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Letter to the Editor

Infertility Related Quality of Life and Self-Efficacy among Infertile Couples: A Dyadic Approach

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Dear Editor-in-Chief

Infertility is a critical public health issue that affects 9% of couples worldwide. It is associated with adverse psychosocial consequences which further affect the couple's quality of life (QoL) (1, 2). Multiple factors determine the QoL of patients with infertility (3). One of the most important factors is infertility self-efficacy, especially for patients in developing countries. We aimed to examine this relationship using an innovative hybrid dyadic analysis technique, the Actor-Partner Common Fate Model (APCFM) (4).

This cross-sectional study conducted on infertile couples undergoing fertility treatment in Royan Institute, Tehran, Iran. We collected the data between Aug and Sep 2017. QoL was measured using the Fertility Quality of Life (FertiQoL) instrument (5), and self-efficacy was measured using the Infertility Self-Efficacy Scale (ISE) (6). To evaluate the effect of self-efficacy on QoL, the APCFM approach was used. This model incorporates features of both the Actor-Partner Interdependence Model (APIM) and the Common Fate Model (CFM) in the same model, which is referred to as hybrid dyadic model. This model was capable of testing hypotheses regarding whether an individual-level variable influences a common fate variable (4) (Fig. 1). All preliminary data analyses were performed using IBM SPSS Statistics for Windows, Version 22.0 (IBM Corp., Armonk, NY, USA), and APCFM analysis was performed using Mplus software version 6.12 (Muthén & Muthén, Los Angeles, CA, USA). The sample was composed of 180 married infertile couples, aged 18-50 yr (men: M=34.31, SD=5.01; women: M=30.54, SD=5.39). The mean duration of infertility was 4.83 (SD=3.61). Women's ISE score was lower than their husbands (men: 105.7±22.9; women: 91.6±22.8, P<0.001). This trend was also found for QoL score (men: 72.9±15.9; women: 67.4±16.1, P<0.001). Women's ISE was significantly correlated with both their own QoL (r=0.439, P<0.001) and their husbands' QoL (r=0.161, P=0.031). Men's ISE was significantly correlated with their own marital satisfaction (r=0.430, P<0.001) but not with their wives' QoL (r=0.136, P=0.069). In addition, the interpartner (dyadic) correlation between QoL scores (r=0.360, P<0.001) was significant, which justifies the choice of this variable as a common fate variable (or dyad-level variable). However, the interpartner correlation between ISE scores (r=0.145, P=0.052) was not statistically signifi-

cant. As presented in Fig. 1, the APCFM revealed that the effects of men's and women's ISE on couple QoL (b=0.172, *P*<0.001; b=0.185, *P*<0.001, respectively) were statistically significant.

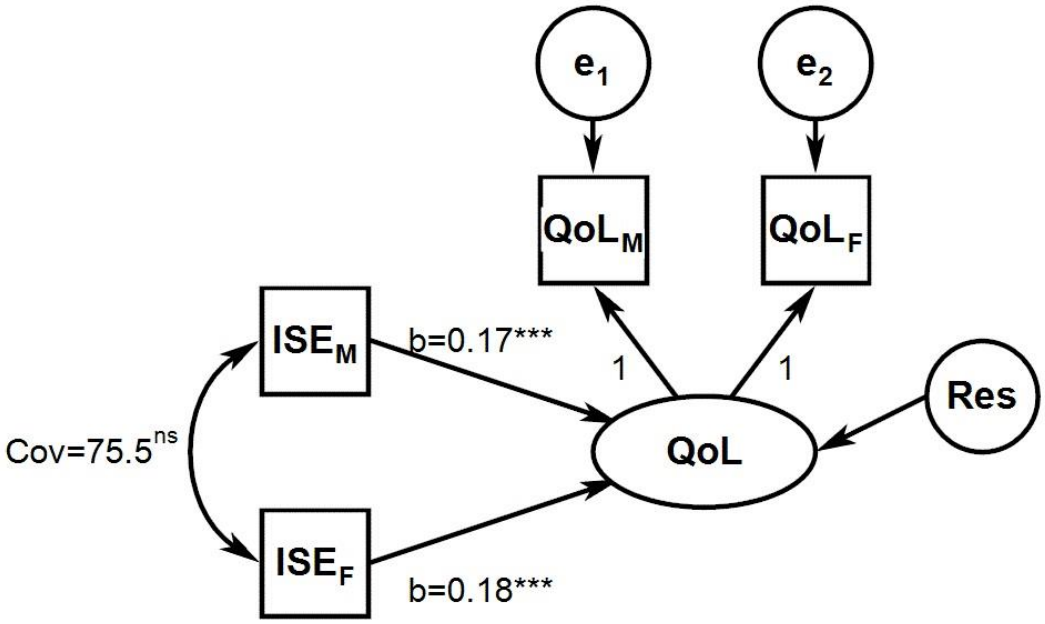

Fig. 1: Diagrammatic illustration of the Actor-Partner Common Fate Model (APCFM)
Note. ISE_M and ISE_F are predictor variables for men and women, QoL_M and QoL_F are their respective outcome variables. e_1 and e_2 are the error terms. QoL indicate latent variables for the APCFM.
***P<0.001; ^{ns} Not significant

Although a growing body of research suggested that infertility is a shared problem between members of a couple (7), most of the studies in the infertility context use the individual (primarily women) as the unit of analysis rather than the couple. In this study, due to the dyadic nature of the data, we used a dyadic data analysis approach recommended in the literature (8).
In conclusion, the findings of this study highlighted that couple QoL in patients with infertility was influenced by their own ISE scores; thus, psychological interventions that target enhancement of self-efficacy and QoL in the infertility context should treat the couple as a unit.

Acknowledgements

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Conflict of interest

The authors declare that there is no conflict of interest.

References

1. Boivin J, Bunting L, Collins JA, et al (2007). International estimates of infertility prevalence and treatment-seeking: potential need and demand for infertility medical care. *Hum Reprod*, 22(6):1506-12.
2. Schmidt L (2009). Social and psychological consequences of infertility and assisted reproduction–what are the research priorities? *Hum Fertil (Camb)*, 12(1):14-20.
3. Maroufizadeh S, Ghaheri A, Omani Samani R (2017). Factors associated with poor quality of life among Iranian infertile women undergoing IVF. *Psychol Health Med*, 22(2):145-151.

4. Wickham RE, Macia KS (2019). Examining cross-level effects in dyadic analysis: A structural equation modeling perspective. *Behav Res Methods*, 51(6):2629-2645.
5. Maroufizadeh S, Ghaheri A, Amini P, et al (2017). Psychometric properties of the fertility quality of life instrument in infertile Iranian women. *Int J Fertil Steril*, 10(4):371-379.
6. Cousineau TM, Green TC, Corsini EA, et al (2006). Development and validation of the Infertility Self-Efficacy scale. *Fertil Steril*, 85(6):1684-96.
7. Peterson BD, Newton CR, Rosen KH (2003). Examining congruence between partners' perceived infertility-related stress and its relationship to marital adjustment and depression in infertile couples. *Fam Process*, 42(1):59-70.
8. Maroufizadeh S, Hosseini M, Rahimi Foroushani A, et al (2018). Application of the dyadic data analysis in behavioral medicine research: marital satisfaction and anxiety in infertile couples. *BMC Med Res Methodol*, 18(1):117.