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ORIGINAL ARTICLES AND REVIEWS

Psychological care for infertile couples undergoing assisted reproductive technology: a national study on the characteristics of counselling services

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Abstract

Introduction. Infertility has an impact on the psychophysical health of individuals and couples, and its treatment through an assisted reproductive technology (ART) is a very exacting experience. The aim of this study was to explore the characteristics of psychological counselling services in Italian ART centres through a specially designed questionnaire administered to the physicians in charge of the centres.

Methods. The questionnaire online was sent to 306 ART authorized centres. It consisted of 26 questions. A total of 15 were single-selection questions, 5 were multiple-choice and the remaining 6 were open-ended.

Results. 113 (37%) ART centres responded to the questionnaire. All the ART centres offered psychological counselling, but only in 47% of them the psychologist is a permanent staff member. In 69% of the centres, 10 to 20% of couples use the psychological counselling service.

Discussion. Although the Italian Guidelines under Law 40/2004 stress the need to provide couples with psychological support and counselling and the literature highlights the efficacy of such interventions, the results of our study show that psychological counselling services are not yet fully operational in Italian ART centres or integrated into their day-to-day medical practice.

Conclusion. In conclusion, the results show that psychological services in Italian ART centres are not yet fully operational and integrated in the ART procedure. All of this highlights the importance of further investigations with the aim to shared information to use to establish common protocols for psychological interventions in ART centres.

Key words

- infertility
- assisted reproductive technology
- psychological interventions
- psychological counselling services

INTRODUCTION

Infertility is defined as "the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse" [1]. Following on this definition, the WHO reported that in developed countries one in four couples experience infertility [2]; in Italy an infertility diagnosis involves an estimated 15% of couples [3].

Infertility affects women and men and can be accompanied by various psychological disorders [4-6] that are more frequent and severe in women [7-9]. Luk and Loke [10] showed that infertility mainly affects four aspects: (a) psychological well-being; (b) marital relationships; (c) sexual relationships; and (d) quality of life. Studies on the negative psychological, behavioural and social impacts of infertility have shown that infertile couples tend to experience a wide range of negative emotions, including anxiety, fear, avoidance, depression, guilt and frustration [11-14].

Most couples diagnosed with infertility will pursue some form of medical treatment to overcome this obstacle to parenthood [15]. Assisted reproductive technology (ART) includes all fertility treatments that involve handling gametes and/or embryos outside the body to achieve reproduction [16]. ART treatments are very complex and emotionally challenging for the people involved; often both men and women experience various negative emotions such as guilt, disappointment,

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frustration, fear, self-blame, pain, anxiety, sadness and depression during these medical procedures [17-21; 5]. The outcome of ART treatments is difficult to predict, and success rates are rather low, so it may take multiple attempts before achieving pregnancy [22, 7, 23]. In 2018 in Italy, 28.4% of women who underwent ART treatments became pregnant. This figure expresses the cumulative pregnancy rate, in that it takes account of all the embryo transfers from fresh and frozen cycles needed to establish a pregnancy [24]. However, the success of ART treatment varies greatly based on several factors, such as the type of infertility, the type of treatment and the age at which the latter is performed.

In Italy, ART is strictly regulated by Law 40/2004 which lays out the rules for assisted reproductive technology and contains the "Guidelines for the application of assisted reproductive techniques" [25, 26] that include the provision of psychological support for women and couples at any stage of the medical procedures (before and during treatment or in case of failure). Based on these Guidelines, the type of counselling to be provided by the clinics to couples are of three categories:

- decision-making counselling, to be offered prior to any treatment. It helps patients understand and ponder the implications of a treatment for themselves, their families and any children they have;
- support counselling, to be provided in times of stress or struggle. It is especially for individuals who are unable to undergo ART procedures, who find it hard to cope with a specific type of treatment, or who experience treatment failure; and
- therapeutic counselling, to help individuals, or couples develop coping strategies to deal with the consequences of infertility treatments, temper their expectations and accept the reality of difficult diagnoses or intensive assessments.

The Guidelines reflect current knowledge regarding the effects of psychological interventions on ART outcomes [14, 6] and are in line with the recommendations of regulatory bodies in many countries and of professional associations involved in the management of couples with infertility [27-29].

The European Society of Human Reproduction and Embryology (ESHRE) has produced guidelines regarding psychosocial care in infertility clinics and medically assisted reproduction [28]. According to these guidelines, all the infertility team members of a clinic are expected to share in caring for their patients' mental health throughout their treatments. Specialised services such as infertility counselling or psychotherapy should be provided when patients are considered to be at higher risk [28]. Several categories of patients are most in need of professional psychological aid in that they may experience high distress, have a history of psychiatric morbidity, perceive parenthood as their central life goal, deal with marital discord, have low social support, recurrent treatment or pregnancy failures, use donated gametes, face multiple pregnancies or plan medical treatment discontinuation [30, 31].

In Italy, there are no specific best practice recommendations for psychological interventions at ART centres and there is little or no research regarding psychological services for fertility treatment recipients [32]. Following a research project jointly carried out by ART Italian National Register - Italian National Institute of Health and Department of Dynamic and Clinical Psychology and Health Studies – Sapienza University of Rome, this article presents the results of a survey on the psychological services in Italian ART centres.

METHODS

Participants

In 2020, a total of 341 ART centres (both public and private) were active in Italy according to the data from the Italian Assisted Reproductive Technology Register. The questionnaire was sent to the physicians in charge of 306 ART centres. The 35 centres in Lazio were excluded because they had already been investigated in a pilot study on the topic.

Procedure

An online questionnaire (Google Forms) was e-mailed to the physicians in charge of Italian ART centres on 13 January 2020, the deadline for returning it was 28 February 2020. Participation was voluntary and the survey was carried out in compliance with the World Medical Association's Code of Ethics (Declaration of Helsinki) for experiments involving human beings. Ethical approval was obtained from the Department of Dynamic and Clinical Psychology and Health Studies of the Sapienza University of Rome.

Questionnaire

The questionnaire was co-developed by ART Italian National Register – Italian National Institute of Health and Department of Dynamic and Clinical Psychology and Health Studies – Sapienza University of Rome. It consisted of 26 questions. A total of 15 were single-selection questions, 5 were multiple-choice and the remaining 6 were open-ended.

RESULTS

A total of 113 centres (37%) responded to the questionnaire; most of them (75 centres) offered II-III level (more invasive and complex) procedures and operated as public/NHS-contracted private services. 78% of the questionnaires were completed by the physicians in charge of the centres, while the remaining 22% were filled in by a staff member other than the physician in charge (via a written proxy). 48% (54) of responses came from private centres and 52% (59) came from public or NHS-contracted private centres.

48% of the public centres had a psychologist permanently on staff while 52% of them worked with an independent psychologist. Similarly, 45% of the private centres had a psychologist permanently on staff while 55% of them worked with an independent psychologist. In the public ART centres, the independent psychologist was present more often (once or twice a week in 30%) than in the private centres (13.3%). In 87% of the private centres, the independent psychologist worked at the centre only upon specific request or met with the referred patients at his/her own office. Patients in treatment made use of psychological counselling with a

similar frequency in the public and private centres, but couples' meetings were more frequent in private centres (80%), than in public ones (65.5%). No group meetings were held in either the public or the private centres.

In *Table 1*, the questionnaire items and the related answers were reported. Below, the answers to questions, from 4 to 26, were specifically described (each bullet point represents the answer to a question):

- in less than half of the centres (47%) the psychologist was a permanent staff member;
- in 38% of the cases, the psychologist worked at the ART Centre upon specific request, and in 32% of the cases he/she worked outside the centre at his/her own office with referrals. In the remaining cases, the psychologist worked at the centre once (10%) or twice a week (8%). 12% of the answers were "other", meaning that the psychologists worked at a hospital;
- in 69% of the centres, 10 to 20% of couples used the psychological counselling service. In 13% of the centres, 20% and 30% of couples used this service, in 5% of the centres 30% and 50% of couples used it and in 5% of the centres more than 50% of couples used it. In the remaining 8% of the centres all the couples used this service;
- in 47% of cases, referrals were made at the patient's or the doctor's request. All patients were referred to psychological counselling only in 14% of the centres. In 11% of the centres, referrals were made for patients who were identified by the staff as having specific needs. In 10% of the centres, the patients requested the aid and support of a psychologist. In 1% of the centres, referrals were made for all patients about to undergo ART techniques with donated gametes. In 17% of the cases more than one answer was provided;
- if the medical and/or /nursing staff suggested a referral, in 25% of the cases it was because the individual or couple showed evident psychological distress (extreme sadness, anxiety, crying, agitation, anger) coupled with problems in their relationship. In 19% of cases, the referral was made because the individual or couple showed evident psychological distress. In 16% of the cases, the referral was made for all the reasons indicated in the questionnaire answers: psychological distress, problems with treatment adherence, problems in the couple's relationship, difficulties in relating to the clinical staff. In 12% of cases, couples were referred to the psychologist because they showed evident psychological distress and had problems in their relationship as well as with treatment adherence. In 9% of cases, referrals were made for all of the following reasons: evident psychological distress, evident problems in the couple's relationship, and difficulty in relating to the clinical staff. In the other cases (19%) multiple reasons motivated the referrals and they only marginally concerned issues with treatment adherence and difficulties in relating to the clinical staff;
- in 32% of the cases, psychological counselling was proposed only prior to medical treatment; in 13% of the cases, it was proposed upon starting treatment and if ART was unsuccessful; in 10% of the cases, it was proposed upon starting treatment and throughout it. In 9% of the cases psychological counselling was proposed in all the scenarios envisaged in the answer options (During the first meetings at the centre before starting treatment; During treatment; When there was a drop-out risk; In cases where ART was unsuccessful; Upon completion of the process). The remaining centres (36%) provided multiple answers and each answer did not exceed 5%;
- in 29% of the cases the psychologist had three sessions, in 27% two, in 13% four and in 9% of the cases up to five. 10% of the responders indicated only one session. Only 4% of the responders stated 10 sessions. 3% of the cases indicated 6 sessions and another 3% indicated 8 sessions. 1% of the responders answered 7 sessions, 1% 18 sessions and the remaining 1% answered 20. This was an open-ended question, and the answers reflected the policies and procedures adopted at the centres;
- in most cases interventions were with couples (73%) or individuals (14%). In the remaining 13% of cases the answer chosen was "other", meaning that more than one type of session was proposed (e.g., couple and group meetings);
- in 22% of the cases the issues addressed were problems regarding infertility, the couple's relationship and the ART treatments. In 15% of the cases the topics regarded all the options proposed in the survey questionnaire: Infertility-related problems; Problems regarding the couple's relationship; Problems regarding the treatments; Family-of-origin issues; Problems regarding relations with the centre and its staff. In-

Table 1
Questions and answers in the survey on the characteristics of psychological services in Italian ART Centres

Questions	Answer options	Number of centres which responded to each question
1. Centre name	Free-form text response	100%
2. Centre's Identification Code assigned by the National ART Registry	Free-form text response	100%
3. Filled in by: (please add name, surname and job role)	Free-form text response	100%
4. Is the psychologist a permanent staff member at the ART centre, i.e., is he/she a regular member of the infertility team?	1) Yes 2) No, we employ an independent psychologist	1) 47% 2) 53%

Continues

Table 1
Continued

Questions	Answer options	Number of centres which responded to each question
5. If the Centre employs an independent psychologist, in what ways and how often does he/she work at the Centre?	He/she: 1) comes to the ART centre upon specific request 2) works at his/her office with referrals 3) comes once a month 4) comes one a week 5) comes twice a week 6) Other	1) 38% 2) 32% 3) 0% 4) 10% 5) 8% 6) 12%
6. What percentage of couples undergoing treatment at the Centre make use of psychological counselling?	1) Less than 10% 2) From 10% to 20% 3) From 20% to 30% 4) From 30% to 50% 5) More than 50% 6) All couples	1) 38% 2) 30% 3) 13% 4) 5% 5) 5% 6) 8%
7. How does referral of the individual or couple to the psychologist occur? *(more than one answer can be provided)*	1) All new patients at the ART Centre are referred to the psychologist 2) Patients who request the aid and support of a psychologist are referred to the psychologist 3) Patients who are identified by the staff as having specific needs are referred to the psychologist 4) All patients who will undergo ART techniques with donated gametes are referred to the psychologist 5) Other	2; 3) 47% 1) 14% 3) 11% 2) 10% 1;2;3) 8% 4) 1% Other 9% provided multiple answer (each one not more 3%)
8. If the medical and/or nursing staff suggest a referral, what aspects generally motivate the referral? *(more than one answer can be provided)*	1) Obvious psychological distress (extreme sadness, anxiety, crying, agitation, anger, etc.) 2) Problems with treatment adherence 3) Evident problems in the couple's relationship 4) Difficulty in relating to the clinical staff 5) Other	1;3) 25% 1) 19% 1;2;3;4) 16% 1;2;3) 12% 1;3;4) 9% Other 19% provided multiple answer (each one not more 4%)
9. At what stage of treatment is psychological counselling usually proposed? *(more than one answer can be provided)*	1) In the first meetings at the Centre, prior to the start of treatment 2) During treatment 3) When elements of drop-out risk are detected 4) In cases where the ART was unsuccessful 5) Upon completion of the process 6) Other	1) 32% 1;4) 13% 1;2) 10% 1;2;3;4;5) 9% Other 36% provided multiple answers (each did not exceed 5%)
10. How many sessions does the psychologist providing counselling/ support at the ART centre have with each couple?	Free-form text response	Only one session: 10% Two sessions: 27% Three sessions: 29% Four sessions: 13% Five sessions: 9% Six sessions: 3% Seven sessions: 1% Eight sessions: 3% More than ten sessions: 2%
11. What types of psychological sessions are offered to patients?	1) Individual meetings 2) Couple meetings 3) Group meetings 4) Other	1) 14% 2) 73% 3) 0% 4) 13%
12. What topics are generally addressed in the counselling sessions? *(more than one answer can be provided)*	1) Problems regarding infertility 2) Difficulties in the couple's relationship 3) Difficulties regarding the ART treatments 4) Family-of origin issues 5) Problems regarding relations with the centre and its staff 6) Other	1;2;3) 22% 1;2;3;4;5) 15% 1;3) 13% 1;2) 12% 1) 11% 1;2;3;4) 7% 2) 3% 3) 2% Other 15% provided multiple answer (each one not more 4%)
13. Do you think that undergoing ART treatment with donated gametes increases the rate of recourse to psychological counselling?	1) Yes 2) No 3) We do not perform gamete donation techniques	1) 42% 2) 13% 3) 45%

Continues

Table 1
Continued

Questions	Answer options	Number of centres which responded to each question
14. If you have found that couples undergoing ART treatment with donated gametes are more likely to seek psychological counselling, what do you think determines this?	1) Physicians are more likely to propose counselling 2) Couples are more likely to request counselling 3) Both of the above 4) Other	1) 30% 2) 8% 3) 62% 4) 0%
15. Are the ART cycles involving donated gametes provided at your centre or are couples sent to other centres?	1) They are provided at our Centre 2) They are carried out at another Centre.	1) 43% 2) 57%
16. Do you think that undergoing ART techniques for the preservation of fertility in cancer patients increases the rate of recourse to psychological counselling?	1) Yes 2) No 3) We do not perform fertility preservation techniques	1) 25% 2) 40% 3) 35%
17. If you have observed a higher rate of recourse to psychological counselling of couples undergoing ART techniques as an onco-fertility course, what do you think determines this?	1) Couples are the ones who most frequently request counselling 2) Physicians are more likely to propose counselling 3) Both of the above. 4) Other	1) 4% 2) 21% 3) 71% 4) 4%
18. Are there policies and procedures in place in the ART centre that regulate the provision of psychological counselling?	1) Yes 2) No	1) 40% 2) 60%
19. If the answer is yes, please provide a short description of them	Free-form text response	Several common approaches emerged. Please see the text for more information.
20. Psychological counselling services for patients of the ART centre who wish to use them are: (choose from various payment options listed)	1) included in the ART treatment fee 2) paid via a fee charged for each counselling session. 3) paid via a fee charged for a standard number of sessions 4) Other	1) 31% 2) 34% 3) 15% 4) 20%
21. In which areas do you think psychological counselling is of greatest support for your work as a physician at the ART Centre? *(more than one answer can be provided)*	1) Adherence to medical prescriptions and treatment 2) Drop-out prevention 3) Promotion of ART outcomes 4) Managing the couple's emotional distress 5) Improving the couple's mood 6) Reducing the couple's stress 7) Facilitating physician-patient relationship 8) Facilitating management of the emotional burden of the staff working at the Centre 9) Facilitating team- work 10) Other	4;5;6) 9% Other 91% provided multiple answer (each one not more 7%)
22. Do you think it is useful for physicians to consult a psychologist when they are the ones providing decision-making and support counselling, as laid out in the 2015 Guidelines?	1) Yes 2) No	1) 87% 2) 13%
23. If your answer is yes, how do the consultations take place?	1) At structured times (team meetings, interdisciplinary interviews, etc.) 2) Informally, as needed 3) Discussion would be helpful but does not occur 4) Other	1) 26% 2) 64% 3) 9% 4) 1%
24. Do you hold team meetings in which the psychologist participates as a regular member of the therapeutic team to discuss jointly managed cases?	1) Yes 2) No	1) 60% 2) 40%
25. How often are team meetings attended by the psychologist?	1) Every week 2) Every month 3) Every 3 months 4) Other	1) 16% 2) 29% 3) 24% 4) 31%
26. Please leave your suggestions for improving this questionnaire	Free-form text response	Please see the text for more information

fertility-related problems and problems regarding the ART treatments were indicated in 13% of the cases; infertility-related problems and problems regarding the couple's relationship were indicated in 12% of the cases; and infertility-related problems were indicated in 11% of the cases. In 7% of the cases the following were addressed: Infertility-related problems; Problems regarding the couple's relationship; Problems regarding the treatments and Family-of-origin issues. Only problems regarding the couple's relationship were addressed in 3% of the cases, and only problems regarding the treatments in 2% of the cases. In the remaining 15% of the cases, a combination of more than one answer was provided, each combination did not exceed 4% of the cases;

- for 42% of the cases ART treatments with donated gametes increased recourse to counselling while for 13% they did not. 45% of the responders did not provide treatments with donated gametes;
- the greater use of counselling by couples undergoing ART treatments with donated gametes was determined by the requests of both the physicians and the couples (62% of responders). Physicians were more likely to propose counselling in 30% of the centres while counselling services were requested by the couples in only 8% of cases;
- in 57% of the cases ART cycles with donated gametes were carried out at other centres. This figure was higher than the one given for Question 13 (45%) because the 12% of the managers of centres not performing procedures with donated gametes responded to Question 13 by giving an opinion on how the gamete donation technique influenced the use of psychological counselling. In 43% of the cases ART cycles with donated gametes were carried out inside the centres;
- 40% of the responders did not think that cancer patients undergoing ART for fertility preservation used psychological counselling more frequently, while 25% believed that they did. 35% of the responding centres did not provide fertility preservation procedures;
- for 71% of responders, couples undergoing ART procedures for onco-fertility used counselling services both because they requested to do so and because their physicians proposed that they be counselled. 21% of responders said physicians were more likely to propose psychological counselling; 4% of responders said couples were more likely to request psychological counselling. The remaining 4% answered "Other";
- 60% of responders said there were no policies and procedures in place at the ART centres regulating the provision of psychological counselling while 40% said there were;
- several common approaches emerged from the descriptions. Here are some examples:
  - physicians proposed psychological counselling to all couples during their first visit; sometimes this was only addressed in the informed consent form or in a leaflet;
  - psychological support was mandatory for couples undergoing ART treatment with donated gametes or for couples undergoing preimplantation genetic testing;
  - couples identified as having particular problems (signs of distress, risk factors, major psychopathological issues) were referred to psychological counselling;
- in 34% of the centres a fee was charged for each counselling session. In 31% of centres, the fee was included in the ART treatment fee. 15% of the centres had a fee for a standard number of sessions. 20% of the centres answered "Other";
- in 9% of the cases, the responders indicated: Managing the couple's emotional distress; Improving the couple's mood; Reducing the couple's stress. The other answers to the question were a combination of the proposed answer options: Adherence to medical prescriptions and treatment; Drop-out prevention; Promotion of ART outcomes; Managing the couple's emotional distress; Improving the couple's mood; Reducing the couple's stress. The single combinations did not exceed 7%. Since multiple, different answers were given, the percentages yielded were low, so it was difficult to determine which answer prevailed. However, this fragmentation highlighted the numerous different opinions of the physicians regarding the areas of their work at the ART centre that could most benefit from psychological counselling. It might be interesting to further investigate this point;
- in 87% of cases, the responders considered meetings with a psychologist useful for physicians who provide decision-making and support counselling;
- 64% of responders said that meetings were informal at their centres while 26% had structured meetings. 9% said meetings would be useful but did not take place. The remaining 1% answered "Other";
- 60% of responders said no team meetings were held with the psychologist present to facilitate a discussion on jointly managed cases;
- meetings were held every month in 29% of the centres, every 3 months in 24% and once a week in 16% of them. The remaining 31% answered "Other";
- the following could be observed from the suggestions made by the responding physicians to improve the questionnaire:
  - this field was not used to provide suggestions regarding the questionnaire, but rather to ask for support in adopting effective psychological counselling policies;
  - the importance of having a psychologist at the centre was reiterated;
  - the difficulty in completing the questionnaire was flagged up since responders knew little about the psychological service offered at the centres.

DISCUSSION

A survey regarding the characteristics of the psychological services offered by Italian ART centres has been a first step towards setting up a network of professionals through which models and procedures can be compared and practices established and shared.

With a 40% response rate, the representative features of the psychological assistance provided in the ART setting across Italy could not be itemized but insight could be gained into the assistance offered at the responding

centres. The overall picture is rather disappointing in that only half of the centres (47%) had a psychologist permanently on staff while most centres considered counselling services an "added asset" rather than an integral part of the treatment process as suggested by the Guidelines on Assisted Reproductive Technology [25, 26]. In 70% of centres the fee for psychological counselling was not included in the ART treatment fee. Furthermore, 30% of the responding centres worked with an independent psychologist who was called in upon request, knew little of the centre and was clearly not a full-fledged member of the resident therapeutic team.

Relatively few couples resorted to counselling (between 10% and 20% of couples in 70% of the responding centres) and very few of them were referred to a counsellor (about 10%). Although the Guidelines suggest incorporating counselling into the centres' routine practice and making it available at any time during the treatment course, the percentage of patients actually using such services was very low and in half of the cases referrals were either requested by the patients or recommended by the physicians. Moreover, in 45% of the cases referrals were requested either at the beginning of the ART process or following treatment failure. Referrals remained a central issue but they did not seem to be regulated by specific policies and procedures in 60% of the cases. Hence, the survey findings show that referrals to a psychologist for counselling occurred either when patients were sufficiently aware of their own distress and sought help, or when the treating physician was sensitive enough to do so. In a context with a strong medical orientation, where parenthood/childlessness was invested with a disease component and its solution exclusively involved the body, a place for thinking rather than acting was created only when distress and suffering were perceived by the patients or recognised by the treating physicians. Psychology, like medicine, was thus considered a "remedial profession" rather than a domain wherein new meanings are assigned to a disruptive experience like infertility and its treatment. Even the reasons for referral were mainly related to the psychological distress of individuals and couples (as indicated in 44% of cases) rather than to the treatment process or the relationship with a centre's staff. It is evident that psychological intervention continues to be considered as targeting the inner world of an individual or couple and not their relationship with the ART context. Treatments with donated gametes or for onco-fertility care enhanced the perceived importance of counselling and recourse to it, flagging up issues that clearly make the topic of parenthood more complex, and concerning which the Guidelines provide no specific indications.

It is interesting to observe that in almost all the cases (87%) physicians considered consultation with the psychologist useful when they were the ones providing decision-making and support counselling for couples. At the same time, however, 60% of the centres did not hold team meetings with the psychologist and the meetings held were unstructured and informal in 64% of the cases.

The data gathered at a national level confirmed the information collected in the pilot study conducted on the ART centres in the Lazio region. A significant difference regarded the response rate, with 81% of the ART centres in Lazio responding compared to 37% of the national ART centres. The high response rate of the ART centres in the Lazio region may be due to a greater awareness raised among the physicians managing the centres when they attended a meeting where the pilot study was presented.

More ART centres in Lazio (62%) had policies and procedures regulating the provision of psychological counselling than the centres in the rest of the country (40%). This difference may be due to whether a centre operates as a public or as an NHS-contracted private service. Most of the centres participating in the survey in Lazio were private facilities while most of the responding centres in the rest of Italy were public facilities. This is an interesting finding that may warrant further investigation.

CONCLUSIONS

In conclusion, despite the limitation that only half of the centres responded to the questionnaire, the results of our survey support the perception that psychological counselling is not a fully operational service in Italian ART centres nor is it part of their routine practice even though the treatments they provide are known to have a strong emotional impact due to their own specific features and because they act on the effect (non-parenthood/childlessness) and not on the cause of infertility (the disease). The absence in most centres of policies and procedures for psychological interventions means that even where counselling is available, recourse to it is not fully structured or incorporated in the treatment process. At the same time, the need has been expressed by physicians to consult with psychologists before providing decision-making and support counselling.

Moreover, after the reorganization that has taken place in Italy's ART centres due to the health emergency caused by COVID-19, clear common policies and procedures for both in-person and online psychological counselling should be set up, shared by the infertility teams and incorporated into the treatment processes. This survey, carried out by the National ART Register, is a first step towards raising political awareness on the subject and creating specific good practices for psychological interventions within the ART setting in Italy.

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Authors' contribution

Conception design (RS, MDT) data extraction (RS), analysis (RS, MDT), interpretation (all Authors), drafting the manuscript (all Authors), supervision (GS). All the Authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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Conflict of interest statement
Authors declare no conflict of interests.

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REFERENCES

1. World Health Organization. Infertility definitions and terminology. WHO; 2014. Available from: www.who.int/reproductivehealth/topics/infertility/definitions/en.
2. World Health Organization. Global prevalence of infertility, infecundity and childlessness. WHO; 2017. Available from www.who.int/reproductivehealth/topics/infertility/burden/en/.
3. Istituto Superiore di Sanità. Registro Nazionale Procreazione Medicalmente Assistita. Roma: Istituto Superiore di Sanità; 2015. Available from: http://old.iss.it/rART/index.php?lang=1&id=131&tipo=17
4. Pasch LA, Sullivan KT. Stress and coping in couples facing infertility. Curr Opin Psychol. 2017;13:131-5. doi: 10.1016/j.copsyc.2016.07.004
5. Zurlo MC, Cattaneo Della Volta MF, Vallone F. Predictors of quality of life and psychological health in infertile couples: The moderating role of duration of infertility. Qual of Life Res. 2018;27(4):945-54. doi: 10.1007/s11136-017-1781-4
6. Renzi A, Solano L, Di Trani M, Ginobbi F, Minutolo E, Tambelli R. The effects of an expressive writing intervention on pregnancy rates, alexithymia and psychophysical health during an assisted reproductive treatment. Psychol Health. 2020;35(6):718-33. doi:10.1080/08870446.2019.1667500
7. Lo Giudice JA, Massaro J. The impact of complementary therapies on psychosocial factors in women undergoing in vitro fertilization (IVF): A systematic literature review. Appl Nurs Res. 2018;39:220-8. doi: 10.1016/j.apnr.2017.11.025
8. Greil AL, Slauson-Blevins KS, Lowry M, McQuillan J. Concerns about treatment for infertility in a probability-based sample of US women. J Reprod Infant Psychol. 2019;38(1):16-24. doi: 10.1080/02646838.2019.1587395
9. Renzi A, Di Trani M, Solano L, Minutolo E, Tambelli R. Success of Assisted Reproductive Technology treatment and couple relationship: a pilot study on the role of romantic attachment. Health Psychol Open. 2020;7(1):1-9. doi:10.1177/2055102920933073
10. Luk BHK, Loke AY. The impact of infertility on the psychological well-being, marital relationships, sexual relationships, and quality of life of couples: A systematic review. J Sex Marital Ther. 2015;41(6):610-25.
11. Verhaak CM, Smeenk JMJ, Evers AWM, Kremer JAM, Kraaimaat FW, Braat DDM. Women's emotional adjustment to IVF: a systematic review of 25 years of research. Hum Reprod Update. 2007;13(1):27-36. doi: 10.1093/humupd/dml040
12. Gourounti K, Anagnostopoulos F, Potamianos G, Lykeridou K, Schmidt L, Vaslamatzis G. Perception of control, coping and psychological stress of infertile women undergoing IVF. Reprod Biomed Online. 2012;24(6):670-9. doi: 10.1016/j.rbmo.2012.03.002
13. Mosalanejad L, Khodabakshi Koolee A. Looking at infertility treatment through the lens of the meaning of life: the effect of group logotherapy on psychological distress in infertile women. Int J Fertil Steril. 2013;6(4):224-31.
14. Rooney KL, Domar AD. The relationship between stress and infertility. Dialogues Clin Neurosci. 2018;20(1):41-47. doi: 10.31887/DCNS.2018.20.1/klrooney
15. Boulet SL, Chandra A, Rosen A, De Cherney A, Infertility and ART. In: Kissin DM, Adamson GD, Chambers G, De Geyter C (Eds). Assisted reproductive technology surveillance. Cambridge (UK): Cambridge University Press; 2019. doi: https://doi.org/10.1017/9781108653763
16. American Society for Reproductive Medicine. Assisted reproductive technologies. A guide for patients. ASRM; 2015. Available from: www.fertilityanswers.com/wp-content/uploads/2016/04/assisted-reproductive-technologies-booklet.pdf.
17. Hajela S, Prasad S, Kumaran A, Kumar Y. Stress and infertility: a review. Int J Reprod Contracept Obstet Gynecol. 2016;5(4):940-3. doi: 10.18203/2320-1770.ijrcog20160846
18. Rooney KL, Domar AD. The impact of stress on fertility treatment. Curr Opin Obstet Gynecol. 2016;28(3):198-201. doi: 10.1097/GCO.0000000000000261
19. Gdańska P, Drozdowicz-Jastrzębska E, Grzechocińska B, Radziwon-Zaleska M, Węgrzyn P, Wielgoś M. Anxiety and depression in women undergoing infertility treatment. Ginekol Pol. 2017;88(2):109-12. doi: 10.5603/GP.a2017.0019
20. Malina A, Pooley JA. Psychological consequences of IVF fertilization - Review of research. Ann Agric Environ Med. 2017; 24(4):554-8. doi: 10.5604/12321966.1232085
21. Massarotti C, Gentile G, Ferreccio C, Scaruffi P, Remorgida V, Anserini P. Impact of infertility and infertility treatments on quality of life and levels of anxiety and depression in women undergoing in vitro fertilization. Gynecol Endocrinol. 2019;35(6):485-9. doi: 10.1080/09513590.2018.1540575
22. Maroufizadeh S, Ghaheri A, Samani O. Factors associated with poor quality of life among Iranian infertile women undergoing IVF. Psychol Health Med. 2017;22(2):145-51. doi: 10.1080/13548506.2016.1153681
23. Galst JP. The elusive connection between stress and infertility: A research review with clinical implications. J Psychother Integr. 2018;28(1):1-13. doi: 10.1037/int0000081
24. Scaravelli G, De Luca R, Vigiliano V, Bolli S, Spoletini R, Fiaccavento S, Bertini A, Speziale L. Attività del Registro Nazionale Italiano della Procreazione Medicalmente Assistita. Dati 2018. 14° Report. Istituto Superiore di Sanità; 2018.
25. Italia. Decreto legislativo 11 aprile 2008. Linee guida in materia di procreazione medicalmente assistita. Gazzetta ufficiale - Serie Generale n. 101, 30 aprile 2008.
26. Italia. Decreto legislativo 1 luglio 2015. Linee guida in materia di procreazione medicalmente assistita. Gazzetta ufficiale - Serie Generale n. 161, 14 luglio 2015.
27. Musa R, Ramli Nelen WL. ESHRE manual for guideline development. ESHRE; 2009. Available from: www.eshre.eu/Guidelines.
28. Gameiro S, Boivin J, Dancet E, de Klerk C, Emery M, Lewis-Jones C, Thorn P, Van den Broeck U, Venetis C, Verhaak, CM, Wischmann T, Vermeulen N. ESHRE guideline: routine psychosocial care in infertility and medically assisted reproduction – a guide for fertility staff. Hum Reprod. 2015;30(11):2476-85. doi: 10.1093/humrep/dev177
29. Frederiksen Y, Farver-Vestergaard I, Skovgård NG, Ingerslev HJ, Zachariae R. Efficacy of psychosocial inter-

ventions for psychological and pregnancy outcomes in infertile women and men: a systematic review and meta-analysis. BMJ Open. 2015;5(1):e006592. doi: 10.1136/bmjopen-2014-006592

30. Boivin J, Appleton TC, Baetens P, Baron J, Bitzer J, Corrigan E, Daniels KR, Darwish J, Guerra-Diaz D, Hammar M, McWhinnie A, Strauss B, Thorn P, Wischmann T, Kentenich, H. Guidelines for counselling in infertility: outline version. Hum. Reprod. 2001;16(6):1301-4. doi: 10.1093/humrep/16.6.1301
31. Patel A, Sharma PSVN, Kumar P. Role of mental health practitioner in infertility clinics: a review on past, present and future directions. J Hum Reprod Sci. 2018;11(3):219-28. doi: 10.4103/jhrs.JHRS_41_18
32. Di Trani M, Spoletini R, Renzi A, Greco F, Scaravelli G. Psychologists' representations about their professional functions within assisted reproductive multidisciplinary teams. Professional Psychology: Research and Practice. 2021;52(3):299-307. doi: https://doi.org/10.1037/pro0000355