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Cost-Effectiveness of Individual versus Group Psychotherapy for Sexually Abused Girls

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Cost-Effectiveness of Individual versus Group Psychotherapy for Sexually Abused Girls

Abstract

Children who have been sexually abused may suffer from emotional and behavioural difficulties. Recent research found that individual and group psychotherapy have similar outcomes. In this study we compare the costs and cost-effectiveness of the two therapies and support for carers. Subjects were recruited to two clinics in London and randomly allocated to treatments. Total mean costs of individual therapy were found to be £1246 greater than for group therapy. Costs as they would apply in routine practice were relatively unchanged. Group therapy was thus more cost-effective than individual therapy. Carefully considering the impact of different therapies could allow more treatment to be offered from available staff resources and budgets.

Key words Costs, sexual abuse, children, cost-effectiveness, psychotherapy

Introduction

In recent years there has been a growing interest in how helping troubled children may lead to both immediate and longer-term benefits in terms of health and adaptation. Growing attention has also focused on the economic impacts of not addressing these children's needs in childhood (Scott et al, 2001), and on the cost-effectiveness of different interventions (Knapp, 1997). However, very few evaluations here have been conducted that examine the cost-effectiveness of different treatment approaches (Romeo et al, 2003). In this study we examine the cost-effectiveness of treating sexually abused children.

Children who have been sexually abused are at risk of developing a range of psychiatric, psychological, behavioural and relational problems in childhood and in adulthood (Cotgrove and Kolvin, 1993). These include symptoms of depression, anxiety, low self-esteem, guilt, sleep disturbance and dissociative phenomena, disorders such as depression, anxiety, eating disorders, and borderline personality disorder in adulthood, problem behaviours such as self-harm, drug use, sexual behaviour problems, running away and conduct problems, and social relationship problems such as social withdrawal, sexual promiscuity and re-victimisation.

In a recent study Trowell et al (2002) reported that clinically and statistically significant improvements in functioning and symptoms were achieved in sexually abused girls receiving individual and group psychotherapy. In this paper we retrospectively examine the cost-effectiveness of these two types of intervention.

Method

Sample and setting

A detailed description of the design of the study has been reported previously (Trowell et al, 2002). In brief, 71 girls between the ages of 6 and 14 who had been sexually abused were recruited to two centres, the Tavistock Clinic (North London) and the Camberwell Child and Adolescent Service (South London), if they had experienced contact abuse and had symptoms of emotional or behavioural disturbance that warranted treatment. The girls were assessed at baseline and followed up at one

and two years after treatment had commenced. A 'comparison' design with random allocation was used as it was considered unethical to leave untreated a group of symptomatic abused girls for the two-year duration of the study.

Intervention and supervision

The girls who consented to participate in the study were randomly allocated either to individual or group psychotherapy. The individual treatment comprised up to 30 sessions of focused psychoanalytical psychotherapy. Individual therapists received supervision from a senior child psychotherapist in pairs after every other session. The group treatment consisted of up to 18 sessions with about five girls of similar ages and incorporated psychotherapeutic and psycho-educational components. Each group was led by a pair of therapists who received supervision after each session. For the North London groups, this supervision was provided by a senior social worker, while for the South London groups it was provided by a consultant child psychiatrist.

Support from social workers was also offered to the carers of the girls (Rushton and Miles, 2000). This was a supportive intervention aimed at ensuring the girls' attendance at treatment sessions, helping carers to understand their children's difficulties and responding to the carers' own needs as parents. Most carers received individual support but some were seen in groups. The number of support sessions attended varied. Supervision was offered to the carers' workers and in both areas this consisted of a monthly session with a senior social worker. In North London, this supervision was received in pairs.

Meetings and assessments

In addition to the actual intervention and the supervision provided to therapists, a number of other assessments were conducted and meetings held. Usually, and prior to the intervention, a consultant psychiatrist and a senior social worker held an introductory meeting with the subjects and their carers, the purpose being to explain the purpose of the research, the treatments available and the process of random allocation. This was followed by a baseline assessment where a child psychiatrist met with the subject, a social worker met with the carer, and a research psychologist met with both (separately). Similar follow-up assessments were conducted one year and two years after treatment began.

The above meetings and assessments were necessary from a research perspective but would not necessarily apply in routine practice where assessment and follow-up would be less extensive. Table 1 gives details of the various components of the intervention and associated assessments as they were planned for the research study. The table also provides details of how it was expected the service might operate in routine practice.

A number of the girls included in the study had siblings who also received the interventions. It would be unrealistic to assume that for each separate sibling there would be an introductory meeting; likewise it would be unlikely that the carers of siblings would receive separate baseline and follow-up assessments of the same length for each sibling cared for. Therefore, we have assumed that one introductory meeting would be held for each sibling group but that these would be 50% longer in duration than such meetings where there were no siblings. We have also assumed that the baseline and follow-up assessments with carers would be reduced in duration for each extra sibling in the study. If there were two siblings then we have assumed that the carer assessments for the second would be 50% of the length of the first, for a third sibling the length would be 25% of the first and for a fourth (the maximum number in the study) the length would be 12.5% of the first. Finally, we assumed that if two or more siblings were receiving therapy at any one time the carer would receive the same intervention for carers with only one child in the study.

It was recognised that other service inputs were provided as part of the overall care package. For example, in many cases social workers helped with transportation to the clinic. Also, the girls would have been in contact with other health care services and families may have been receiving input from social work teams (other than that provided as part of the service). In addition, various extra meetings were held involving professionals and carers at the two clinics. For example, in a small number of cases there was a clinical crisis that required additional professional input. However, comprehensive records of these inputs and events were not kept and these costs could not be included because of the retrospective nature of the economic evaluation.

Outcome measures

A range of outcomes was measured, including psychiatric symptoms, symptoms of post-traumatic stress disorder and global functioning using a semi-structured interview schedule, the Kiddie-SADs (Schedule for Affective Disorders and Schizophrenia), the Kiddie-GAS (Global Assessment Scale) and Orvaschel's scales for PTSD (for full details see Trowell et al, 2002). The experiences of carers during support and their views of the therapy provided to the girls were also recorded (Rushton and Miles, 2000)

Data collection and calculation of costs

There were originally no plans to conduct an economic evaluation and so there was no prospective collection of service use data. Information on the number of therapy sessions attended by girls and the number of support sessions attended by carers was kept in the original study and further information on service contacts was obtained by one of the authors (PM) from case notes held at the Tavistock and Camberwell clinics. The professions of the therapists were also recorded. These included trainee child psychotherapists, qualified child psychotherapists, child psychiatrists and nurse practitioners.

Service use data extracted in this way from case notes and therapists' files were combined with unit costs representing the long-run marginal opportunity costs of the professionals involved in providing the service. Some of these were obtained from a recognised national source (Netten et al, 1999), while others were estimated from (national) pay scales and any additional elements were based on similar services reported by Netten et al (1999). These unit costs consist of salary, employer superannuation and national insurance contributions, overheads and capital costs. The unit costs are national figures, which are appropriate if the results of this study are to be generalised.

Analyses

Given the relatively similar outcomes of individual and group psychotherapy in this study (Trowell, 2002), cost-effectiveness can be assessed by determining whether the

costs of group and individual psychotherapy differ significantly. The proportions of subjects receiving therapy and for whom assessments were conducted in the two groups were compared. Comparisons were also made between the groups for the mean number of sessions attended, the mean number of assessments provided and the associated mean costs. As the focus of this paper is on the comparative costs of the entire intervention we only report the findings of significance tests for total costs. These were compared using bootstrapped regression analysis of total cost on type of therapy and a variable indicating whether therapy was provided from the Tavistock Clinic or from Camberwell in case there were any geographical differences in therapy costs. Non-normally distributed residuals are common with costs data and violate one of the main assumptions underlying the regression model. In such circumstances bootstrapping can be used (Mooney and Duval, 1993), which involves re-sampling with replacement a large number of times (here 1000) from the original data set in order to approximate the population from which the sample is drawn. Regression coefficients are then calculated for each sample and averaged. This produces more robust coefficients and significance values. The proportion of total cost accounted for by each individual component was then calculated and compared between the two groups.

Results

Eighty-one girls were assessed at baseline and 71 of these were randomly allocated to treatment: 35 to individual therapy and 36 to group therapy. The Tavistock Clinic provided therapy for 51 girls and another 20 received therapy from the Camberwell service. Forty-nine per cent of the sample were under ten years of age, 28% were attending secondary school, in 40% of cases a legal order had been imposed against the abuser, 55% had been abused more than ten times and 38% had been abused for more than two years. There were no statistically significant differences between the two groups on these or other variables. These girls were severely affected, with 73% having post-traumatic stress disorder at baseline, 57 % major depressive disorder, 58% separation anxiety disorder and 37% general anxiety disorder. More details of the sample are given by Trowell et al (2002).

At follow-up, there were substantial improvements, with reduction in psychiatric psychopathology and improvement in overall functioning in both groups. There was a reduction in co-morbidity from 2.59 (mean number of disorders) at baseline to 1.19 at first follow up and 0.92 at second. At first follow-up, the rate of depression had decreased to 17%, general anxiety to 17% and separation anxiety to 23%. There was a significant reduction in impairment with the mean K-GAS score changing from 5.01 at baseline to 6.70 at exit (higher score indicates better functioning) and there were improvements on most dimensions of Orvaschel's scales for PTSD. There were few differences between the two treatment modalities. The main difference was greater improvement in some symptoms of post-traumatic stress for the individual therapy group (for full details see Trowell et al, 2002).

Data on the interventions received by the girls and their carers are summarised in Table 2. All subjects received therapy and only four had carers who did not receive support. Given the different maximum number of possible sessions of each type of therapy it is not surprising that the number of sessions actually attended was much higher for the individual therapy subjects. The mean cost of a course of individual therapy (£3195) was 64% higher (£1246) than the mean cost of group therapy (£1949). This cost difference was significant ($p < 0.001$) and there was no statistically significant impact of treatment centre on total costs.

The distribution of therapy costs differed between the two groups (Figures 1 and 2). Carers' support accounted for a disproportionate amount of the total cost compared to individual therapy due to the fact that some of the direct therapeutic work was provided by trainees under supervision. Assessments and follow-ups accounted for a substantial amount of the costs. If the therapy was provided as part of routine clinical practice (as shown in Table 1) then there would not be any substantial changes in total cost due to the low contribution made by the service elements that would be altered.

Discussion

As far as we are aware, this is the first study to compare the cost-effectiveness of different services for sexually abused children: no such studies were found in the recently completed systematic review by Romeo et al. (2003). The study has found

individual therapy for girls who have been sexually abused to be on average £1246 more expensive than group therapy - a difference that was statistically significant. Overall we would conclude that, with similar outcomes and higher costs, individual therapy is less cost-effective than group therapy. However, it should be borne in mind that there can be logistical problems in setting up groups and children may have to wait for treatment until there are a sufficient number of a similar age to start a group. A trade-off must therefore be made between the potential savings demonstrated by the study and the possible delay in starting treatment for very traumatised children.

It is of interest that the costs of the non-therapy components of the treatment package account for so much of the total costs. The costs of the assessments were substantial, in large measure due to the seniority and experience of staff involved. It is not possible to determine what impact the assessments had on outcomes but it is likely that such comprehensive assessments may have supported good engagement through patients feeling listened to and reassured that every avenue was being explored. Likewise the cost of support provided to carers is considerable (and this excluded any value attached to carers' lost employment). There were high rates of engagement in the treatment programmes and it is likely that the substantial involvement of carers promoted good patient engagement. In addition, the support given to carers may have had a positive impact upon their own mental health and on family stability. This highlights the importance of other components of care above and beyond the direct therapeutic service provided to the abused girls in the provision of a treatment package for this group.

It is known that sexually abused children are at increased risk of developing mental health problems in adult life. Mullen et al (1993) found that this related to severity of abuse and sexual abuse as a marker of family disadvantage more broadly. It is hoped that therapeutic assistance in childhood will prevent or ameliorate later problems, which in turn may reduce costs in health and other domains.

Limitations

This economic evaluation was retrospective in that details of service use were collected after the main study had ended. This meant that the range of services was limited to those that comprised the therapy itself. It is highly probable that the girls in

the study would have also been in receipt of services from other health, education and social care agencies, and the costs reported here must be seen as underestimates. For instance, the data on educational achievement showed that, although there was improvement over the study period, the cohort of sexually abused girls still lagged behind inner-city controls (Kolvin, unpublished data) and it is likely that some of them would have been in receipt of remedial help. However, the fact that the clinical outcomes were similar between the two arms of the trial suggests that similar levels of other service use could be expected. In addition, some administrative costs may have been underestimated. For example, in one area a member of staff was employed to organise the group therapy sessions. Although the unit costs used in the analyses do include overhead elements, dedicated inputs such as those may not have been totally covered.

The study was also limited in that it only measured costs (and outcomes) over a two-year period. This is relatively long compared to the follow-up periods employed in many evaluations, but it is nevertheless possible that relative longer-term service use and costs patterns might differ from those observed over two years. Finally, the service included some elements that would not be provided in a routine setting. It was not appropriate to remove these as they could still have had therapeutic benefit. However, it is clear from Table 1 and Figures 1 and 2 that the extra inputs contribute very little to the overall cost and therefore the cost of a routine service would be unlikely to differ substantially from the costs reported here.

Practice Implications

This study on the costs and outcomes of treating sexually abused girls suggests that child mental health services can provide useful treatments, and that group treatment is more cost-effective than individual treatment. In planning child mental health services, consideration needs to be given to the resource implications of the whole treatment package (including supervision costs) and not just the direct therapy provided. In developing group programmes, services in neighbouring areas may need to work jointly to ensure that there is a sufficient pool of cases to have a rolling programme of age-banded groups to prevent delay in offering treatment.

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Declaration of interests

None

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Table 1. Components of intervention (including assessments)

Component	Provider	Study		Routine practice	
		Frequency	Duration (minutes)	Frequency	Duration (minutes)
Introductory meeting	Consultant psychiatrist	1	16 ¹	-	-
	Senior social worker	1	16 ¹	-	-
Baseline assessment	Research psychologist	1	120	-	-
	Consultant psychiatrist/senior registrar	1	90	1	90
	Senior social worker	1	105	1	90
Therapy	Various	30	50	30	50
		18	75	18	75
Carers support	Social worker	15*	50	15	50
		10*	50	9	50
School meeting	-	-	-	1	45
Supervision of girls' therapists	Senior child psychotherapist	15	60	15	60
		18	75	18	75
Supervision of carers' workers	Senior social worker	monthly	60	monthly	60
One-year follow-up	Research psychologist	1	30	-	-
	Consultant psychiatrist/senior registrar	1	45	1 ²	60 ²
	Senior social worker	1	45	1 ²	60 ²
Two-year follow-up	Research psychologist	1	45	-	-
	Consultant psychiatrist/senior registrar	1	58 ¹	-	-
	Senior social worker	1	105	-	-

Note: The frequency and duration of sessions and assessments are as planned. However, the costings take account of the actual number of sessions attended and assessments conducted. ¹ Weighted average of both areas; ² follow-up assessments may not always take place in routine practice.

*Because this work was individually tailored there was a large range of frequency of support sessions.

Table 2. Service use and costs

Service component	Individual (n=35)	Group (n=36)
<i>Introductory meeting</i>		
Mean (sd) number of meetings	1 (0)	1 (0)
Mean (sd) cost, £s	46 (11)	48 (10)
<i>Initial assessment</i>		
Mean (sd) number of assessments	1 (0)	1 (0)
Mean (sd) cost, £s	399 (32)	405 (30)
<i>Therapy provided to girls</i>		
Mean (sd) number of sessions	26.0 (8.1)	13.3 (4.0)
Mean (sd) cost, £s	969 (360)	400 (144)
<i>Carers' support</i>		
Mean (sd) number of sessions	14.2 (9.3)	10.1 (5.3)
Mean (sd) cost, £s	896 (611)	352 (250)
<i>Supervision of girls' therapists</i>		
Mean (sd) number of sessions	13.0 (4.1)	13.3 (4.0)
Mean (sd) cost, £s	358 (112)	302 (102)
<i>Supervision of carers' workers</i>		
Mean (sd) number of sessions	4.7 (3.1)	3.4 (1.8)
Mean (sd) cost, £s	254 (188)	144 (102)
<i>Follow-up assessments</i>		
Mean (sd) number of assessments	1.4 (0.7)	1.5 (0.7)
Mean (sd) cost, £s	274 (168)	299 (162)
Mean (sd) total cost, £s	3195 (1069)	1949 (481)

Figure 1. Distribution of total costs of individual therapy.

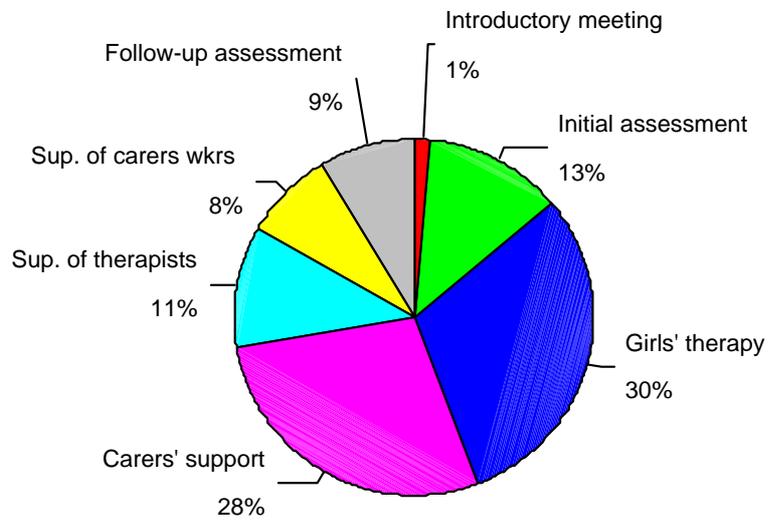


Figure 2. Distribution of total costs of group therapy.

