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Infertility-related stress and quality of life: the role of experiential avoidance

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Abstract

Infertility is a disease with impact on the individuals' lives which can be perceived as a stress-inducing experience. Higher levels of infertility-related stress have been associated with lower levels of quality of life. The aim of this study was to examine experiential avoidance as a pathway through which infertility-related stress is linked to quality of life in women with fertility problems. This cross-sectional study was conducted with a sample of 285 Portuguese women (M=35.61; SD=4.80) who completed a sociodemographic and clinical data sheet, and self-reported measures of infertility-related stress, experiential avoidance, and quality of life. The findings showed that infertility-related stress is positively associated with experiential avoidance and negatively associated with quality of life. Furthermore, experiential avoidance mediated the link between infertility-related stress and quality of life. Given that experiential avoidance may be a pathway leading to a worse adaptation, interventions focused on experiential avoidance may result in higher levels of quality of life in women dealing with fertility problems. Considering that this mechanism is a process underlying psychological inflexibility, which can be targeted by acceptance and commitment therapy, this therapy might be beneficial for women dealing with fertility problems, contributing to an improved quality of life.

Keywords Infertility · Infertility-related stress · Quality of life · Experiential avoidance · Women

Infertility is "a disease characterized by the failure to establish a clinical pregnancy after 12 months of regular, unprotected sexual intercourse or due to an impairment of a person's capacity to reproduce either as an individual or with his/her partner" (Zegers-Hochschild et al., 2017, p. 10). Mascarenhas et al. (2012), estimate that 48 million couples in reproductive age suffer from infertility worldwide. The causes of infertility may be related to factors associated with the male reproductive system, the female reproductive system, both, or may remain unknown (Zegers-Hochschild et al., 2017). Considering the increasing number of infertility diagnoses and the significant impact of fertility problems on individuals' lives across various domains (i.e., physical, psychological, and financial; Njogu et al., 2022; Veiga et al., 2020; Zegers-Hochschild et al., 2017), there is an urgent need for research that provides a deeper understanding of the psychological consequences of infertility and how individuals adapt to this experience. Although anxiety and depression have been extensively studied in this context (e.g., Pedro et al., 2023), other critical aspects, such as quality of life, remain relatively understudied. For instance, a recent review exploring the

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use of acceptance and commitment therapy in infertility found that only two out of six studies directly addressed quality of life (Barbosa et al., 2022), highlighting a gap in the literature. Quality of life is a broad, multidimensional construct that reflects individuals' perception of their overall well-being, encompassing physical, psychological, social, and environmental aspects (WHOQOL Group, 1994). Understanding how infertility affects quality of life and identifying factors that may worsen or alleviate this impact, such as experiential avoidance targeted by acceptance and commitment therapy, is essential for improving support and interventions for individuals facing infertility.

Consistently, infertility-related stress and quality of life have been negatively associated. Infertility-related stress is conceptualised as an overwhelming mental, emotional, or physical stress resulting from the desire, but inability, to conceive a child spontaneously and/or because of medically assisted reproduction, which may impact individuals' social, personal and marital domains (Woods et al., 2022; Schmidt, 2006a). Thus, studies have shown that infertility-related stress negatively affects quality of life of people dealing with fertility problems (e.g., Kim et al., 2018) and women undergoing fertility treatments (e.g., Swift et al., 2021).

The literature on the mechanisms underlying the relationship between infertility-related stress and quality of life is scarce. One pathway that may help explain the relationship is experiential avoidance. This construct is one of the six nuclear processes underlying acceptance and commitment therapy (Hayes et al., 1999) that lead to psychological inflexibility (Hayes et al., 1999). According to Hayes et al. (2012), experiential avoidance seems to be one of the main factors that contribute to psychological inflexibility. Experiential avoidance is a regulatory mechanism (Karekla & Panayiotou, 2011) and consists of an effort to alter the frequency or form of stressful or painful private events (e.g., thoughts, emotions, memories, bodily sensations; Hayes et al., 1999). Although it seems to work in short-term, long-term experiential avoidance seems to be linked to the development or maintenance of several psychological difficulties (Karekla & Panayiotou, 2011) and worst quality of life (Hayes et al., 2004).

In the field of infertility, there is one study that explored the mediating role of experiential avoidance (Galhardo et al., 2019). The authors found a mediation effect of experiential avoidance in the relationship between two domains of infertility-related stress (i.e., representations about the importance of parenthood and impact on life domains) and depressive symptoms. In fact, the authors suggest that, when faced with emotional difficulties, relying on experiential avoidance to relieve the suffering resulting from infertility, may contribute to the onset or aggravation of depressive symptoms (Galhardo et al., 2019). In a study conducted by Cernvall et al. (2012), with a sample of individuals diagnosed with cancer, experiential avoidance appeared as a pathway by which stress positively affects depressive symptoms. Additionally, the results of a study conducted by Trindade et al. (2020) suggest that experiential avoidance may be positively associated with stress, depressive and anxious symptomatology. The findings of this study also suggest that experiential avoidance may be negatively associated with emotional well-being and life satisfaction (Trindade et al., 2020). Together, these data suggest that experiential avoidance may be a regulatory mechanism that emerges in the presence of stressful thoughts and emotions related to infertility, which may consequently decrease subjects' quality of life. Preliminary data suggest that experiential avoidance may mediate the relationship between infertility-related stress and psychological variables such as depressive symptoms (Galhardo et al., 2019). However, the impact of this mechanism on quality of life has not yet been investigated. Therefore, studying the role of experiential avoidance in the context of infertility-related stress is crucial not only for understanding the underlying psychological mechanisms, but also for informing clinical practices. Identifying experiential avoidance as a mediating factor can help target interventions and improve quality of life.

Building on the evidence presented in the literature, this study adopts the transactional theory of stress and coping (Lazarus & Folkman, 1984) as its theoretical framework. This model provides a comprehensive foundation for understanding how infertility-related stress arises, how individuals appraise and respond to stressors, and the potential impact of these processes on quality of life. According to this theory, an event becomes a stressor (e.g., infertility diagnosis or medically assisted reproduction; Rooney & Domar, 2018; Loke & Luk, 2014) when it is perceived as a risk of harm, threat, or challenge (e.g., the commitment to parenthood and uncertainty of achieving it; Swift et al., 2021). This perception can lead to stress (e.g., infertility-related stress; Woods et al., 2022), significantly affecting an individual's quality of life (Lazarus & Folkman, 1984; Swift et al., 2021). Events like medical diagnoses and invasive treatments are often evaluated as significant stressors, triggering coping strategies such as experiential avoidance (Loke & Luk, 2014; Rooney & Domar, 2018). Women experiencing higher levels of infertility-related stress may adopt strategies like avoiding, suppressing, or minimizing thoughts and emotions related to infertility (Peterson & Eifert, 2011). While this approach provides short-term relief, it often exacerbates emotional suffering over time (Hayes et al., 1999; Galhardo et al., 2019). Based on this framework, it is plausible that stress precedes the adoption of coping strategies like experiential avoidance, especially in high-pressure contexts such as

infertility (Cernvall et al., 2012; Trindade et al., 2020). Therefore, experiential avoidance was included in this study as a mediating mechanism in the relationship between infertility-related stress and quality of life.

This study's purpose was to analyse the associations between infertility-related stress and quality of life and specifically examine experiential avoidance as a pathway through which infertility-related stress is linked to quality of life in women with fertility problems (see Fig. 1). Therefore, this study aims to analyse whether higher levels of infertility-related stress are associated with higher levels of experiential avoidance and, consequently, a lower levels of quality of life. Based on the existing literature, we formulated the following hypotheses: (1) infertility-related stress will be positively associated with experiential avoidance (Trindade et al., 2020); (2) infertility-related stress will be negatively associated with quality of life (Trindade et al., 2020); and (3) experiential avoidance will mediate the relationship between infertility-related stress (Galhardo et al., 2019) and quality of life. The results are expected to confirm these hypotheses, reinforcing the relevance of experiential avoidance as a central psychological mechanism that amplifies the negative effects of infertility-related stress on quality of life.

Method

Participants and procedures

The present study follows the guidelines of the Declaration of Helsinki, the code of ethics of the Portuguese Psychologists Order and [bind for review]. Between November 2022 and February 2023, participants who met inclusion criteria were invited to participate through dissemination on social networks (i.e., Instagram and Facebook) and through flyers distributed in medically assisted reproduction clinics. Inclusion criteria were men and women on reproductive age and over 18 years old with an infertility diagnosis or who have been trying to conceive for more than 12 months (even without a medical diagnosis), able to read and write Portuguese, who were married or living with their partner in a heterosexual relationship. The sampling approach that was used was self-selection. It was given an informed consent that guaranteed the confidentiality and anonymity of the data collected through the online questionnaire to the participants. The participating women (N=285) ranged in age from 26 to 49 years old (M=35.61; SD=4.80). Regarding clinical characteristics, the women were 1 month to 22 years beyond their diagnosis (M=53.93 months, SD=42.89) and the majority of them did not have previous psychology appointment (n=203; 71.20%). Men were not included in the final sample due to the lack of representation (N=7). More detailed sociodemographic and clinical characteristics of the sample are presented in Table 1.

Table 1 Sociodemographic and clinical characteristics of the sample

	M/*n*	SD/%
Age	35.61	4.80
Education, *n%*		
High school finished	5	1.75
Secondary school finished	72	25.26
Degree finished	123	43.16
Master's degree finished	80	28.07
PhD finished	5	1.75
Socioeconomic level, *n%*		
Low	18	6.32
Medium	176	61.75
High	91	31.93
Medically assisted reproduction, *n%*		
Yes	222	77.89
No	63	22.11
Sector, *n%*		
Public sector	109	38.25
Private sector	79	27.72
Both	34	11.93
Not applicable	63	22.11
Number of medically assisted reproduction cycles, *M SD*	2.83	2.28

N=285.

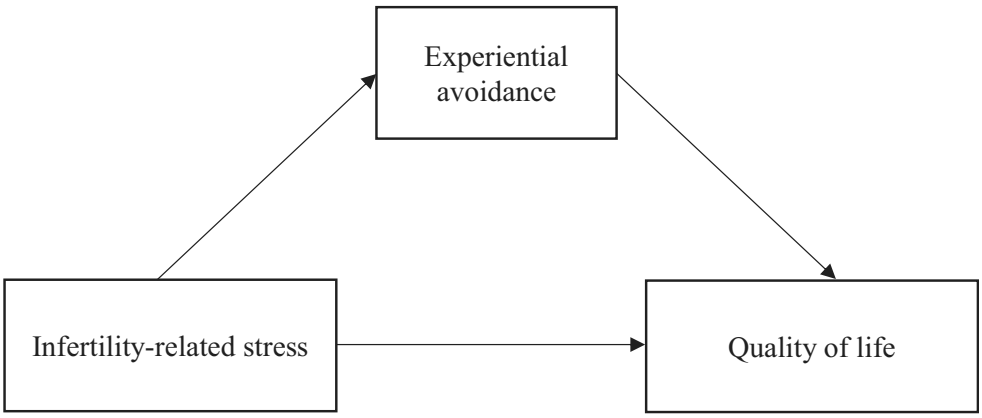

Fig. 1 Proposed model of mediation

Measures

Sociodemographic and clinical characteristics

Relevant sociodemographic (e.g., age, education) and clinical (e.g., use of medically assisted reproduction; duration of infertility and previous psychology appointment) information was collected from all participants. Using data from both partners' job and education, the socioeconomic level of each participant was classified in three levels (i.e., low, medium, and high) according to an accepted classification system for the Portuguese context (Simões, 1994).

Infertility-related stress

Participants' infertility-related stress was measured by COMPI Fertility Problem Stress Scales (COMPI-FPSS; Schmidt, 2006a; Schmidt et al., 2005). COMPI-FPSS is a 14-item self-reporting questionnaire rated on a 4-point, ranging from 1 (*none at all*) to 4 (*a great deal*), or 5-point Likert scale, ranging from 1 (*strongly agree*) to 5 (*strongly disagree*), with higher scores indicating more infertility-related stress (Schmidt et al., 2005). This instrument measures the impact of infertility diagnosis on personal (e.g., "My life has been disrupted because of this fertility problem"), social (e.g., "How much stress has your fertility problem placed on your relationship with your friends?"), and marital (e.g., "How much stress has your fertility problem placed in your marriage?") domains (Schmidt, 2006a; Schmidt et al., 2005). COMPI-FPSS was originally developed for the Danish population (Schmidt et al., 2005), but it was validated in a cross-cultural validation study of seven countries, and it was found to be a reliable measure for both men and women suffering with infertility and its treatments (Sobral et al., 2017). As the study Pedro et al. (2019), in the present study the total score was used. A Cronbach's alpha of 0.89 was found for the total score of the COMPI-FPSS in a Portuguese study (Pedro et al., 2019). In this study, Cronbach's alpha was 0.89 for the total score.

Experiential avoidance

Participants' experiential avoidance was measured by the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011; Portuguese version: Pinto-Gouveia et al., 2012). AAQ-II has a single-factor structure, with higher scores indicating greater experiential avoidance/psychological inflexibility (Bond et al., 2011; Pinto-Gouveia et al., 2012). Participants answered seven items (e.g., "My painful experiences and memories make it difficult for me to live a life that I would value.") rated on a 7-point Likert scale ranging from 1 (*never true*) to 7 (*always true*). A Cronbach's alpha of 0.84 was found in the original version (Bond et al., 2011). The Portuguese version of AAQ-II showed a Cronbach's alpha value of 0.90 (Pinto-Gouveia et al., 2012). In this study Cronbach's alpha was 0.94.

Quality of life

Participants' quality of life was assessed by EUROHIS-QOL-8 (Power, 2003; Portuguese version: Pereira et al., 2011), a self-report variation of the World Health Organization Quality of Life-100 and World Health Organization abbreviated version. Participants answered eight items (e.g., "How satisfied are you with your health?") rated on a 5-point Likert scale ranging from 1 (e.g., *not at all*) to 5 (e.g., *completely*). The items were transformed to fit a 0-100 scale (Pereira et al., 2011). The measure has a single-factor structure and provide a global index of quality of life, with higher scores indicating better perception of quality of life (Schmidt et al., 2006b). The original study of this scale revealed Cronbach's alpha of 0.78 (Power, 2003). The Portuguese version of EUROHIS-QOL-8 showed a Cronbach's alpha of 0.83 (Pereira et al., 2011). In this study Cronbach's alpha was 0.86.

Data analysis

Preliminary descriptive analyses and Pearson correlations were conducted using IBM SPSS Statistics (Version 27). Before testing whether experiential avoidance mediate the association between infertility-related stress and quality of life, we explored possible covariates. Correlations and one univariate analysis of variance (ANOVA) with quality of life as outcome were undertaken to identify relevant sociodemographic and clinical covariates, such as age, time since diagnosis, socioeconomic level (low; medium; high), and previous psychology appointment (yes vs. no). Mediation analysis was conducted using PROCESS macro (Hayes, 2013) in SPSS. Model 4 was used to test the hypothesis that the relationship between infertility-related stress and quality of life was mediated by experiential avoidance. Infertility-related stress, quality of life, and time since diagnosis were entered into the model as independent, dependent, covariate, respectively. A bootstrap method based on 5000 samples and 95% confidence intervals (CI) were used (Preacher & Hayes, 2004). Moreover, no assumptions about the shape of the sampling distribution were necessary when conducted inferential tests, since bootstrapping is an alternative method to normal-theory tests of mediation (Preacher et al., 2007).The indirect effects were considered significant when zero did not fall within the 95% confidence interval (95% CI). The alpha level was set at $p < .05$. Effect sizes are reported for the correlational and ANOVA (small: $r \geq .10$; $\eta^2 < 0.01$; medium: $r \geq .30$; $\eta^2 < 0.06$;

large: $r \geq .50$; $\eta^2 < 0.12$; Cohen, 1992). To ensure the adequacy of the sample size for detecting mediation effects, a power analysis was conducted based on the empirical estimates provided by Fritz and Mackinnon (2007). Using standardized coefficients from the mediation model, the expected effect sizes corresponded to medium and large pathways. According to these estimates, a minimum of 122 participants would be required to achieve 80% power with bias-corrected bootstrap confidence intervals. Moreover, to evaluate the statistical power of the study, a post hoc power analysis was conducted using G*Power 3.1 (Faul et al., 2007, 2009). The post hoc G*Power analysis was conducted based on linear multiple regression, with an observed effect size of 0.15 and a significance level of 0.05, which show a 0,99 statistical power to test the null hypothesis.

Results

Main study variables correlations

Means, standard deviations, and correlations for infertility-related stress, experiential avoidance, quality of life, age, and time since diagnosis are presented in Table 2. Significant negative small correlations were found between infertility-related stress and quality of life. Significant positive medium correlations were found between infertility-related stress and experiential avoidance. Large negative correlation was found between experiential avoidance and quality of life.

Examination and identification of potential covariates

Age was not associated with quality of life. Significant negative small correlation was found between time since diagnosis and quality of life (see Table 2). There were no differences in quality of life as function of socioeconomic level $F(2, 279)$, $p = .06$; $\eta^2_p = .02$ and previous psychology appointment $F(1, 279)$, $p = .12$; $\eta^2_p = 0.01$. Given these findings, time since diagnosis were entered into the mediation analyses.

Mediation analysis

The results of this analysis are presented in Fig. 2; Table 3. The mediation analysis explored whether the relationship between infertility-related stress and quality of life was mediated trough experiential avoidance, controlling the time since the diagnosis (months) as a covariate. Results showed that infertility-related stress levels were

Table 2 Means, standard deviations, actual range, and inter-correlations of the main study variables

Variables	1	2	3	4	5	*M*	*SD*	Actual range
1. Infertility-related stress	-					2.34	0.34	1.43–3.39
2. Experiential avoidance	0.38***	-				3.67	1.58	1–7
3. Quality of life	−0.26***	−0.55***	-			62.18	17.21	9-100
4. Age	0.04	0.05	−0.10	-		35.61	4.80	26–49
5. Time since diagnosis (months)	−0.09	−0.04	−0.13**	−0.38***	-	53.93	42.89	0-265

$N = 285$.

***$p < .001$ **$p < .05$

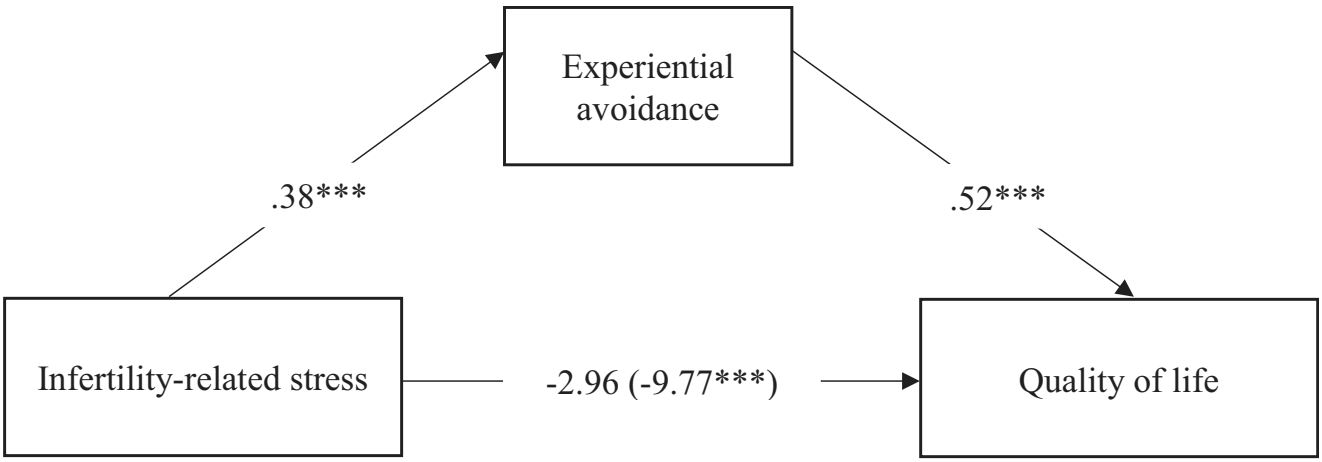

Fig. 2 Mediation Analysis Diagram. $N = 285$. The value in parentheses in the link between infertility-related stress and quality of life represents total effect. The value outside the parentheses refers to the direct effect of infertility-related stress on quality of life, after the analysis of the mediator variable.

Table 3 Summary of mediation analysis results

Effect	*b*	*SE*	*F*	*p*	95% CI Lower	95% CI Upper
COMPI-FPSS → AAQ-II	0.38	0.25	23.17	<0.001	1.22	2.22
AAQ-II → EUROHIS-QOL	−0.52	0.58	42.83	<0.001	−6.83	−4.54
Total	−12.73	2.86	12.26	<0.001	−18.37	−7.09
Direct	−2.96	2.67	-	0.270	−8.22	2.30
Indirect	−9.77	1.76	-	<0.001	−13.40	−6.48

N=285

significantly and positively associated with experiential avoidance (b=0.38, SE=0.25, 95% CI = [1.22, 2.22]), explaining 13.88% of experiential avoidance, $F(2, 282)=23.17$, $p<.001$. Furthermore, experiential avoidance was significantly and negatively associated with experiential quality of life ($b=-0.52$, SE=0.58, 95% CI = [−6.83, −4.54]), explaining 31.38% of quality of life along with infertility-related stress and the covariate, $F(3, 281)=42.83$, $p<.001$. Although a total negative and significant effect was found between infertility-related stress and quality of life ($b=-12.73$, SE=2.86, 95% CI = [−18.37, −7.09]), $F(2, 282)=12.26$, $p<.001$, no direct effect was found after analysing the mediating variable ($b=-2.96$, SE=2.67, 95% CI = [−8.22, 2.30]), $p=.270$. Addicionally, the indirect effect of infertility-related stress on quality of life through experiential avoidance was significant (b = −9.77, SE=1.76, 95% CI [−13.40, −6.48]).

Discussion

This study provides a novel approach to an important issue in clinical and health psychology research - the impact of infertility-related stress on quality of life through experiential avoidance. In line with the stress and coping transactional model' assumptions (Lazarus & Folkman, 1984), in the present study we tested the mediation role of experiential avoidance on the association between infertility-related stress and quality of life in women dealing with infertility. The main finding highlights that women who reported higher levels of infertility-related stress use more experiential avoidance, which in turn, seems to contribute to worse quality of life.

Consistent with previous research (e.g., Galhardo et al., 2019), women who report/perceive higher levels of infertility-related stress appear to show also higher levels of experiential avoidance. Past studies have indicated that women with higher levels of infertility-related stress might tend to avoid, diminish or minimize thoughts or emotions (i.e., experiential avoidance; e.g., Peterson & Eifert, 2011) related to the infertility process as a way of trying to diminish its form, frequency or situational sensitivity (Cardoso et al., 2021; Hayes et al., 2012). In fact, this process can be stressful both physically, as it might involve painful medical procedures (e.g., Ma et al., 2018; Rodrigues et al., 2020) and psychologically, due to, for example, the uncertainty of whether they will achieve motherhood (Swift et al., 2021). Also, the financial concerns associated with medically assisted reproduction (Van den Broeck et al., 2009) and the fear of pregnancy loss (de Castro et al., 2021) can contribute to this stressful experience. Therefore, as it seems to be such a difficult process, women may try to avoid, diminish, or minimize these painful and stressful thoughts or emotions of this experience by resorting to experiential avoidance.

In line with previous studies showing negative associations between experiential avoidance and quality of life (e.g., Bond et al., 2011), the present study's results suggest that, when women show higher levels of experiential avoidance, they seem to experience lower levels of perception of quality of life. Although this regulatory mechanism (i.e., experiential avoidance) can provide short term relief from suffering, it has a paradoxical effect (Hayes et al., 2012). In this matter, long term experiential avoidance not only worse the negative experience, but it also worse the individuals' perception of quality of life (Bond et al., 2011; Kashdan et al., 2006). Women's efforts to suppress, avoid, or eliminate unwanted private experiences (e.g., thoughts) - motivated by the perception of its painful nature and the consequent increase in suffering – seem to foster the same negative private experiences in frequency and intensity (Galhardo et al., 2019; Harris, 2009). As a result, these factors decrease the capacity to derive pleasure from life and exacerbate suffering, ultimately leading to a decreased perception of quality of life (Hayes et al., 2012; Karekla & Panayiotou, 2011). Therefore, the avoidance of negative experiences may intensify thoughts and beliefs of being unhealthy, of self-dissatisfaction, insufficient financial resources that may contribute to worsening perceptions of quality of life (Harris, 2009; Power, 2003).

The results of this study reveal a total mediation of experiential avoidance on the relationship between infertility-related stress and quality of life, in line with a recent study conducted by Cardoso et al. (2021). The authors suggested that the emergence of difficult emotional states resulting from an infertility experience may lead to an effort to change the frequency or form of these states, which may contribute to the onset or exacerbation of depressive symptoms (Cardoso et al., 2021). Additionally,

our findings are consistent with the study conducted by Cernvall et al. (2012), in which there was a total effect between stress and depressive symptomatology through experiential avoidance. Thus, what seems to be a hypothesis to consider is that not only the presence of infertility-related stress contributes to decrease of women's perception of quality of life when dealing with fertility problems, but rather, there are other processes involved that may lead to a worst perception of quality of life (e.g., through experiential avoidance). Although the nature of the challenges may be different according to a family's socioeconomic level and previous psychology appointment, it seems that these variables did not influence the perception of quality of life. This finding is consistent with earlier work (e.g., Santos et al., 2016). This pattern is particularly interesting because unlike experiential avoidance, sociodemographic and clinical characteristics are not amenable to change. The results of this study need to be considered in light of some limitations. First, it is a cross-sectional study which does not allow to establish causal relationships between the variables analysed. Although our data supports the hypothesis that infertility-related stress affects quality of life through experiential avoidance, the absence of a timeline prevents us from confirming the direction of the effects. Additionally, the fact that it is an online questionnaire also constitutes a limitation due to sampling bias, self-selection concerns and the underrepresentation of the sample. Only participants with access to digital platforms were able to take part in this study, potentially excluding individuals from more disadvantaged backgrounds or with lower digital literacy. This bias restricts the representativeness of the sample. The sample is composed with Portuguese participants, it increases the likelihood of a risk of bias of the findings. Although the experience of infertility shares common characteristics in different cultures, factors such as social norms, stigmatisation and available resources may vary widely between countries. For this reason, our findings may not fully reflect the experiences of populations from other cultural backgrounds, especially in societies with different health and social support systems.

Furthermore, we recognise that other processes can influence the relationship between infertility-related stress and quality of life. Variables such as social support, coping strategies and personality traits can act as mediators or moderators, possibly affecting the perception of overall well-being. To mitigate this limitation, future studies should incorporate more robust analyses that adjust for these variables, ensuring a more accurate and detailed understanding of the psychological mechanisms involved. The last limitation that deserves our attention, and reflection is the use of the AAQ-II (Bond et al., 2011). Although this measure proposes to assess psychological inflexibility and experiential avoidance (Bond et al., 2011), the authors considered it prudent to refer to experiential avoidance, since the literature points in this direction (Tyndall et al., 2019). However, theoretically, these two constructs present different definitions (Hayes et al., 1999). Psychological inflexibility is a more global construct, encompassing experiential avoidance and other processes (Hayes et al., 1999). In fact, some studies have started to question the discriminant and construct validity of this instrument (Cherry et al., 2021; Doorley et al., 2020; Tyndall et al., 2019).

Although this study has limitations, it also has several strengths that increase its relevance and robustness. One of the main strengths of this study is the sample size, which exceeded the minimum required to achieve sufficient power for detecting mediation effects. To evaluate the statistical power of the study, a post hoc power analysis was conducted using G*Power 3.1 (Faul et al., 2007, 2009). With a sample size of 285 participants, the study not only met but significantly surpassed the required power threshold, further enhancing the reliability and robustness of the findings. This is particularly important in infertility studies, where samples sizes are usually limited due to the specificity of the target population. Furthermore, although online questionnaires have limitations, such as self-selection bias, they offer the advantage of anonymity, which can reduce the influence of social desirability on responses. This factor is crucial when addressing emotionally sensitive topics such as stress and quality of life in the context of infertility, promoting more authentic and representative responses. Another strength of this study is the use of specific measures for infertility, such as the COMPI-FPSS (Schmidt, 2006a; Schmidt et al., 2005), which make it possible to capture the particular demands of this experience, including dimensions such as personal, marital and social stress. Relating these specific measures to more general instruments, such as the EUROHIS-QOL-8, is also a methodological strength, as it makes it easier to understand how the specific demands of infertility influence broader variables, such as quality of life. Finally, the focus on experiential avoidance as a mediating mechanism contributes to theoretical advancement in the field by exploring a psychological process that has yet to be investigated in this context. This approach provides valuable insights for future interventions, offering an innovative perspective on how individuals cope with infertility-related stress.

Taking into consideration the limitations and strengths of this study, we suggest as future directions longitudinal studies to establish causal relationships, which would allow to have further insight into the experience of infertility. Longitudinal designs could help determine whether infertility-related stress leads to experiential avoidance, which subsequently impacts quality of life, or if these relationships are bidirectional. Additionally, longitudinal studies could identify critical

timepoints during the infertility journey, such as at diagnosis or during treatment, where interventions might be most impactful. Dyadic studies would be interesting to understand how the variables under study might affect the members of the couple differently. For example, Kim et al. (2018) showed that the perceived quality of life of the female member of the couple can influence the partner's perception of quality of life. So, by extending the focus to partners, future research could provide a more comprehensive understanding of how infertility-related stressors are experienced within the dyadic context and how these experiences may differ between partners. Thus, it would be interesting to explore the impact of variables like infertility-related stress, experiential avoidance, and quality of life on partners. Since the sample did not encompass LGBTQIA+population, it would also be interesting to replicate this study in this population. Since concerns about the AAQ-II (Bond et al., 2011) discriminant and construct validity, a future research direction would also be a profounder examination of the construct that is being measured by this measure.

The results of this study also highlight the importance to address experiential avoidance in interventions. This study contributed to the existing body of literature by providing support that experiential avoidance can be an important factor to be aware in adaptation to the infertility' field (e.g., Cernvall et al., 2012). One of the main approaches that can be explored is acceptance and commitment therapy (Hayes et al., 1999), which aims to reduce experiential avoidance by helping women deal more effectively with the painful thoughts and emotions related to infertility. Acceptance and commitment therapy-based interventions can include techniques such as cognitive defusion, which aims to reduce the impact of negative thoughts, and mindfulness, which helps women to live in the present and deal with stress without avoiding or suppressing the associated emotions. These interventions can be implemented in different formats in the field of psychology, such as individual or group programmes, online therapies or face-to-face workshops. For example, group sessions based on acceptance and commitment therapy can create a safe space for women to share their experiences, normalising their feelings and reinforcing a sense of social connection. Finally, the findings reinforce the importance of integrating psychology into reproductive health care. Psychologists can play a crucial role by working in collaboration with other health professionals to offer the best possible care. promoting improvements in, for example, quality of life.

Moreover, by showing that experiential avoidance may be an important factor in this context' adaptation, it reinforces the need for more randomized controlled trials targeting experiential avoidance, in order to better understand its efficacy. In this Matter, a review of 20 meta-analysis suggested that acceptance and commitment therapy is efficacious dealing with several conditions (e.g., anxiety; Gloster et al., 2020). In infertility context, a systematic review of six studies conducted by Barbosa et al. (2022) suggested that individuals dealing with infertility might benefit from interventions addressing acceptance and commitment therapy' processes (e.g., promoting acceptance; Hayes et al., 1999) to improve mental health outcomes (e.g., quality of life).

Conclusion

The present study provides initial evidence that the impact of infertility-related stress on quality of life may occur through experiential avoidance. This finding contributes to a better understanding of a possible regulatory mechanism underlying the infertility experience. Specifically, women who, when faced with stressful events, try to minimise, control or avoid thoughts, emotions or situations perceived as painful tend to report lower levels of quality of life. Therefore, experiential avoidance might be a risk factor to infertility adaptation. Considering our findings, acceptance and commitment therapy (Hayes et al., 1999), namely promoting greater acceptance, may be useful for women dealing with infertility.

Data Availability

The datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request.

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Declarations

Ethics approval The study follows the guidelines of the Declaration of Helsinki and the code of ethics of the Portuguese Psychologists Order.

Informed consent Not applicable.

Consent to participate Not applicable.

Consent for publication Not applicable.

Human and animal rights This article does not contain any studies with human or animal subjects performed by any of the authors.

Competing interests The authors have no competing interests to declare that are relevant to the content of this article.

Conflict of interest The authors declare that they have no conflict of interest.

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