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Title

Sexual and relational satisfaction in couples where the woman has polycystic ovary syndrome: a dyadic analysis.

Running title

Effects of PCOS on relationship satisfaction.

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23 **Abstract**

24

25 **Study question**

26 How are objective characteristics of the polycystic ovary syndrome (PCOS) and PCOS-
27 related concerns associated with the sexual and relational satisfaction of PCOS women and
28 their partners?

29 **Summary answer**

30 Both objective PCOS characteristics (parity, women's body mass index (BMI) and current
31 unfulfilled wish to conceive) and PCOS-related concerns (women's infertility-related and
32 acne-related concerns) were associated with sexual and/or relational satisfaction, although
33 some associations differed for PCOS women and their partners.

34 **What is known already**

35 There is some evidence indicating an association between objective PCOS characteristics and
36 sexual satisfaction of PCOS women, but this evidence is conflicting, scarce, and often no
37 validated questionnaires are used to evaluate sexual satisfaction. No evidence is available
38 about the association of (a) PCOS with relational satisfaction; (b) PCOS-related concerns with
39 sexual and relational satisfaction; and (c) PCOS with sexual and relational satisfaction as
40 experienced by partners of PCOS women.

41 **Study design, size, duration**

42 We set up a cross sectional study from April 2007 till April 2009 including 31 overweight
43 ($\text{BMI} \geq 25 \text{ kg/m}^2$) women with PCOS at reproductive age as well as their partners with who
44 they had a committed intimate relationship at the time of recruitment.

Participants/materials, setting, methods

The study was performed at the fertility center of the Ghent University Hospital. Objective PCOS characteristics were registered and PCOS-related concerns were evaluated by the PCOS Questionnaire. Sexual (_{SS}) and relational (_{RS}) satisfaction were measured by the Maudsley Marital Questionnaire (MMQ). Dyadic statistical analyses were performed using linear mixed models ($\alpha < 0.05$).

Main results and the role of chance

A lower parity tended to be associated with higher levels of sexual and relational satisfaction, with a significantly stronger association in PCOS women than their partners ($p_{(SS)} = .015$ and $p_{(RS)} = .009$). A higher BMI tended to be associated with lower and higher satisfaction levels (sexual and relational) in PCOS women and their partners, respectively, with a significantly stronger association in the partners ($p_{(SS)} = .029$ and $p_{(RS)} = .021$). The presence of a current unfulfilled wish to conceive and a higher level of infertility-related concerns was significantly stronger associated with a higher level of PCOS women's relational satisfaction than their partners' ($p_{(RS)} = .021$ and $p_{(RS)} = .011$, respectively). And higher levels of acne-related concern were significantly associated with lower levels of sexual satisfaction in PCOS women ($p_{(SS)} = .025$) and their partners ($p_{(SS)} = .002$).

Limitations, reasons for caution

The fact that this study was performed in a sample of PCOS women who were all overweight and the small sample size are important limitations. Data were partially missing in some couples but this limitation was dealt with by using linear mixed models.

Wider implications of the findings

Our results suggest a differential association of PCOS with sexual and relational satisfaction between PCOS women and their partners. This should be kept in mind during the psychological guidance of couples dealing with PCOS.

Study funding/competing interest(s):

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Keywords

Polycystic ovary syndrome, sexuality, relationship, satisfaction, couple.

Introduction

The polycystic ovary syndrome (PCOS) is a common endocrine disorder in women of reproductive age (Broekmans et al., 2006). It is characterized by menstrual disorders, anovulatory subfertility, hirsutism, acne, biochemical signs of hyperandrogenism, obesity and insulin resistance (The Rotterdam ESHRE/ASRM-sponsored PCOS consensus workshop group, 2004; Drosdzol et al., 2007). Due to these characteristics, PCOS is found to be a trigger for psychological morbidity, with PCOS women reporting to feel different, less feminine, and more depressed as compared to non-PCOS women (Elsenbruch et al., 2003; Snyder, 2006; Jones et al., 2008). There is also preliminary evidence that PCOS characteristics negatively affect various aspects of women's sexual life. More specifically, PCOS women often report to feel less attractive and to be less sexually satisfied as compared to non-PCOS women (Elsenbruch et al., 2003; Drosdzol et al., 2007; Tan et al., 2008; Månsson et al., 2011).

Although these results are promising, existing research on how PCOS affects women's sexual and intimate relationships is limited in several ways. First, findings from studies on the specific objective characteristics of PCOS that affect women's level of sexual satisfaction appear to be contradictory. More specifically, indicators of hyperandrogenism were found to have a negative effect (i.e. Ferriman-Gallwey score of hirsutism) in the Drosdzol et al. study (2007) but no effect (i.e. self-reported state of hirsutism and total serum testosterone) in the Stovall et al. study (2012) on PCOS women's sexual satisfaction. Similar conflicting evidence has been found for the association of PCOS women's body mass index (BMI) with their sexual satisfaction and functioning (Elsenbruch et al., 2003; Hahn et al., 2005; Månsson et al., 2011; Stovall et al., 2012). Second, previous PCOS-studies focusing on sexuality relied on questionnaires that were often not psychometrically validated. Also, sexual satisfaction was at times measured by means of questionnaires evaluating rather women's sexual functioning,

and including only some items pertaining to their level of sexual satisfaction (Elsenbruch et al., 2003; Hahn et al., 2005; Drosdzol et al., 2007; Tan et al., 2008; Månsson et al., 2011). Third, studies to date did not examine how women's subjective experience of PCOS-related characteristics is related to their sexual life. This is surprising, as a stressor's (like PCOS) objective characteristics need to be conceptually and methodologically differentiated from a person's perception of and reaction to a stressor; moreover, the perception of a stressor is theoretically and empirically more directly related to individual and relational well-being than its objective characteristics (Weber, 2011). Fourth, as existing research on PCOS and sexual satisfaction/functioning exclusively focused on the perspective of PCOS women, little is known about how partners of PCOS women experience their intimate relationship. Finally, previous studies limited their scope to sexual satisfaction whereas they did not investigate how PCOS affects other non-sexual aspects of long-term intimate relationships, like a couple's level of relational satisfaction. The latter refers to how good or bad couples judge their intimate relationship to be, and reflecting partners' feelings of mutual understanding, tensions in the relationship, their commitment to the relationship, etc. (Bradbury & Karney, 2010). Furthermore, couple's relational satisfaction correlates strongly with their level of sexual satisfaction (Christopher & Sprecher, 2000; Sprecher & Cate, 2004).

Sexual as well as relational satisfaction are essential characteristics of intimate relationships, and important predictors of both relationship stability and partner's subjective well-being (Bradbury & Karney, 2010). Given its symptomatology, PCOS is assumed to be a chronic stressor for couples to deal with, and to have the potential to undermine both partners' sexual and relational satisfaction. In order to develop evidence-based psychological interventions for PCOS women and their partners, research on the intimate life of couples facing PCOS is essential. Therefore, the present study examined how (a) both objective PCOS characteristics and PCOS-related concerns relate to (b) sexual as well as relational satisfaction, of (c) PCOS

129 women and their intimate partner. As a point of major empirical and clinical interest, we also
130 explored potential differences between PCOS women and their partners in the association
131 between PCOS characteristics on the one hand and sexual and relational satisfaction on the
132 other hand, by performing dyadic statistical analyses. Psychometrically validated
133 questionnaires were used to assess all the variables included in the current study.

Materials and methods

We set up a cross sectional study at the Department of Reproductive Medicine of the Ghent University Hospital from April 2007 till April 2009. This study was performed in the context of a lifestyle modification program for overweight women with PCOS between the age of 18 and 43 years old ($n = 33$). The PCOS women who were involved in a committed intimate relationship at the start of that program ($n = 31$) were eligible for the current study. At the start of the lifestyle modification program, all 31 PCOS women as well as their partners were informed about the current study by the treating physician and all agreed to participate. PCOS was diagnosed by a gynecologist according to the Rotterdam criteria (The Rotterdam ESHRE/ASRM-sponsored PCOS consensus workshop group, 2004).

Objective characteristics of PCOS

Overweight was diagnosed as a BMI of $\geq 25 \text{ kg/m}^2$ (WHO, 2010). Clinical hyperandrogenism was diagnosed by evaluating the presence of visible hair growth and facial acne. The degree of visible hair growth was indicated by the modified Ferriman-Gallwey (mFG) scale and women were classified as hirsute when they had a mFG-score ≥ 8 (Ferriman & Gallwey, 1961; Yildiz et al., 2010). The acne parameter was evaluated by asking women whether facial acne was present or not. Hyperandrogenemia was diagnosed by the presence of a free testosterone (fT) level $> 0.50 \text{ ng/dL}$, which was determined at day 2 or 3 of a spontaneous or induced menstrual cycle. The menstrual cycle was categorized as irregular in case of no menstrual bleeding for > 35 days or > 6 months. Parity and gravidity, both indicators of subfertility, were registered and women were also asked if they had a current unfulfilled wish to conceive.

PCOS-related concerns

To evaluate women's subjective PCOS-related concerns, the PolyCystic Ovary Syndrome Questionnaire (PCOSQ) and an acne Visual Analogue Scale (VAS) were used (Cronin et al.,

1998; Guyatt et al., 2004). All PCOS women were given basic instructions to fill out the questionnaire around their first consultation in the lifestyle modification program. The 26-item PCOSQ consists of 5 domains: emotions (e.g., ‘being worried about having PCOS’ or ‘having a low self-esteem as a result of having PCOS’), body hair, weight, infertility problems and menstrual problems. Each item of the questionnaire was scored on a 7-point Likert scale (1 = *high concern*, 7 = *no concern*), with higher scores corresponding with lower levels of PCOS-related concern (Cronin et al., 1998). For each PCOS woman, the mean score of all domain-specific items and the mean score of the 5 domain scores generated the score of each PCOSQ domain and the total PCOSQ score, respectively. Whereas, in the original version of the PCOSQ, a time frame of 2 weeks is chosen for PCOS women to report their subjective experience of PCOS (Cronin et al., 1998), the current study used a time frame of six months in order to have a view on the patient’s subjective experience of PCOS over a larger period of time. In the current study, the total PCOSQ scale and the 5 separate PCOSQ domain scales showed acceptable to excellent reliability (Cronbach’s alpha’s between .61 and .95). In order to evaluate the subjective experience of the presence of facial acne, PCOS women indicated to what extent the presence of facial acne influenced their quality of life on a VAS (0 = *no influence*, 10 = *great influence*). Contrary to the PCOSQ scores, higher VAS scores reflect higher levels of acne-related concern.

Sexual and relational satisfaction

Sexual and relational satisfaction of PCOS women and their partners were assessed by means of the Maudsley Marital Questionnaire (MMQ; Arrindell et al., 1983). The MMQ was filled out by the PCOS women as well as by their partners around their first consultation in the lifestyle modification program. The MMQ includes 20 items, each rated on a 9-point Likert scale that ranges from 0 = *high satisfaction* to 8 = *low satisfaction*. The sexual satisfaction subscale and the marital satisfaction subscale were used to assess each participant’s subjective

evaluation of their sexual life and intimate relationship, respectively. Subscale-scores were calculated separately for the PCOS women and their partners by computing the sum of their responses on all items in the respective subscales. Scores on the sexual satisfaction subscale could range from 0 to 40 and for the marital satisfaction subscale from 0 to 80, with higher scores reflecting lower levels of satisfaction. The psychometric qualities of the Dutch version of the MMQ are confirmed (Arrindell et al., 1983; Arrindell & Schaap, 1985; Joseph et al., 2007). In this study, Cronbach's alpha's were adequate to good (between .70 and .84) indicating an acceptable internal consistency for all the subscales.

Ethical consent

This study has been authorized by the Ethics Committee of the Ghent University Hospital. Couples gave their written informed consent for participation and follow-up.

Statistical analysis

The association between PCOS characteristics on the one hand, and sexual satisfaction ($_{SS}$) and relational satisfaction ($_{RS}$) of PCOS women and their partners on the other hand, was analyzed by using linear mixed models (LMM). Dyadic analyses were performed to take into account the interdependence of both partners in a couple and to explore potential differences between partners in the association between PCOS characteristics and satisfaction. For each outcome variable separately, a mixed model accounting for the correlation within dyads was fitted. Models with objective predictors (i.e. objective PCOS characteristics) and subjective predictors (i.e. PCOS-related concerns) separately were built using forward-stepwise regression. For each of the predictors we allowed for a different association for the PCOS women and their partners. Couples with a missing outcome in one of the partners were included in the LMM analysis, but missingness in the predictors implied the deletion of the data from that couple. Effect sizes reflecting the effect of each predictor on the PCOS

207 woman's and their partner's outcome together were calculated using Cohen's f^2 (Selya et al.,
208 2012). f^2 effect sizes of 0.02, 0.15, and 0.35 are termed *small*, *medium*, and *large*, respectively.
209 The MMQ sexual and relational satisfaction subscale scores of both PCOS women and their
210 partners were compared with published normative data from a sample of heterosexual,
211 married adults (Joseph et al., 2007) by means of a one-sample t-test. The LMM analyses,
212 including the calculation of the effect sizes, were performed using SAS version 9.3. All other
213 statistical analyses were performed using SPSS version 22.0. The statistical significance level
214 was set at $\alpha < 0.05$.

Results

Descriptive statistics

The PCOS women and their partners had an average age of 30.1 ± 5.1 and 34 ± 6.3 years respectively ($p = .01$). The median length of their relationship was 63 (IQR 89.7) months and 20/31 (64.5%) were married. One couple was lesbian.

The values for objective PCOS characteristics, PCOS-related concerns (reported by PCOS women), as well as sexual/relational satisfaction (reported by both partners) are presented in Table I. Ninety percent (28/31) of the PCOS women filled out the PCOSQ. The response rate on the MMQ was 27/31 (87.1%) and 24/31 (77.4%) for PCOS women and their partners, respectively. The MMQ sexual and relational satisfaction subscale-scores were significantly higher in PCOS women in comparison to their partners ($p_{(SS)} = .017$ and $p_{(RS)} = .007$). There was a significant positive correlation for sexual and relational satisfaction between PCOS women and their partners ($r = .83$, $p < .001$ and $r = .88$, $p < .001$, respectively).

Dyadic analyses

When testing for the association of objective PCOS characteristics with participants' level of sexual and relational satisfaction, the following results emerged (Table II): First, a lower parity tended to be associated with higher levels of sexual and relational satisfaction in both PCOS women and their partners. However, this association was significantly stronger for PCOS women than for their partners ($p_{(SS)} = .015$ and $p_{(RS)} = .009$). Second, a higher BMI of PCOS women tended to be associated with lower levels of sexual and relational satisfaction of PCOS women, whereas – a higher BMI of PCOS women tended to be associated with higher levels of sexual and relational satisfaction of their partners. This association of BMI was significantly different between the PCOS women and their partners ($p_{(SS)} = .029$ and $p_{(RS)} = .021$). Third, the presence of a current unfulfilled wish to conceive tended to be associated

with higher levels of relational satisfaction in both PCOS women and their partners. This association was significantly stronger in PCOS women than their partners ($p_{(RS)} = .021$).

Analyses for the PCOS-related concerns – as reported by PCOS women – (see Table II) revealed that higher levels of infertility-related concern were significantly associated with higher levels of relational satisfaction in PCOS women ($p_{(RS)} = .028$). Higher levels of infertility-related concern also tended to be associated with higher levels of relational satisfaction in the partners of PCOS women. This association was significantly stronger in PCOS women than their partners ($p_{(RS)} = .011$). Finally, higher levels of acne-related concern were significantly associated with lower levels of sexual satisfaction of PCOS women ($p_{(SS)} = .025$) and their partners ($p_{(SS)} = .002$). This association was not significantly different between PCOS women and their partners.

The effect sizes for all the associations discussed above can be considered as at least medium, except for the association of subjective acne-related concern with sexual satisfaction (see Table II).

Comparison of participants' sexual/relational satisfaction scores with normative data

Joseph et al. (2007) reported a mean (\pm standard deviation) MMQ sexual and relational satisfaction subscale score of 9.15 (\pm 7.25) and 14.91 (\pm 11.76), respectively for a sample of heterosexual, married women ($n = 396$). For heterosexual, married men ($n = 391$) the scores were 8.18 (\pm 7.14) and 12.24 (\pm 9.54), respectively (Joseph et al., 2007).

In our study, sexual satisfaction levels of the PCOS women and their partners (figures see Table I) tended to be lower ($p = 0.7$) and higher ($p = 0.7$), respectively, as compared to that reference sample. Relational satisfaction levels of the PCOS women and their partners were significantly higher ($p = 0.01$ and $p = 0.002$, respectively) as compared to that reference sample.

Discussion

In the current study, we investigated the association of PCOS (i.e. objective PCOS characteristics and PCOS-related concerns) with the sexual and relational satisfaction of couples dealing with PCOS, as well as differences in those associations between PCOS women and their partners. Our results suggest that objective PCOS characteristics (parity, women's BMI and current unfulfilled wish to conceive) as well as subjective PCOS-related concerns (women's infertility-related and acne-related concerns) are associated with the sexual and/or relational satisfaction of couples dealing with this chronic disease. Most of these associations were significantly different for PCOS women and their partners.

First, we found that a lower parity tended to be associated with higher levels of sexual and relational satisfaction in both PCOS women and their partners. In contrast, the case-control study by Månsson et al. (2011) concluded that having children or not was not associated with sexual functioning of PCOS women, as measured by the McCoy female sexual rating scale. Additionally, we observed that the presence of a current unfulfilled wish to conceive and a higher level of infertility-related concerns was (significantly) associated with higher levels of relational satisfaction in both PCOS women and their partners. This pattern of results might be explained by the fact that childless couples (i.e. parity = 0) have possibly more time for each other than couples with children (Claxton & Perry-Jenkins, 2008; Lawrence et al., 2008), and that – in case of unwanted childlessness – couples with fertility problems probably have a more stable and satisfying relationship (Månsson et al., 2011). It should be noted, however, that existing evidence on the infertility-satisfaction association is inconsistent. For example, Bringhenti et al. (1997) reported - on the one hand - a significantly higher level of relational satisfaction in organic infertile women as compared to women without fertility problems, but – on the other hand – no significant differences in relational satisfaction level in women with unexplained infertility as compared to women without fertility problems. Also, Monga et al.

(2004) found significantly and non-significantly lower levels of relational satisfaction in infertile versus fertile women and infertile versus fertile men, respectively.

In our study, we observed no association of a current unfulfilled wish to conceive and infertility-related concerns with sexual satisfaction in PCOS women and their partners. This is in line with the Tan et al. (2008) study in which no difference was found in women's satisfaction with their sex life – as measured by using a VAS – between a group of PCOS women with or without a wish to conceive. Similarly, the Iris et al. (2013) study found no significant differences in sexual satisfaction levels between a sample of infertile women and a control group. In contrast Shoji et al. (2014) reported lower sexual satisfaction levels in both partners of infertile couples as compared to both partners of pregnant couples.

Second, since PCOS is often accompanied by changes in women's physical appearance (e.g., obesity, hirsutism and acne), one should expect a substantial influence of these symptoms on couple's sexual and relational satisfaction. In line with this expectation we observed – taking into account that only overweight women with PCOS were included in the current study – a trend towards an association between a higher BMI and lower levels of sexual and relational satisfaction in PCOS women. To our knowledge, there is currently no evidence available about the association of BMI with relational satisfaction in a general female population. Our findings on sexual satisfaction are in line with the study by Månsson et al. (2011) in which a trend towards a negative association of an increased BMI with PCOS women's sex life was found. Also in the Yaylali et al. (2010) study a significant negative correlation between weight and the level of sexual satisfaction was found; Brody & Weiss (2013) reported a significant negative correlation between women's waist circumference and her level of sexual satisfaction.

A series of studies also documents the opposite pattern. For example, Elsenbruch et al. (2003) and Stovall et al. (2012) concluded that differences in BMI status were not associated with PCOS women's level of sexual satisfaction. Similarly, two studies – performed in a general female sample – found that overweight and obesity (as expressed by BMI) were no risk factors for sexual satisfaction (as measured by the Female Sexual Function Index) (Kadioglu et al., 2010; Yaylali et al., 2010).

Within partners of PCOS women, a higher BMI of PCOS women tended to be associated with higher levels of sexual and relational satisfaction. To our knowledge, there is currently no evidence available from other PCOS studies, nor from non-PCOS studies about this association in a general male sample with which our results could be compared.

We also observed that higher levels of acne-related concern in PCOS women were significantly associated with lower levels of sexual satisfaction within both PCOS women and their partners. The study by Hahn et al. (2005) and by Stovall et al. (2012) reported no significant association of the objective presence of acne with the level of sexual satisfaction and sexual functioning of PCOS women. However, our results reflect the association of PCOS women's concern about the presence of acne with satisfaction, rather than the association of the objective degree of acne with satisfaction.

As the evidence about the association of PCOS characteristics (e.g., BMI, infertility) with sexual/relational satisfaction is inconsistent across samples of infertile and obese women, no conclusions can be drawn about the nature of these associations within those samples. Moreover, since we do not know with certainty whether all women included in these studies were women without PCOS, it is not possible to make a statement about these associations in a non-PCOS population. Taken together, it is hard to compare our findings with evidence

from a non-PCOS population and it is even harder to decide if our findings are unique to a PCOS population.

It should be noted however, that the association of PCOS characteristics with the level of sexual/relational satisfaction might possibly be explained by the influence of confounding factors. For example, depression might influence the association of PCOS with sexual satisfaction, given – on the one hand – the increased depression level in PCOS women compared to age-matched controls (Elsenbruch et al., 2003), and – on the other hand - the significant association of an increased depression level with a decreased sexual satisfaction level in a general sample of sexually active females (Kadioglu et al., 2010). Unfortunately, we were not able to correct our analyses for this confounding factor since we had no detailed information about the presence of depression at the time of recruitment. Nevertheless, given this existing evidence, caution is warranted when interpreting the association of PCOS with the level of sexual satisfaction as reflecting a direct association. This also stresses the importance of adjusting the performed analyses for confounding factors in future research.

Third, we found significantly lower levels of sexual and relational satisfaction in PCOS women as compared to their partners. Thus far, only one study reported on the differential influence of a chronic disease on the satisfaction of both partners in a couple. A study by Van Son-Schoones (1994), investigating the sexual and relational satisfaction (among others) of patients with a chronic kidney disease, observed significantly higher levels of relational satisfaction in patients than their partners ($t = -3.46$, $p < .001$). It should be noted, however, that the study by Van Son-Schoones (1994) included female as well as male patients and the interdependence of both partners in a couple was not taken into account (only half of the patient's partners participated in the study and no dyadic statistical analyses were performed).

To further clarify this finding we compared our results with published normative data on the MMQ (Joseph et al., 2007). In that reference sample, the level of sexual and relational satisfaction seemed to be lower in married women than in married men. Although no significance level is reported by Joseph et al. (2007), this finding is in line with our results. However, we must be aware of the fact that our group of partners include one female partner.

The observed relational satisfaction levels of the PCOS women as well as their partners in our sample were both found to be significantly higher than those in a reference sample (Joseph et al., 2007). These findings suggest that couples participating in our study were generally satisfied about the non-sexual aspect of their intimate relationship; our results therefore await replication within samples of distressed couples dealing with PCOS.

The present study both complements and elaborates upon existing research on PCOS and intimate relationships. An important strength of this study is that dealing with PCOS was analyzed from a dyadic point of view, by including PCOS women and their partners, focusing on multiple aspects of intimate relationships, and by conducting dyadic statistical analyses taking into account the interdependence of both partners in a couple. We should, however, note some limitations of the current study. The most important of these undoubtedly have to do with the small sample used in the present study. A simulation study to explore the power to detect effects of varying size in the current study was performed. Mimicking the data-structure and the observed within-cluster correlation, we found that with 30 couples the study has about 80% power to detect large effects at the 5% significance levels. The power to detect low to medium effects is smaller than 50%. This might be a reason why certain small effects, found in other studies, were not detected in our study. And although the response rate on all questionnaires was quite high, data were partially missing in some couples which resulted in an unbalanced data set. This limitation was dealt with by using linear mixed models. Due to these limitations we suggest that this study should be replicated in a larger sample using the

382 same standardized questionnaires and statistical dyadic analytic techniques in order to
383 enhance the generalizability of the results. Additionally - since this study was performed in a
384 sample of PCOS women who were all overweight - it is also recommended to recruit from a
385 broader population including normal weight PCOS women as well, in order to further clarify
386 the association of overweight with couple's sexual and relational satisfaction and to enhance
387 the generalizability of the results to a general population of couples dealing with PCOS.
388 Finally, causal relationships can't be tested in the present data and the issue of causal ordering
389 remains for future research to resolve.

390 In conclusion, our results suggest that objective PCOS characteristics as well as subjective
391 PCOS-related concerns are associated with the sexual and relational satisfaction of couples
392 dealing with this chronic disease. The second conclusion that can be drawn from our findings
393 is that there is a differential association of these characteristics with satisfaction levels for
394 PCOS women and their partners. This is an important finding which should be kept in mind
395 during the psychological guidance of couples dealing with PCOS.

Authors' roles

All authors have seen and approved the final version of this article. No author has conflicts of interest.

V. De Frène: researcher, has designed and executed the study; gathered, analyzed and interpreted the data; drafted the manuscript and the critical discussion.

L. Verhofstadt: has designed the study; interpreted the data; drafted the manuscript and the critical discussion.

T. Loeys: analyzed the data and contributed to data interpretation, manuscript drafting and critical discussion.

I. Stuyver: has contributed to study execution, data gathering, manuscript drafting and critical discussion.

A. Buysse: has contributed to study design, data interpretation, manuscript drafting and critical discussion.

P. De Sutter: supervisor, has contributed to study design, study execution, data interpretation, manuscript drafting and critical discussion.

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