Short Communication

Psychological Depression Anxiety Outcomes Associated with Failed Assisted Reproductive Technologies among Moroccan Couples in Casablanca State 2020

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In Morocco, where the prevalence of infertility estimated to be 22.5%, IVF provided in 4 fertility centres in different Casablanca localities. Regardless of the cause IVF failure has negative psychological impact and it is associated with a deterioration of the emotional wellbeing. In a study by Verhaak et al. in 2005, showed that over 20% of the women who did not achieve pregnancy showed depression and/or anxiety up to 6 months after treatment termination. Regarding the psychological impact of IVF/ICSI failure in Morocco is even worse due to the cultural and social norms. It is important that infertile couples attend IVF clinic should receive appropriate counselling with regard to coping with treatment failure to prevent further psychological effect. Along with the realization of couples about their reproductive potential and having children is seen as a key lifetime achievement, having a lovely family is the meaningful life. It is therefore not surprising that infertility has a profound psychological stressful effect on couples. Most look for therapeutic and medical intervention and many, including those in low resources settings are prepared to face catastrophic financial hardship in order to pay for ART and visiting fertility centres. The dream of having biologically related baby, when the result isn't positive, may turn to become a source of frustration, hopelessness, depression, anxiety and tension.

Abbreviations: ART: Assisted reproductive technologies. IVF: in-vitro fertilization. ICSI: Intracytoplasmic sperm injection.

Introduction

Assisted reproductive technologies (ART) are medical methods used primarily to address infertility and become an important option for couples with fertility problems to have a baby. It has captured the attention of the public since its sensational introduction in 1978, when Louise Brown the first IVF child was born; practice is largely different from that used early. In Morocco, where the prevalence of infertility estimated to be 22.5%, IVF provided in 4 fertility centres in different Casablanca localities. Regardless of the cause IVF failure has negative psychological impact and it is associated with a deterioration of the emotional wellbeing. In a study by Verhaak et al. in 2005, showed that over 20% of the women who did not achieve pregnancy showed depression and/or anxiety up to 6 months after treatment termination. Regarding the psychological impact of IVF/ICSI failure in Morocco is even worse due to the cultural and social norms. It is important that infertile couples attend IVF clinic should receive appropriate counselling with regard to coping with treatment failure to prevent further psychological effect. Along with the realization of couples about their reproductive potential and having children is seen as a key lifetime achievement, having a lovely family is the meaningful life. It is therefore not surprising that infertility has a profound psychological stressful effect on couples. Most look for therapeutic and medical intervention and many, including those in low resources settings are prepared to face catastrophic financial hardship in order to pay for ART and visiting fertility centres. The dream of having biologically related baby, when the result isn't positive, may turn to become a source of frustration, hopelessness, depression, anxiety and tension.

Data synthesis and analysis

Meta-analysis: Studies that reported anxiety, depression or de-

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pressive symptoms pre and post ART treatment were included in the meta-analysis. The analysis investigated the effects of treatment on anxiety or depression in those with treatment failure, and—if data were available—also separately for those with treatment success. For each included study, the treatment effect was the difference between the pre and post therapy scores in either anxiety or depression (or depressive symptoms). Only complete pre and post data were included in the analysis. To account for the differences between studies in the scales used to measure depression/ depressive symptoms or anxiety, the standardized mean difference (SMD) between pre and post treatment groups was derived for each study and used to derive the subtotal and total estimates of the treatment effect [1]. The SMD was calculated as the mean difference between pre and post groups divided by the within-groups standard deviation of the assessment of anxiety or depression pooled across studies. A random-effects model using Der Simonian and Laird method was employed to incorporate an estimate of the between-study variation into both the study weights and the standard error of the estimate of the common effect [1]. The precision of an estimate from each included study is represented by the inverse of the variance of the outcome pooled across all participants. Less precise estimates have larger variances, so the inverse of variance is smaller for studies with less precise estimates. Where, df stands for the degrees of freedom used to estimate the within-groups pooled standard deviation [3]. The between-study heterogeneity was investigated using a random-effects meta-analysis regression which investigated the extent to which statistical heterogeneity between studies could be related to one or more characteristics of the studies [4]. Publication bias was evaluated using a funnel plot [5]. Some studies did not report a standard deviation (SD) for their study outcomes. For these we estimated a SD using the standard error, sample size and reported mean. The meta-analyses were conducted by gender for depression or anxiety. Similarly, we conducted separate analyses by time period from the procedure. We defined 'early period' as up to five months from procedure, while 'late period' was defined as six months or more from procedure similar to the definitions of Freeman et al study [6].

Narrative analysis: The narrative synthesis reported on psychological outcomes other than depression or anxiety. The narrative synthesis was used to identify emerging patterns and to explore relationships within and between the studies [7]. Data were grouped according to psychological outcome, against treatment failure and treatment success if reported, and by gender. Results from sub analyses conducted by the included studies were reported if there were adequate data on outcomes associated with IVF or ICSI treatment and outcomes associated with women's age.

Methodological quality of included studies: The quality of the studies included in both the meta-analysis and the narrative synthesis was assessed while addressing five possible sources of bias that related to: study participation; study attrition; measurement of prognostic factors; measurement of outcomes; and analysis approaches. The scoring was based on and guided by Hayden et al [8] tool that evaluated the quality of prognostic studies in systematic reviews. The quality of these studies was independently checked by three researchers (co-authors AM, GM and an external assessor TDV). Percent agreement was calculated together with Cohen's Kappa coefficient that measured the inter-rater agreement. A Systematic Review on Failed ART

Results

102 women (67.1%) and 50 (32.9%) men participated in the study (response rate= 93%). The majority (44.1) between 35 - 45 years old. According to HADS the prevalence of Depression was found to be conclusion, although it's lower than expected (lower than global statistics 17.0% for depression & 23.2% for anxiety) still it is significant to address more care & interests to those couples. Reasons include the fact the couples have strong religious faith & effective self-counselling as well as family support. According to our finding that highlights the prevalence of anxiety & depression it's relatively high among couples who had ART failure. Also, there were no active counselling efforts structured in the candidate's pathway. Recommendations Psychological & emotional needs should be addressed by the presence of psychiatrist or specialized social worker to provide a constrictive counselling effort. We also recommend monitoring and evaluation the psychological status of candidates throughout the process.

Conclusion

Psychological scores before IVF/ ICSI treatment and after treatment failure. This study demonstrates the application of indirect evidence of psychological adverse outcomes within a more comprehensive decision-making framework for health policy around ART practice and resource allocation decision-making.

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