Chapter 6: Evidenced-Based Approaches to Infertility Counselling

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Historical Overview:

The provision of psychosocial interventions for infertile couples has been strongly recommended since the consumer advocacy work of Barbara Eck Menning (1980) directed clinical and research attention to emotional distress as a consequence of infertility rather than, as had been the emphasis until then - a cause of fertility problems. Her recommendation to provide psychosocial services to infertile couples has been reiterated by regulatory bodies in several countries, various associations involved in the care of infertile couples both at a professional and community level as well as those of numerous mental health professionals working with infertile couples. Moreover, the recommendation is consistent with the interest infertile people themselves have expressed in receiving more psychosocial help.

In response to these recommendations numerous interventions have been developed from a range of theoretical perspectives, for example, theories of grief and loss and crisis, or cognitive-behavioural theory. The therapeutic goals in these interventions have been in accordance with the negative effects observed in clinical work and empirical studies, namely, the reduction of distress, enhanced coping skills, improvement in quality of life and interpersonal relationships and/or increased pregnancy rates (Ningel & Strauss, 2002). The sustained interest in psychosocial interventions is also due to compelling research demonstrating that psychological factors can have a negative impact on the course of treatment (e.g., Boivin & Schmidt, 2005; Klonoff-Cohen et al. 2001; Lancastle & Boivin, 2005; Smeenk et al., 2001).

Despite some forty years of endorsement for psychosocial interventions in infertility, it is surprising to find that only 25 to 30 independent studies have evaluated the effectiveness of psychosocial interventions. Indeed, there is a staggering disparity in the percentage of published counselling studies recommending specific
interventions (i.e., 94%) and those evaluating their effectiveness (i.e., 6%) (Boivin, 2003). However remarkable this disparity may be, it is reflective of the poor integration of evidence and research into professional practice shown in all professions concerned with mental health (Cullari 1996). Indeed, research shows that practitioners are unlikely to engage in research at post-qualification level, tend to rank research as a lower priority than clinical commitments, and tend to regard the research literature as irrelevant to their professional practice (Corrie, 2001). Whilst the inequality between investment in research and practice has, until now, been tolerated as an inevitable reflection of the priorities of the practitioner, the application of evidence-based principles to medicine and the pressures of the managed healthcare industry in the USA and other countries make this tolerant attitude increasingly risky (Larner, 2004).

Managed healthcare means growing demands from third-party payers, government agencies, and professional organizations on practitioners to demonstrate both the effectiveness and efficiency of their services (Asay, et al., 2002; Corrie 2000). The influence of these commissioners on practice cannot be underestimated. In a 1995 report by Division 12 of the American Psychological Association (APA), 18 psychological therapies were pronounced effective (i.e., “empirically validated”) to counter the increasing preference of insurers to fund only evidence-based biological therapies (e.g., antidepressants) for psychological disorders (Task Force on Promotion, Sanderson & Woody, 1995). While this approach stopped the ebb of funding for listed therapies, it practically killed the practice of those not on the list (see Larner, 2004). In the United Kingdom, the National Institute of Clinical Excellence (NICE) has similarly recommended specific “evidence-based” treatments for psychological disorders and only those treatments are expected to receive funding from the National Health Service (NICE, Department of Health, 2001). These examples show that current legislative emphasis has significantly influenced therapeutic decision-making, from intuition and clinical judgement towards the use of research findings and empirical evaluation (Corrie, 2000).

It would be a mistake to think that such systematic comparisons of performance (so called ‘league tables’) are far removed from the field of infertility. In its recent guidelines on evidence-based infertility treatment, the NICE recently recommended against the mandatory provision of psychosocial counselling for infertility on the basis of its mixed evidence base. Thus, however politically or
financially motivated one perceives these league tables to be (see for example Larner, 2004), all practitioners in the field of infertility should consider the impact of this climate change on their practice, and, in light of these precedents, should be motivated to ensure that counselling makes it into the club of exclusive evidence-based interventions in infertility. In order to do that there needs to be a far better integration of research and practice in this field.

Even if one wishes to ignore political issues, greater integration between research and practice is warranted because recent reviews (Boivin, 2003; de Liz & Strauss, 2005) show that some interventions are not effective and that others vary significantly in their effectiveness, indicating a need to modify current approaches to infertility counselling. The Code of Practice for many helping professions requires that practitioners undertake ongoing efforts to develop and maintain their competence and ensure that they are up-to-date with current best practice (e.g., American Psychological Association, 2002). Thus the research-practice issue is also one concerned with the ethics of practice.

In light of these considerations two important goals for the field in the next decade should be the (1) generation of evaluation research on psychosocial interventions used in infertility, and; (2) integration of this and other research (empirical and clinical) in practice. Fortunately, infertility counsellors can learn from decades of psychotherapy research in meeting both these goals. The objectives of the present chapter are:

- Summarise recent findings on effectiveness of counselling in infertility
- Describe frameworks relevant to the integration of research and practice, and the execution of evaluation studies
- Discuss the application of research in every day practice
- Examine research issues in private practice

**Review of Literature**

The published work dealing with psychosocial interventions in infertility has recently been reviewed; therefore, only key findings from this review will be presented here (see Boivin, 2003 for a detailed analysis). In this review, a systematic literature search procedure was undertaken to identify all studies evaluating the effect of a psychosocial intervention on at least one outcome in people with fertility problems (between the years 1966 and 2001). A total of 35 studies were identified,
and of these only 25 were independent evaluations. It should be noted that the studies varied dramatically in their quality and only 11 could be said to meet current criteria for evidence-based medicine. That is, studies that used a control group and that either used random assignment to groups or a pre-to-post design to account for the influence of uncontrolled factors on intervention effects. Furthermore, the patient, therapists and settings varied significantly among studies. Most clients were patients in treatment, most interventions were delivered to couples or groups, the average duration of interventions varied from one to 32 weeks (average 9 weeks), with an average follow-up period of just over 6 months.

Despite this heterogeneity, it was possible to group the psychosocial interventions into two broad classes, counselling and educational interventions. The feature that distinguished these classes was the therapeutic objective. Educational interventions were designed to impart knowledge (e.g., medical, life-style) and provide skills training, for example, improve stress management (O’Moore et al., 1983) or coping skills (McQueeney et al., 1997) or a combination of skills (e.g., Domar et al. 2000; Clark et al. 1995). In contrast, the main goals in counselling were emotional expression and support, and/or discussion of thoughts and feelings related to infertility (as cause or consequence). Counselling could be further classified into psychodynamic (e.g., Kemeter & Fieg!, 1999), cognitive-behavioural (e.g., Liswood, 1995) or infertility-focused counselling (e.g., Wischmann et al. 2002). It was acknowledged that the educational and counselling classes were not wholly independent and that information could be provided in counselling and emotional expression in educational programs. However, the interventions were sufficiently different in their emphasis to warrant separation into these respective classes.

The review highlighted the kinds of therapeutic goals that could realistically be achieved with the types of psychosocial interventions used with infertile people. Reducing emotional distress (especially anxiety) and improving domains known to be negatively affected by infertility (e.g., sex during the fertile period, infertility-specific distress) were goals more likely to be achieved than making changes to traits or altering interpersonal relations (i.e., improved marital or social relationships) or pregnancy rates. These conclusions were based on the finding that about 49% of

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1 In the original review, educational interventions were further sub-divided into focused (only one skill taught) or comprehensive (more than one skill taught), but as the results did not differ according to this distinction it is omitted here.
analyses on negative affect (e.g., anxiety, depression) showed positive intervention effects compared to 27% of analyses on traits and interpersonal functioning (e.g., personality features, marital functioning). Furthermore, comparisons in studies with pregnancy as an outcome were equivocal, as 62.5% of studies did not find a positive intervention effect. These findings were robust as they were found overall and in better quality studies. The importance of negative affect (e.g., anxiety, infertility-specific distress) as an outcome, was consistent with emotional distress being a frequent presenting complaint, but with it being a reasonable outcome to target in the short duration of interventions typically offered to infertile people (e.g., six months). It should be noted that infertility-specific assessments tools were more sensitive to treatment effects than were global assessments.

The most successful interventions had a strong educational and skills training component and lasted about 12 weeks with a follow-up period of at least six months. The types of skills taught included relaxation training (e.g., Stewart), sex techniques (Tuschen-Caffier et al. 1999) or coping skills (McQueeney et al. 1997) whereas information mainly concerned procedural information about upcoming medical tests and treatments (e.g., Takefman et al. 1990), and the impact of life style factors (e.g., Domar et al. 2000) or other health problems (e.g., obesity, Clark 1995) on fertility. In contrast, counseling interventions that focused primarily on emotional expression and support were less effective.

Several hypotheses were offered to account for the difference in effectiveness between educational programs and counseling interventions (see Boivin, 2003, for detailed exploration). First, most educational programs were group programs whereas counseling was almost exclusively delivered to couples. Groups may have features that are especially important to this patient group (e.g., validation, normalization) or, alternatively, aspects of counseling for example, the male partner being reluctant to participate, may have been detrimental. It is also possible that the therapeutic goals in educational programs (e.g., increased frequency of sex during the fertile period (Tuschen-Caffier, 1999), improved relaxation techniques (Stewart et al. 1992) can be more easily achieved or detected at assessment than the more diffuse goals of counseling (e.g., working through grief, Pengelly, 1995). Finally, counseling may be more useful with certain types of patients, and the lack of differentiation among patient groups in the review may have obscured these results. For example, most patients were in treatment so that the strains they were facing may have lent
themselves well to techniques used in educational programs (e.g., stress of waiting for test results, decision-making about particular treatments) whereas other patient groups, for example those ending treatment, may be facing other issues (e.g., “Can I have a meaningful life without children?”), that lend themselves better to a [couple] psychotherapeutic counseling format.

Men and women benefited equally from interventions despite the fact that men were generally less interested or willing to participate in psychosocial counseling. However, each may have benefited for different reason. For example, women report support groups to be useful because of the sense of belonging and validation of their reactions whereas men report the groups were useful because of the practical information and advice they received (see for example Lentner & Glazer, 1991). Similar findings have been obtained for gender differences in the perception of telephone counseling (Bartlam & McLeod, 2000).

It should be noted that a recent meta-analytic analysis of the studies examined in the Boivin (2003) review was carried out (de Liz & Strauss, 2005). The conclusions from both reviews were consistent. De Liz and Strauss additionally proposed that the timing of interventions and assessments might be particularly important to their effectiveness.

Overall the review was important in bringing together, for the first time, the outcome studies that examined the effectiveness of counselling, and in demonstrating support for the use of psychosocial interventions in this field. However, the systematic search also showed that too little attention had been devoted to the evaluation of the interventions available and, importantly, that practitioners were continuing to use interventions that were not producing concrete gains for people. These findings have implications for practitioners and researchers, as noted previously. For the practitioner, the findings point to the need to integrate research findings into everyday practice. For the researcher, the final recommendation of the review was that attention be directed toward the “who”, “what”, “when” questions of counselling. That is, future evaluation studies need to yield relevant information for the practitioner about what kinds of change are produced by what kinds of interventions, for what kind of patients, by what kinds of therapists, and under what kinds of conditions (Kazdin, 1986).
Theoretical Frameworks

The two theoretical frameworks applied here are the scientist-practitioner model and psychotherapeutic outcome model. The scientist-practitioner model describes a framework of principles to guide the application of research findings to practice. The psychotherapy outcome models provide approaches for the evaluation of interventions in psychotherapy.

The scientist-practitioner (S-P) or Boulder model (Raimy, 1950), is the most common training model in clinical psychology, and since its conception in 1949, has been adopted by many more mental health professions (see for example, in counselling Corrie, 2000). Individuals trained under this framework are expected to carry out particular tasks that will ensure an evidence-based practice. Practitioners are expected to (a) regularly read and apply research findings to their practice, (b) follow a scientific approach to clinical decision-making and practicing, (c) regularly evaluate their practice, and (d) conduct clinically meaningful research, either on their own or in collaboration with researchers (Baker, 2000). By clinically meaningful, it was meant that research should develop a better understanding of human beings, as well as improve the effectiveness and reliability of diagnostic procedures, interventions, and methods to promote mental health and prevent maladjustment (Raimy, 1950). There has been much debate about how these goals and tasks can be achieved in various contexts (a point returned to later), and whether training under this framework versus any other makes a difference to research output (Rodolfa et al. 2005). Despite these debates, the continued endorsement of this model in psychology and increasingly other fields, suggests that the principles of the S-P model target objectives that are desired by many mental health professions, that is, that practice should be influenced by research developments and vice versa (Asay et al. 2002).

Models of psychotherapy outcome research have yielded two approaches to carrying out evaluation studies. The first approach, which is intervention-focused, assumes that an intervention is effective in producing a benefit (e.g., decreased fear response) because of its unique techniques (e.g., desensitisation) derived from a unique theoretical perspective (i.e., self-efficacy theory). The questions addressed by this approach are whether an intervention is effective, and if so, to what extent it is compared to untreated or differently treated groups. In terms of research designs, the gold standard for this approach is the randomised controlled trial (RCT), where
consecutive patients are randomly assigned to the experimental and control conditions. This type of design is the least biased form of evidence because it controls for non-specific factors that may influence the responses of experimental and controls groups on outcome measures and, consequently, ensures that differences between groups treated and alternatively treated groups on outcome measures are due to intervention effects rather than to other factors not controlled as part of the experiment (Khan, Riet, Popay, Nixon & Kleijnen, 2001).

Practitioners interested in specific interventions can evaluate entire intervention packages as they are ordinarily administered or “dismantle” the intervention in an effort to determine which aspect of treatment is the active ingredient. For example, in a series of early studies, Domar et al. (1990) found that a mind-body programme was effective in reducing emotional distress and increasing pregnancy rates in people who had been infertile for about two years. This mind-body program (adapted for infertile women from a program targeting other medical conditions) combines relaxation training, peer support and life style changes to effect positive change in a range of domains. This uncontrolled research was followed-up with an RCT, which compared the mind-body programme against a group that received peer support only and a group that did not receive any intervention. In this second “dismantling” study, it was found that while the mind-body program was superior to support or control conditions on some psychological variables (e.g., stress-management skills, state anxiety, vigour: Domar, 2000a), it was equivalent to the support group when it came to pregnancy rates, and both were superior to the control group (Domar, 2000b). Another form of outcome research examines varying the parameters of an intervention (e.g., number of sessions, number of clients in the group) in order to discover how to maximise the benefits of a specific intervention (Kazdin, 1986). Many other designs can apply to this approach, but the main point is to focus on evaluating individual therapies and their unique characteristics. Research emanating from this approach has probably contributed most to the league tables of empirically supported [psychological] treatments described earlier, as well as to the generation of detailed “how to” psychotherapeutic manuals (i.e., so-called manualisation) of many interventions (Sexton et al., 1996a).

The second approach to evaluation studies focuses on what makes interventions similar and how that explains positive change. This approach arises from the paradoxical findings of several meta-analyses showing that despite technical
and theoretical diversity, psychotherapy interventions all yield more or less the same level of benefit (Shadish et al. 2000; Wampold, 1997). Such findings suggest that it is not the uniqueness of the intervention that is important in generating benefits, but a set of general clinical principles that must underlie all interventions aimed at helping people. The integrationist perspective\(^2\), (or common-factors approach) seeks to determine the core ingredients shared by different therapies in order to develop more efficacious treatments based on these commonalities. Grencavage and Norcross (1990) identified five domains of commonality across therapies (see Table 1) and examined the extent of agreement among therapists practicing from different perspectives about the importance of these domains. They found that the ‘common factors’ most therapists listed as essential for positive change were the development of a therapeutic alliance, opportunity for catharsis, acquisition and practice of new behaviours and the client’s positive expectations. It has been argued that a significant proportion of variance in therapy outcome can be attributed to these common factors rather than to unique features of interventions (Sexton, 1996b).

Practitioners, who carry out research under this approach, are more likely to use process research and qualitative methodologies than the randomised controlled trial. In process research, the researcher is interested in the phenomenology of the therapeutic relationship with a focus on examining how elements of that relationship (e.g., empathy, positive expectations, setting) contribute to the overall gains made by the patient (Kazdin, 1986). In a review of evaluation research in counselling, it was found that 45% of studies investigated the effect of a common factor and about a third of studies used a descriptive approach or qualitative approach to explain therapeutic gains (Sexton, 1996b).

From the types of designs used in evaluation studies in infertility, it cannot yet be determined which approach (unique or common factors) will or should dominate this field in the future. It should be noted however, that the area appears to have spawned its own unique type of counseling, referred to as “infertility counseling” and this may lend itself more to a common factors perspective. This intervention focuses directly on reactions to infertility and on discussions about the impact of infertility on various domains, for example, marital and sexual relations, or on feelings of masculinity or femininity. As practiced it would seem to be a form of eclecticism

\(^2\) It should be noted that this perspective is not the same as technical eclecticism that recognises virtues of different techniques and samples from them as needed to effect therapeutic change.
that evolved organically from a humanist approach (e.g., Menning, 1980), which has assimilated techniques relevant to coping with fertility from other perspectives (e.g., mourning from grief and loss theory, reality testing for cognitive behavioral approaches). Given this developmental history it would be difficult to argue for the proposal that infertility counseling is helpful because of its unique features.

Clinical issues and therapeutic interventions

How can these theoretical frameworks and perspectives help achieve the goals of integration and generation of evaluation research? In this section the application of the five scientist-practitioner principles to practice will be discussed as will methods to evaluate interventions in private practice.

Practitioners need to regularly read research

In order to read research, practitioners must have access to it. Boivin (2003) found that approximately 2,000 studies had been published on psychosocial aspects of infertility in the past 35 years, which would amount to reading one paper per week. This is a reasonable task, even for a busy practitioner – but only when the studies are available. The studies examined in the review had been published in about twenty psychology or medical journals, making the time and financial costs of accessing the information significantly more demanding. Fortunately, two electronic developments more or less help to overcome such difficulties. First, electronic services make access to information easier, more efficient and, in many cases, free. Access to abstracts from many journals is easy with free electronic search engines available via the internet (e.g., PubMed). Many journals now have online alerts that send the table of contents for each issue to individual email accounts, reducing search time (and providing a helpful cue to keep on top of new research, editorials and commentaries). Some journals devote themselves to integrating research findings by only publishing reviews or research syntheses (e.g., In Session: Psychotherapy in Practice; Human Reproduction Updates). Searching online bookshops using relevant key words also allows easy access to recently published books nationally and internationally. A second important electronic tool is email. Email now makes it possible to obtain published work directly from authors, quickly and with relatively little cost. Increased use of mail groups and networking among practitioners and researchers increases opportunities to receive and discuss new research. In combination, these
Practitioners need to follow a scientific approach to clinical decision-making and practice

The scientist-practitioner model encourages practitioners to adopt a scientific approach to clinical decision-making, although it fails to define or delineate what that really means. The impression is that decisions should be based on the application of research findings that improve best practice, but how one evaluates these findings or implements ‘best practice’ is not addressed (Lampropoulos et al. 2002a). The principles of evidence-based medicine (EBM) were designed to meet that goal, in that they offer a framework to guide the search for and appraisal of clinically relevant information. The need for the principles espoused in EBM arose as a result of several factors in clinical medicine that, not surprisingly, extend to mental health professionals. For example, the need for valid and up-to-date information about assessment and therapeutic interventions for a broad range of clients and problems but the inability to spend more than a short period of time per week on study and research (Sackett et al. 2000).

The process of EBM is fairly straightforward and can be practiced by mental health professionals concerned with the implementation of clinical decisions that have empirical support. There are five basic steps (see Sackett et al. 2000 for detailed instructions of each step with practice exercises) that can be briefly illustrated with the following example. Suppose a 43-year-old Egyptian woman contacts a counselor in Western Europe because she has been experiencing acute distress since she and her husband decided to end infertility treatment and remain childfree. First, the need for information is converted into an answerable question. (e.g., “In Egyptian women facing permanent childlessness, is infertility counseling more effective in reducing acute distress than a educational group program?”). Second, the best evidence with which to answer that question is found. This would normally involve a search of relevant databases or access to valid reviews. For this example, one review found that educational programs were superior to counseling interventions in reducing acute distress (Boivin, 2003).

Third, the evidence is critically appraised for its validity, impact and applicability. In the review, none of the interventions were with Egyptian women or
women who had stopped treatment and only one study examined the effect of the intervention according to pre-treatment distress (Boivin, 2003). That study showed that whilst infertility counseling was not effective overall, it was beneficial to highly distressed women (Holzle et al. 2002). This examination of research suggests that the findings of the review may not be applicable to this patient, therefore more relevant sources of information for the case at hand needs to be examined. Such findings indicate, for example, that the transition from ‘not yet pregnant’ to ‘never going to be pregnant’ (Throsby, 2001), is slow and acutely distressing because it involves addressing existential issues about core beliefs and values. For example, redefining the self and constructing a meaningful life (Daniluk, 2001). It was also found that acute distress was more common at the beginning of the transition process, and when couples could not imagine a future life without children or disagreed about future parenting options (Daniluk, 2001). These findings were based on prospective empirical studies of people who had just ended treatment, and data were analyzed according to well-validated quantitative and qualitative methods. It was also found that in Egypt, infertility was highly stigmatizing and associated with much abuse of women, even if the woman was not the source of the fertility problem (e.g., van Rooij et al. 2004). [See chapter# cross-cultural]

Fourth, the critical appraisal is integrated with the clinician’s clinical expertise and with their patients’ unique psyche, values and circumstances. The choice of an effective treatment plan is hampered by the limited evaluation of interventions on samples similar to the presenting client. Nevertheless, a counseling format was chosen, given that the client was most likely to be facing existential issues whose exploration required a less structured format than would be offered in educational programs. Although research findings suggested that a couple approach would be most appropriate, it was unlikely (in this case) that the husband would participate (though this would be offered to the client) for cultural reasons. The final step in the EBM process requires that clinicians evaluate their effectiveness and efficiency in executing the EBM process and tries to find ways to improve them. For this example, the process of finding information about this case showed a gap in knowledge about this cultural group and people ending treatment.

While the EBM process was briefly reviewed here, it illustrates, basically, the expectation is that high quality research will be used to inform all clinical decisions. It is expected that over time the clinician becomes familiar with much of the research
that affects their particular area of expertise and practice so that the search for information is less onerous and more expeditious. In cases where gaps in knowledge exist, practitioners must rely on their clinical judgment and practice guidelines that also encourage collaboration with other professionals working in the field and clinical supervision. Although gaps in knowledge present a limit on the effectiveness of the EBM process, they do serve to direct future research activity.

Practitioners need to regularly evaluate their practice

Most codes of practice urge clinicians to examine regularly and consistently whether the interventions they provide are helpful. Monitoring effectiveness in a clinical setting always provides a challenge because it typically occurs on a case-by-case basis rather than via randomised controlled trials (RCTs). However, the validity of the single case analysis can be increased by making the process of assessment more systematic and in line with the more controlled assessment of evaluation studies or RCT.

First, response to therapy should be assessed in at least three relevant domains (e.g., behavioural, physiological, cognitive, emotional) (Kazdin, 1986). The multi-mode approach is important because some intervention effects may be missed because they are specific to a particular mode. For example, the positive effects of psychosocial interventions in infertility were more likely to be found in reducing acute distress than in changing how people related to their partners or social network (Boivin, 2003). As noted earlier, the most common goals of interventions used in infertility were for the reduction of distress, enhanced coping skills, and improvement in quality of life, interpersonal relationships, and/or increased pregnancy rates (Ningel & Strauss, 2002). Whichever is the target of a given intervention, it is clear that the outcome measures should be consistent with the expected change, and/or assess several domains to ensure that changes are captured.

Second, outcomes need to be measured along criteria that reflect both the client perspective and the therapeutic standard. In the infertility review, all therapies were perceived by participants to be effective on “helpfulness ratings”, but not all interventions were associated with actual changes in distress or presenting problem (Boivin, 2003). Although client satisfaction is an important criterion, some situations may require gains from therapy to be assessed against independent standards (e.g., clinical cut-off scores). For example, Stewart (1992) found that for women
participating in an intervention consisting of peer support and relaxation training, mean scores on depression, as measured by two clinical inventories, decreased below clinical threshold level. However, in order to make such comparisons, assessment must be made on the basis of well-validated measures. As noted previously, infertility-specific instruments have been developed (see Appendix X) but only a few provide normative data, which may or may not be relevant to a new population (i.e., see Newton et al., 1999 for scores on population of Canadian people with fertility problems). Therefore, it may be necessary at this time to additionally use a global standardised instrument.

An additional set of outcome criteria that should be considered in the monitoring process is connected to efficiency, cost, and cost effectiveness (resources consumed versus outputs produced), because this type of outcome is increasingly used by those who pay for healthcare in their decision-making about which interventions to fund. For example, duration of therapy, cost of administering treatment (e.g., individual versus group), and client costs (e.g., negative effects of therapy, time, costs) (Kazdin, 1986). Thus, even if an individual program in stress relaxation is effective, it may be more costly to deliver individually than the equally effective group program (e.g., Domar, 1990, 2000; Stewart et al. 1992). Other costs that need to be considered are those connected to not implementing interventions. For example, there is good evidence that emotional distress reduces the chances of success in treatment (Boivin & Schmidt, 2005) or increases rates of treatment dropout (Smeenk et al. 2004).

Data for monitoring can be derived from both quantitative (e.g., self-report questionnaires, biological assays) and qualitative (e.g., interviews, narratives) provided all are scored according to well-validated techniques. Taking a more systematic approach to the monitoring of individual practice not only provides the practitioner with more information about their practice but also, when accumulated over many cases, can provide important insights into what is more effective among their own patient population.

Practitioners need to carry out clinically meaningful research alone or in collaboration with researchers

This is undoubtedly the most difficult S-P principle to implement in practice. Many research designs (e.g., surveys, RCT) can be carried out in clinic or medical
settings that have a large population of patients, and these approaches can be used to address many questions of theoretical and clinical interest to the counsellor. For such large-scale studies the individual practitioner can partner with other like-minded professionals and researchers to work together collaboratively (e.g., all contributing data to expand the research base). Such collaboration is typically initiated when practitioner and researcher discover common questions or ‘blind spots’ and both are motivated to find answers. Such recent collaborations have led to research on: the effects of prior trauma on current infertility reactions; the effectiveness of group support for couples on IVF waiting lists, and; fertility-treatment beliefs of Middle-Eastern migrants (see PsycLit database, 2005). Practitioner-researcher partnerships are important because they ensure that research is addressing clinically meaningful issues. The development of mail groups, special interests groups in professional associations and other forums regularly attended by practitioners and researchers are good places to start such partnerships.

Many practitioners will not have access to such large populations, and many others will not have the resources (e.g., time, money), or desire, to invest in protocols that go much beyond their own case load. This means that whatever research contribution they make needs to be based on the single-case study. The uncontrolled single-case study is often viewed as an inferior contribution to the research base because it is a methodology from which scientific inference cannot be made (i.e., due to a lack of control) (Kazdin, 1986). However, research using the single-case study can make an important contribution to research, provided assessment is made more systematic. Whether one is interested in the unique features of an intervention or the aspects that make it similar to others, only a systematic approach can provide good evidence on effectiveness. In the previous section, discussion focused on the outcomes to be assessed, whereas this section discusses how to make the timing and replication of assessments more systematic.

First, the outcomes should be assessed repeatedly to provide a more reliable estimate of the effectiveness of whatever intervention is being administered. In the most basic single case study, the A/B design, assessments are taken prior to (‘A’) and after (‘B’) an intervention, and there is often a follow-up period six or 18 months later (see Hayes (1986) for other single case designs). Second, assessments should be taken at time points that allow change to have taken place. Boivin (2003) found that changes to interpersonal relationships were less likely to be reported following
psychosocial interventions than changes in emotional functioning. However, this finding could have been due to the fact that many studies had very short follow-up periods (i.e., < 6 months) that may not have allowed sufficient time for changes to emerge. To illustrate, suppose a couple were requesting help because of sexual problems that developed as a result of the investigation an diagnosis of their fertility problem, as commonly reported (Takefman et al. 1990). Assessment could take the form of specialised inventories for sexual functioning, classification according to well-established clinical criteria (e.g., DSM-IVR) or physical assessments (e.g., hormones, physiological arousal using erectile plthemosgraphy). In this case, one might assess couples prior to, and immediately after, the initiation of a cognitive-behavioural intervention (see for example Tuschen-Caffir et al. 1999). However, to realistically capture the effects of the intervention, further assessments would need to take place three, six and 12 months after the intervention.

Third, the accumulation of a few cases from the same practitioner, documenting similar patterns of change over time can substantially increase the validity of case study findings. This is more so if replicated changes are large, as this will increase the likelihood that the findings can be generalised to other patient groups (Hayes, 1986). Replication and large effect sizes would also make it more likely that findings based on single-cases would be published. Raphael-Leff et al. (1992) reported on the experiences of 19 patients with fertility problems undergoing psychoanalytic intervention. The grouped case reports allowed the issues commonly faced by infertile people to emerge, from violation of the expectation of generativity to the heightened emotional attachment experience toward those who contributed to the individual’s eventual fertility success. Although the clinical presentation was based on relatively few cases, the themes provided a starting point for the investigation of the dynamics of fertility problem stress. Furthermore, the detailed presentation of a single case, Eve, enabled the reader to better understand the clinical genesis of the contribution.

The changes suggested in this and the preceding section strengthens the validity of data from the single case study. By adopting these changes as part of their monitoring process, the practitioner can strengthen the validity of this process, and also increase the possibility that findings from their own practice can be fed back to the research community where they can influence the future direction of outcome research and RCTs. Single case studies are published in many journals (e.g.,
One study found that 5% of studies evaluating particular counselling interventions were based on the single case design, and that a further 40% of studies used data partly drawn from observations made in the single case context (Sexton, 1996b). Practitioners should not, therefore, be deterred from carrying out research when the only design available to them is the single-case study.

Skills to learn:

The skills needed to integrate research into clinical practice have been discussed. These are not novel skills for the practitioner, as most practitioners will have received training in research. Moreover, this chapter has discussed methods to access, apply and participate in research with minor deviations from usual clinical practice. Finally, whatever additional skills are required can be acquired from books, online resources, continuing education workshops, or can be overcome by collaborating with researchers. Thus most researchers will already have acquired the main skills needed to achieve the goals set out in this chapter.

However, other issues requiring further development and/or adopting a different perspective may need to be considered to implement some of the suggestions provided in this chapter. Many practical issues have not been addressed, for example the lack of financial support, time constraints, or the lack of reinforcement for research activities from within clinics or organisations (Asay et al. 2002). These are barriers that even practitioners fully committed to research face and must creatively resolve. It should be noted, however, that the generation of compelling research evidence on the importance of psychosocial factors makes medical communities, government agencies, pharmaceutical companies and other potential research sponsors want to invest in research and counselling programs. For example, the recent publication of data showing that psychosocial factors were critical in patient dropout from fertility treatment (see for example, volume 81, issue 2, 2004 Fertility and Sterility for a series) prompted at least two pharmaceutical companies to fund research into the psychological aspects of decision-making among infertile people. Therefore, producing research will attract funding, and relevant research will make clinics more willing to support the activities of their practitioners.
Some practitioners would like to contribute to research but do not feel confident that they can identify relevant gaps in knowledge. Most clinical questions arise from central issues about caring for people, and it is as a result of gaps in this knowledge that research is initiated. Therefore, any clinical situation that calls for knowledge we do not possess is an opportunity to identify relevant literature and, where lacking, initiate research. Sackett et al. (2000, p. 19 Table 1.2) identify 10 central issues in clinical work (see Table 2) that can help in the formulation of clinically relevant research questions. For example, concern about how best to gather and then interpret findings from a patient history might lead to a search for interview guides. This search would reveal the Comprehensive Psychosocial History of Infertility (CPHI) interview (Burns & Greenfeld, 1990), which was designed specifically for history taking with infertile people (see Appendix X – is this still in?). However, the search would also reveal that the CPHI has not been validated. Given the need for an interview schedule, this gap might cause one to work on validating the CPHI.

Many practitioners are not interested in participating in research because scientist-practitioner models or similar frameworks clash with their work ethos or beliefs and values about what they do, and how they do it. These different perspectives may come about through personality traits that make people choose practice over research, the philosophical underpinnings of different approaches to mental health (e.g., psychology versus counselling versus social work, Sexton, 1996a), learning (e.g., beliefs of supervisors and mentors, Lampropoulos et al. 2002) or variations in individual life history (Corrie, 2001; Beutler et al. 1995). Whilst there is indeed great diversity in approaches to research, research itself and its application to practice are always perceived as being compatible with best practice guidelines. Nevertheless, the alienation some practitioners experience is genuine, and occurs because practitioners are not part of the research process and, therefore, do not influence the direction of research, or how meaningful and relevant the research produced is to what they do (Corrie, 2001). Thus, the best way to resolve these legitimate concerns is for practitioners to become involved in research.

Practitioners will also vary in their reactions to changes in their practice. Adopting a new perspective on research and its role in practice, as welcomed as it may be, means investment in new goals and relinquishing other options, and familiar ways of working. For mental health professionals, this may include adjusting to a closer working relationship with traditionally more science oriented professionals;
loss of a former sense of freedom to implement professional values in a more spontaneous or idiosyncratic way; or having to work with a model of professional practice that seems incongruent with the value system underlying their own profession (Corrie, 2000). It can be expected, therefore, that the process of integrating research into practice will involve adjustment.

**Future Implications**

The future of evidence-based infertility counselling relates to those connected with the integration of research into practice and those of carrying out meaningful research on the effectiveness of psychosocial interventions. How can we facilitate communication between practitioners and researchers, and facilitate the implementation of research in practice? In this field, many researchers are practitioners; therefore, it may be more a question of finding ways of facilitating research or facilitating collaborative research. As a result, we need information about the barriers that may be limiting the research output of professionals in the field. In other fields of mental health research, networks have been established to facilitate exchange, collaboration, and trouble-shooting amongst researchers (whether practitioners or not). It might be a good idea to have such a network for mental health professionals interested in the psychosocial aspects of infertility and infertility counselling.

Aside from the issues that have to do with integrating research, there are many other issues that need to be addressed in the actual evaluation studies. The field of infertility counselling is young compared to that of psychotherapy, and psychotherapy outcome research offers much insight into the sorts of questions we need to ask. So far, we know that interventions are beneficial but that some are more so than others (Boivin, 2003, de Liz & Strauss, 2005). However, we do not know what ingredients make useful interventions useful or what ingredients make unhelpful interventions unhelpful. We also do not know very much about who benefits from different interventions. Whilst educational programs may be beneficial for people in treatment where distress is caused mainly by procedural events (e.g., waiting for test results, failed treatment), they may not be so useful when people are dealing with more existential issues (e.g., what they will do with the rest of their life if they end treatment and decide to remain childless). Clearly, many questions need to be addressed so that the field as a whole can produce maximally effective interventions.
Summary

- It is clear that pressure will continue to be exerted on practitioners to demonstrate the effectiveness of their practice by those who pay for psychosocial interventions (e.g., patients or clients, governments, insurers).
- Empirically supported interventions are increasingly the only interventions these sponsors are willing to fund. The question for counsellors in this field is how best to respond to that pressure.
- In this chapter, ways of integrating research into practice were discussed. Research is part of the code of practice of many mental health professions. The scientist-practitioner model provides some guiding principles about how research can become an every day part of practice.
- Various approaches to outcome research were also discussed. Even if practitioners cannot become involved in large surveys or randomised control trials, research based on their own caseload can contribute meaningfully to the general knowledge base.
- Many issues will need to be addressed before such models and frameworks are adopted. These include practical (e.g., lack of time or funding) and existential (e.g., value of research to the individual) concerns.

References


Takefman, J.E., Brender, W., Boivin, J., & Tulandi, T. (1990). Sexual and emotional adjustment of couples undergoing infertility investigation and the effectiveness of

Taskforce

Throsby K. No-one will ever call me Mummy: Making sense of the end of IVF treatment. *New Working Paper Series*, 2001;5:


Table 1 Factors that are common across different types of therapies which may be responsible for positive therapeutic effects

<table>
<thead>
<tr>
<th>Domain</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client characteristics</td>
<td>Positive expectations, initial client distress, help-seeking behaviour</td>
</tr>
<tr>
<td>Practitioner qualities</td>
<td>Warmth, empathic understanding, socially sanctioned healer, expertise</td>
</tr>
<tr>
<td>Change processes</td>
<td>Opportunity for catharsis/ventilation, provision of a rationale or explanation for the problem, acquisition and practice of new behaviours; emotional/interpersonal learning</td>
</tr>
<tr>
<td>Treatment structure</td>
<td>Use of techniques/rituals, a healing setting, communication, defined roles</td>
</tr>
<tr>
<td>Therapeutic relationship</td>
<td>Development of an alliance, transference, engagement</td>
</tr>
</tbody>
</table>

Table 2 Central issues in clinical work, where the clinical questions that often arise can be used to stimulate further research

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type of question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical findings</td>
<td>How to properly gather and interpret findings from the patient history and psychologic examination</td>
</tr>
<tr>
<td>Etiology</td>
<td>How to identify the causes for the disorder (e.g., depression, sexual problem)</td>
</tr>
<tr>
<td>Clinical manifestation</td>
<td>Knowing the symptoms associated with various disorders or problems and how to use this information to decide on the clinical focus</td>
</tr>
<tr>
<td>Differential diagnosis</td>
<td>When considering the possible causes of our client’s clinical problem, how to select those that are likely, serious and responsive to treatment</td>
</tr>
<tr>
<td>Diagnostic tests</td>
<td>How to select assessment tools and interpret their findings, in order to confirm or exclude a diagnosis, based on their psychometric properties (e.g., accuracy, sensitivity, expense)</td>
</tr>
<tr>
<td>Prognosis</td>
<td>How to estimate our client’s likely clinical course over time and anticipate likely complications</td>
</tr>
<tr>
<td>Therapy</td>
<td>How to select interventions to offer our clients that do more good than harm and that are worth the efforts and costs of using them</td>
</tr>
<tr>
<td>Prevention</td>
<td>How to reduce the chance of disorder, distress and other complications, by identifying problems early and identifying and modifying risk factors</td>
</tr>
<tr>
<td>Experience and meaning</td>
<td>How to empathize with our clients’ situations, appreciate the meaning they find in the experience and understand how this meaning influences their healing</td>
</tr>
<tr>
<td>Self-improvement</td>
<td>How to keep up to date, improve clinical and other skills and run a better, more efficient clinical practice</td>
</tr>
</tbody>
</table>

Adapted from Sackett et al. (2000). Evidence-based Medicine: How to practice and teach EBM (Table 1.2, p. 19). Churchill Livingstone: Edinburgh
Appendix A

Fertility questionnaires

Negative affect, distress and strain about infertility

_MULTIDIMENSIONAL_

Infertility Questionnaire (IFQ: Bernstein, Potts & Mattox, 1985)
• self-image, guilt/blame, sexuality
• negative feelings and thoughts about infertility
• Middle-class US women in treatment

Infertility Reaction Scale (Keye, Deneris & Sullivan, 1984, unpublished manuscript & Collins et al., 1992)
• need for parenthood, social and work efficiency and social pressure to have a child
• Middle-class US couples about to begin IVF

Fertility Problem Inventory (FPI: Newton et al., 1999)
• social, sexual, relationship, need for parenthood, rejection of child-free living
• level of psychological strain or stress in each area of concern
• Middle-class Canadian men and women attending fertility clinic

Infertility Cognitions Questionnaire (Verhaak et al. 2005)
• Helplessness and acceptance in regards to the fertility problem
• Dutch women about to begin a first IVF cycle

_UNIDIMENSIONAL_

Fertility Problem Stress Inventory (FPS: Abbey, Andrews et al., 1991)
• infertility stress
• American middle-class couples referred to study by infertility specialist

Infertility Feelings Questionnaire (Stanton, 1991)
• negative feelings in relation to infertility
• patients

Motivations, thoughts and feelings about becoming a parent and parenthood

Wikman Reproduction Scale (Wikman et al. 1990)
• motivation and conflict about parenthood
• Presumed fertile medical personnel

Child project Questionnaire (CPQ: Stoleru et al. 1993)
• endorsement of family life-events and of motivational and/or sexual factors which were theorised to predict fertility
• Presumed fertile French couples, western culture, no previous children

Fertility Adjustment Scale (FAS: Glover et al. 1999)
• need for parenthood
• British men and women attending a fertility clinic

Irrational parenthood scale (IPS: Fekkes et al. 2003)
• Irrational cognitions concerning the need to have children in order to have a happy life
• Dutch couples attending IVF clinic

Treatment-specific

• negative (depression, anxiety, uncertainty), positive affect and coping during treatment
• Middle-class Canadian couple undergoing a first IVF cycle

Psychological evaluation test after ART (PET-ART: Franco et al. 2002)
• Negative reactions to specific aspects of ART
• Brazilian men and women with at least one past ART cycle

Concerns about reproductive technologies (CART: Klonoff-Cohen & Natarajan, 2004)
• Level of concern about different aspects of ART technologies: procedural (e.g., side effects, anaesthetics), treatment failure, disruption to work and financial considerations
• White Caucasian, professional American women

Coping

Coping Scale for Infertile Couples (CSIC: Lee et al. 2000)
• Assesses the use of coping strategies from four categories (e.g., Increasing space and sharing the burden)
• Chinese infertile couples attending fertility clinic

Ways of Coping scale adapted for infertile couples (Schmidt et al. 2005)
• Assesses the use of coping strategies from four domains (active-avoidance, active-confronting, passive-avoidance, and meaning-based coping)
• Danish couples attending fertility clinic

Quality of Life

FertiQoL (under development at the time of press, contact boivin@cardiff.ac.uk)
• Assesses impact of fertility problems in 8 domains: affective, psychological, physical, spiritual, partner relationship, social network, occupation and need for psycho-educational help)
• Developed on an international sample and will be available in 8 languages

Polycystic Ovary Syndrome Quality of life (PCOSQ: Cronin et al. 1998)
• Assesses quality of life in 5 domains relevant to people with PCOS: emotions, body hair, weight, infertility and menstrual problems.
• 100 North American women with PCOS

Endometriosis Health Profile-30 (EHP: Jones et al. 2001)
• Assesses symptomatology in 5 domains: pain, control and powerlessness, emotional well-being, social support and self-image
• British women symptomatic for endometriosis, and British women contacting a support group for endometriosis

Quality of Life in infertile men (TDLMK: Schanz et al. 2005)
• Assesses functioning in 4 domains: desire for a child, sexual relationship, gender identity, psychological well-being
• German male patients attending andrology and urology clinics