contraception that has historically been performed by women, but there might be more acceptance of shared reproductive responsibility in other places. Studies that compare how these cultural elements affect male hormonal contraceptive uptake can be useful in identifying potential obstacles and enablers that are exclusive to certain groups. To introduce and promote male hormonal contraceptive techniques in a way that is culturally sensitive and acceptable to a wide range of populations, this research is essential.

Furthermore, marketing strategies will be crucial in shaping how the public views and uses male hormonal contraception. Marketing initiatives should tackle prevalent myths regarding male contraception, including worries about effectiveness, side effects, and how it will affect masculinity. These advertisements should also highlight the advantages of male hormonal

contraception, such as empowering men to take charge of their reproductive health and lessening the burden on women. Research ought to investigate various marketing efforts, such as partnerships with healthcare professionals, digital media, and community outreach, to ascertain the most efficacious approaches for motivating males to contemplate and embrace these approaches.

This study provides novel insights into male hormonal contraceptive usage, contributing to the body of knowledge on gender roles and reproductive health. The results indicate that men are willing to participate in contraception, challenging conventional beliefs that attribute the burden of contraception to women. This change may have an impact on gender norms surrounding reproductive health and inspire studies on the effects of shared responsibility for contraception on partnerships and social structures. Furthermore, the use of male contraceptives may upend power dynamics in partnerships, encouraging more egalitarian settings and the development of novel concepts on collaborative decision-making and changing gender norms.

## **7. Limitations**

One major obstacle to performing a thorough literature analysis is the absence of new research on male hormonal contraception, especially outside of the medical field. Most research that has already been done has focused mostly on clinical issues, including the development, effectiveness, and possible adverse effects of male hormonal contraceptives. This medically orientated research is valuable for understanding the pharmacological and biological aspects of male contraception, but it fails to sufficiently address the social, psychological, and market-related implications.

The lack of literature makes it difficult to comprehend how various social, psychological, and cultural settings affect men's hormonal contraceptive uptake. It is difficult to evaluate its viability in the actual world without researching the views of potential users, their partners, and society. It is also challenging to forecast how male contraception might perform in various economic contexts or integrate into the current contraceptive markets due to the paucity of studies on market adoption.

On the other hand, even though literature is scarce on male hormonal contraception, the hypotheses are well-established and based on studies from related domains, providing a solid foundation for the exploration of this developing field. For instance, insights from studies on female contraceptive use, gender dynamics in reproductive health, and consumer behavior theories have been instrumental in shaping the hypotheses. This interdisciplinary approach allows for the exploration of male hormonal contraception adoption within a broader theoretical context.

The dynamic character of reproductive health also represents one of the obstacles. Individual's needs for contraception might change as they move through various relationships, and within each of those partnerships, the individual's reproductive objectives may also change over time. Also, the fact that people might not always foresee their long-term reproductive intentions accurately makes tracking changing reproductive aspirations even more difficult. The study under discussion solely reflects the individuals' opinions on contraception at one point in their lives, neglecting to account for possible changes in conditions or attitudes over time.

Another inherent limitation is that, until a novel male contraceptive method is brought to the market, it is impossible to determine with precision the level of acceptance it will be among men and their partners. This study measures the intention to try rather than the actual use of MHC. It is not always possible to predict behavior exactly from intentions, even though theoretical and exploratory research may offer insights into prospective adoption.

In addition, a limitation arises, especially when participants conjecture about an event they do not envision occurring in their own lives, such as in the case of the theme of STD protection. This study has taken into account the potential impact of MHC on condom use due to its ability to affect the spread of STDs. It is not possible to monitor the effect of MHC on condom use in the general population until it is widely accessible; however, the questions about this are included to help predict the potential effects of MHC availability on condom use.

One more constraint is that certain people might have decided not to participate because they were uncomfortable talking about subjects like sex and contraception. It's possible that some participants provided false information in response to questions that they felt uncomfortable answering, which could result in a biased population sample. Therefore, the unwillingness to

have open conversations about sex and contraception may reduce the range of viewpoints and experiences that are represented in the study, which might bias the results.

In summary, a thesis on male hormonal contraception has the potential to further the field of reproductive health research, but it is important to recognize and address these limitations. To overcome these obstacles and continue developing and implementing male hormonal contraceptive techniques, further research, and continuous clinical trials are necessary.

## **8. Conclusion**

There have been advances in the development of new male contraceptives, moreover, studies have shown that male hormonal contraceptives are reliable, reversible, and accessible. There is a need for male hormonal contraception, and it was shown that most men are willing to try the novel method despite possible side effects and consider that women still bear an undue burden of responsibility for contraception. Found individuals who are in long-term, committed partnerships and who want to have a greater degree of control over their fertility are more likely to use contraception, however, there is a concern about sexually transmitted diseases. Also, men preferred oral dosing as a birth control method. A woman's spouse should also be taken into consideration since they have a big influence on her husband's contraceptive practice, their support would encourage contraception use and will trust him to adopt this novel contraception.

Male hormonal contraception could reduce unplanned pregnancies and allow equality of gender. However, the development of an MHC by itself will not guarantee the rectification of disparities in reproductive rights between men and women. It appears uncertain that males will utilise contraception at the same rates as women do unless there are modifications to the current gender norms surrounding contraception responsibilities. Access to an inclusive sexual education program that supports equity, and safety is essential for shared responsibility to become a supported lifestyle choice. The inclusion of men in conversations and research about reproductive health care is a significant and expanding field.

Studies support the widespread acceptance of and possible benefits of the introduction of male hormonal contraception. Therefore, this illustrates the potential market for the method, there is a clear unmet need and demand for advancement in the field of male hormonal contraception.

However, this unexplored market emphasises how crucial it is to keep funding and conducting research in this area.

## **9. Appendices**

### **9.1 Appendix 1 – Qualitative Survey**

#### **Men survey**

##### **1. Warm-up and demographics**

1. Presentation of study participants
2. Showcasing the research topic

##### **2. Preference and attitudes toward contraception methods**

1. Thinking about your current contraceptive, what do you like most about it? And what do you dislike?
2. Thinking about your current contraception, are there any features that your contraceptive does not currently have, and you wish it had? Which ones?
3. How would you describe your ideal contraceptive?
4. Who are the people involved in your decision to purchase contraception? How are they involved?
5. Do you think men, in general, are reliable in using contraception? Why or why not?

##### **3. Introduction of male hormonal contraception and first impressions**

1. Have you ever heard about male hormonal contraception?
2. How do you feel about the new hormonal contraception?
3. What would be the main advantages and disadvantages of this method?
4. How can the new contraceptive be relevant to you?

##### **4. Willingness to try male hormonal contraception**

1. Would you be willing to try male hormonal contraception?
2. Which male hormonal contraception would you choose?

#### **Women Survey**

##### **1. Warm-up and demographics**

1. Presentation of study participants
2. Showcasing the research topic

## 2. Introduction of male hormonal contraception and first impressions

1. How do you feel about the new hormonal contraception?
2. What would be the main advantages and disadvantages of this method?
3. How can the new contraceptive be relevant to you?
4. Which male hormonal contraception would you choose?

### 9.2 Appendix 2 – Qualitative Answers

4 males

Rui: Married, 35 years old, human resources director

Miguel: Single, 20 years old, Marketing Student

Gonçalo: Stable relationship, 26 years old, Project manager

João: stable relationship, 23 years old, auditor assistant

3 women

Filipa: Married, 30 years old, nurse

Joana: single, 25 years old, risk consultant

Raquel: stable relationship, 27 years old, tax consultant

Male hormonal contraception is a method of birth control that is developed especially for males. It successfully prevents conception by using hormone-based techniques. Male hormonal contraception suppresses sperm production through altering hormone levels, identical to female hormonal contraception, which comes in the form of injections, implants, patches, and pills. Mood swings, acne, weight gain, low libido, and fatigue are possible adverse effects. Once stopped, these effects are usually moderate and temporary.

#### **Rui: Married, 35 years old, human resources director**

Rui and his wife use the implant as the current method of contraception. They carefully considered the possible adverse effects and came to this choice together. She was ultimately in control of the decision because it would directly impact her. He accepts the historical norm that women have historically been the ones responsible for using contraception. He does, however,

declare that he is prepared to defy these traditions by actively engaging in family planning. He suggests that implementing male hormonal contraception could be a useful first step towards attaining a more equitable division of roles in partnerships. He thinks it's unnecessary to have complete control over fertility because he trusts his spouse and their long-term relationship. In his opinion, a committed couple must mutually agree to share the duty of family planning. Having trust is essential to taking a cooperative stance and deciding on contraception as a team. Regarding male hormonal contraception, he said that their female partner's perspective is very important to him while making decisions. His opinion is that one's readiness to use male hormonal contraception is greatly influenced by their past knowledge. His mind was more receptive to the possibility that it would work for him now that he knew about it beforehand. He also wants to know if there would be no long-term impacts on his fertility. He believes that an implant could be an option, although he considers pills too. He considers himself to be a trustworthy man when it comes to birth control and takes that role very seriously. But can't help but question if men are generally as committed as women.

**Goncalo: Stable relationship, 26 years old, Project manager**

He thinks it's unreasonable to expect women in relationships to handle contraception on their own. Instead, he sees family planning as an effort in which both parties are equally responsible and actively involved. His position essentially reflects an overall shift among males who realize that it is necessary to question deeply ingrained gender rules. In his opinion, male hormonal contraception is an effective means of promoting greater parity in relationships. He believes that male hormonal contraception could give him more control and that condoms have less effectiveness in avoiding conception. He notes stories of women choosing to become pregnant without telling their partners, emphasizing the allure of taking charge of this component of family planning. He proposed that the dynamics of trust in relationships would shift with the introduction of male hormonal contraception. He believed that if each spouse could manage their contraception independently, the conventional need for trust to ensure contraceptive compliance may be reduced. He heard about male hormonal contraception through the survey, which piqued his interest because, up until that point, he knew very little about it. He has to admit that he was a little hesitant because he was not familiar with male hormonal contraception. His ignorance at first prevented him from seeing it as a possibility because he had no prior experience with it. He is willing to put up with small side effects, like acne if male hormonal contraception has positive outcomes coupled with some counterbalancing variables. As long as the benefits exceed these small negatives, it seems like a reasonable compromise to

him. The idea of opting for a pill seems more comfortable to him, considering the potential discomfort associated with methods like injections or implants.

**Miguel: Single, 20 years old, Marketing Student**

From his point of view, he would be more likely to think about taking male hormonal contraception if he were in a relationship. The participant expressed a lack of confidence in male hormonal contraception, stating that they had never given it any thought before. They said they wanted to find out how effective it was, comparing it to the safety of condoms. They pointed out that the efficacy of hormonal contraception depends on scientific guarantees, but condoms provide a physical presence. Based on his own experience, he pointed out that if someone chooses male hormonal contraception, they might stop using condoms because contraception is more commonly thought of to avoid pregnancy than STDs. As a result, he voiced worries about the possible dangers connected to this change in contraceptive usage. He would prefer pills if he was willing to try male hormonal contraception. He thinks that when it comes to utilizing hormonal contraceptives, men and women can be equally responsible. Being trustworthy when using contraception is a personal quality that transcends gender.

**João: stable relationship, 23 years old, auditor assistant**

He highlights the significance of not only placing the responsibility of contraception on women. He feels that other approaches should be implemented to promote a more equitable allocation of responsibilities. Ultimately, he believes that taking these steps would make people in relationships happier. Male hormonal contraceptives, in his opinion, can supplement or even completely replace female hormonal contraceptives. He believed that he would be more likely to take male hormonal contraceptives in addition to his partner's use of female hormonal contraceptives. He reported being open to their partners' worries and preferences. Because Male Hormonal Contraception can efficiently prevent pregnancy while enhancing sexual spontaneity, it is appealing to him. For those who are concerned about condom breaking during one-night hookups, he also thinks that male hormonal contraception offers a good way of contraception. The participant shared their personal experience, emphasizing how they had to rely on condoms because there were no easily accessible male contraceptive options. He stressed that this dependence was not so much a reflection of personal taste as it was of a practical decision. The participant proposed that increasing the selection of male contraceptives could provide more options and support a wider variety of family planning strategies. The participant shared his thoughts on the contrast between male hormonal contraception and

condoms. They admitted that male hormonal contraception did not offer the same level of protection against sexually transmitted diseases (STDs) as condoms do. There was a hint of hesitancy on his part to discuss possible disadvantages of male hormonal contraception. He might be a little uncertain or anxious about the unknown parts of it, rather than completely rejecting the idea. Routine sperm count testing is one notion that appeals to him. He would prefer pills as a preferred method of contraception. He believes that women are generally more committed to using contraceptives responsibly.

**Filipa: Married, 30 years old, nurse**

She decides to take the medication for several reasons. She finds empowerment in controlling her reproductive health, thus she partially appreciates being in command of her contraception strategy. She also feels anxious about the potential of becoming pregnant, so the pill gives her some comfort. She still has faith in her partner despite these events. She believes that her spouse would appropriately use male hormonal contraception if it were accessible, even if she takes the pill for her peace of mind. She thinks they can work as a team to decide on a contraceptive strategy. For her spouse, she inclines toward preferring implants or injections to prevent her husband from forgetting to take contraception.

**Joana: single, 25 years old, risk consultant**

She said that she wished men could participate more in contraception and have more options. She wants to share the burden of family planning and wants men to understand and have the same experiences as her. She would be likely to trust her men to use male hormonal contraception. But, at the moment she is hesitant because she doesn't know enough about it and because males might not be as familiar with the healthcare system as women are. This raises some doubts in her mind regarding the efficacy of male contraception. It emphasizes how crucial knowledge and awareness raising are to building confidence and trust in the efficacy of these techniques. The fact that she was single made her more aware of the fact that male hormonal contraception wasn't enough to protect her from sexually transmitted diseases.

**Raquel: stable relationship, 27 years old, tax consultant**

She believes that males should be just as accountable for contraception as women. By letting men share the burden, male hormonal contraception could make a significant contribution to this equality. She expressed dissatisfaction that women be assigned a disproportionate amount of the most effective reversible methods. She has some doubts regarding condom effectiveness

and thinks that male hormonal contraceptives could alleviate pregnancy-related worries. She also thinks that guys could be able to control paternity more if they use male contraception, in her opinion, it protects males by giving them the freedom to take charge in different circumstances. She has been concerned that men may find it difficult to control the short-term consequences of emotions and conduct. This concern arises from the idea that men may not be able to withstand these effects in the same manner that women do when using female hormonal techniques. There have been some questions concerning the possible long-term consequences of male hormonal contraception, particularly about its reversibility. Given their convenience, pills stand out as the better option in her opinion.

### **9.3 Appendix 3 – Online Survey**

Dear Participant,

I appreciate you taking the time to complete this survey, which attempts to comprehend the attitudes concerning the new male hormonal contraceptives. Male hormonal contraception has been under development for a long time but is not commercially available yet in Portugal. To prevent conception, male hormonal contraception combines progestin and testosterone to inhibit sperm production. Mood swings, acne, weight gain, low libido, and fatigue are possible adverse effects. Once stopped, these effects are usually moderate and temporary.

All information is being treated anonymously and will only be utilized for research as part of a Master's Thesis in Management with a Specialization in Strategic Marketing being conducted by Universidade Católica Portuguesa.

This survey will take 5 minutes to complete, so please be as honest as you can in your responses after carefully reading each one. There are no right or wrong answers.

Contact [s-imello@ucp.pt](mailto:s-imello@ucp.pt) if you have any queries or are interested in learning the study's conclusions.

I sincerely appreciate it.

**In this initial section, we would like to analyze your general attitudes regarding contraception.**

***Screening Question***

- **What is your nationality?**
  - Portuguese
  - Other
- **Have you ever heard of male hormonal contraception?**
  - Yes
  - No
- **Do you use a method of contraception?**
  - Yes
  - No

**Method of Contraception-Yes**

- **What is your current method of contraception?**
  - Condoms only
  - Condoms and Female hormonal contraceptive
  - Female contraceptives only
  - Calendar method/withdrawal
  - Vasectomy
- **Who chooses the contraceptive method to be used?**
  - Me
  - My partner
  - Both, more my partner
  - Both, more me

**To what extent do you agree or disagree with each of the following statements (1=strongly Disagree; 7= Strongly Agree)**

- **Responsibility for contraception falls too much on women.**
- **Protection against sexually transmitted diseases when choosing a method of contraception is important for me.**
- **Protection from pregnancy when choosing a method of contraception is important for me.**

**The male hormonal method is developing. The following questions concern your perception of different aspects of this method.**

- **What is your gender?**
  - Male
  - Female
  - Other
  - Prefer not to say

*Gender-Female*

To what extent do you agree or disagree with each of the following statements (1=strongly Disagree; 7= Strongly Agree)

- **Male hormonal contraception should be made available.**
- **I will trust my partner to use hormonal contraception.**
- **Females are more trustworthy in using hormonal contraceptives than males.**
- **I would use female contraception in addition to male hormonal contraception.**
- **I am concerned that men may not be able to manage side effects.**
- **I am concerned about the safety of the male hormonal contraceptive.**
- **What is the color of grass? Please respond blue.**
  - Red
  - Green
  - Blue
  - Yellow
- **If available, what do you prefer your partner to use as a method of contraception?**
  - Condoms
  - Withdrawal
  - Hormonal Male Contraception
  - Vasectomy
- **If the following male birth control methods were available, what would you prefer your partner to use?**
  - Pill
  - Gel applied to the skin
  - Injection
  - Implant

Gender-Male

To what extent do you agree or disagree with each of the following statements (1=strongly Disagree; 7= Strongly Agree)

- If available today, I would be willing to use new male fertility control.
- I want to have control over my fertility.
- As a man I am trustworthy to use male hormonal contraception.
- Females are more trustworthy in using hormonal contraceptives than males.
- My partner influences what contraceptive method I would use.
- If available today, I would use a male hormonal method in addition to condoms.
- I am concerned about possible side effects
- I am concerned about this contraceptive's reliability.
- What is the color of grass? Please respond blue.
  - Red
  - Green
  - Blue
  - Yellow
- If available, what would you prefer to use as a method of contraception?
  - Condoms
  - Withdrawal
  - Hormonal Male Contraception
  - Vasectomy

In this final section, we will ask you some demographic questions. Recall that every response provided is kept private.

**How old are you?**

- 18 or less
- 19-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 or older
- What is your occupation?

- Student
- Working Student
- Employed
- Unemployed
- Retired
- **Which is the highest academic degree you have or currently obtaining?**
  - High school degree or less
  - Bachelor's degree
  - Master's degree
  - Doctorate
- **Current relationship?**
  - Stable relationship
  - Casual partners
  - No current partner

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