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An analysis of the effectiveness of University counselling services

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Abstract

It is important to demonstrate replicable evidence of the effectiveness of counselling procedures. The study aimed to contribute to the currently limited evidence base examining the effectiveness of university student counselling in the United Kingdom (UK). Information on therapeutic outcome (based on Clinical Outcomes in Routine Evaluation- Outcome Measure [CORE-OM] scores) for 305 individuals attending a large UK university counselling service was analysed. Following counselling intervention: there was a statistically significant improvement in CORE-OM scores with 63% of individuals showing a reliable improvement and only 2% showing a reliable deterioration. Of those who began with a score in the clinical range, 49% showed a clinically significant change. These results provide additional evidence for the effectiveness of university counselling interventions. Future research should aim to build on this preliminary research using randomised controlled trial designs.

Keywords: student counselling; effectiveness; clinically significant change; reliable change

Introduction

There is an increased pressure on counselling services, as with all mental health providers, to demonstrate clinical effectiveness (Barkham & Hardy, 2001), particularly in the context of the Improving Access to Psychological Therapies agenda and the increasing development of good practice guidelines for psychological disorders (Cooper & Reeves, 2012). There is reported concern within the counselling profession that failure to demonstrate such an evidence base may lead to counselling services being decommissioned. Rigorous evaluation of non-pharmacological interventions is a relatively neglected research area. It is, however, important to ensure that such interventions are effective because ineffective interventions waste resources and place unnecessary burdens on patients and may even cause harm (Lilienfeld, 2007). Related to these considerations is the acknowledgement that, while UK clinical guideline bodies should and are likely to continue to give the greatest weight to evidence derived from randomised control trials, there is likely to be an increasing role for other types of good quality research in contributing to the evidence base (Cooper & Reeves, 2012), as well as the publication of replication studies (Yong, 2012). The latter is particularly important to promote confidence in both research findings per se as well as their generalisability.

One area of counselling where limited research has been conducted in the UK is student counselling. This is despite the recognition that university students may be vulnerable to a range of psychological difficulties, equivalent to (Macaskill, 2013), or in some countries, higher than (Stallman, 2010) those of the general population. The level of distress of students attending counselling services has been found in the UK to be broadly consistent with that of young people attending primary care counselling services (Connell Barkham, & Mellor-

Clark, 2007). There has, however, only been very limited research into the effectiveness of such student counselling services.

An early review by Breakwell (1997) found the methodological quality of the included studies to be limited and that the generalisability of the results to the UK was restricted because the majority of studies had been conducted in other countries. A later review by Connell, Cahill, Barkham, Gilbody, and Madill (2006) found similar limitations in the available literature and the authors were unable to draw firm conclusions about the effectiveness of student counselling. More promisingly, more recent work by Connell, Barkham, and Mellor-Clark (2008), using data from seven UK student counselling services, concluded that counselling was effective for students who completed counselling and/or had a planned ending. The authors found that a high percentage of attendees showed reliable and clinically significant improvement, with the outcomes being consistent with those found in NHS psychotherapy services.

The authors do, however, note some limitations with their study. Despite having an original very large sample of 1,189, this was subsequently reduced to 385 individuals for whom pre and post outcome data existed. Connell et al. (2008) acknowledge that the large amount of missing data and the inclusion of therapists' ratings may have introduced reporting or therapists biases. Despite this, in the context of the limited evidence on the subject, the study presents valuable evidence for the effectiveness of student counselling in the UK. There has been a dearth of UK studies that have addressed this question subsequently. The present study, therefore, aimed to utilise the methodology adopted by Connell et al. (2008) to determine whether, in an independent sample, consistent results were found in relation to the levels of reliable and clinically significant improvement following student counselling.

Method

Ethics

The study received ethical approval from the first author's educational establishment.

Design

The study was a retrospective case note study, which utilised anonymised, pre-existing data.

Measures

Outcome measure: Student status pre and post counselling was measured using the Clinical Outcomes in Routine Evaluation- Outcome Measure (CORE-OM: Evans et al., 2002). The CORE-OM is a 34 item self-report instrument measuring the domains of subjective well-being, symptoms, function and risk (Evans et al. 2002). Psychometric studies have supported the clinical utility of the scale, finding evidence of reliability, acceptability, sensitivity to change and convergent validity in counselling settings (Evans et al., 2002; Connell et al., 2007). Items ask individuals to report the extent to which they have experienced particular symptoms in the past week according to a 5 point response scale. Higher scores represent greater symptom severity. In the current study we utilised the 'clinical score' for consistency with other studies. This is the mean score across the 34 CORE-OM items multiplied by 10. . For individuals who did not have complete CORE-OM data, their CORE-OM scores were estimated as the sum of their mean scores on the completed items within each dimension multiplied by 10.

Reason for referral and severity: These were based on the Association of University and College Counselling (AUCC: 2009) categorisation system. Severity is rated on a scale of 0-7, with a higher rating indicating greater symptom severity.

Additional data: This included student age and gender, number of sessions of counselling undertaken and duration of therapy.

Participants

Inclusion criteria: data were included for students who had complete data on the CORE-OM. Data for students with incomplete data on the CORE-OM were also analysed to assess the possible effects of non-response bias.

Participants were 305 individuals for whom complete CORE-OM data were available. Although there were 55 additional students for whom incomplete CORE-OM data were available, we did not include these individuals in our main analyses. This is because the reliabilities and variances of the CORE-OM with specific patterns of missing items are not known and this information is necessary to compute reliable change. However, we report baseline comparisons between this group and the students for whom complete data are available to assess for any possible effect of non-response bias. All participants had undergone therapy delivered by a large UK university counselling service. Data were collected between February 2012 and April 2013. The participants with complete data represented 66% of the total number of students (n = 462) referred to the service during that period and approximately 1.4% of the student population attending the university. The 66% inclusion rate is approximately in line with mail survey response rates from studies published in medical journals (Asch, Jedrziewski, & Christakis, 1997). The referral rate during this period was typical for the service. Data were not available for the remaining 102 students, as they had not completed therapy or were still waiting to be seen at the time the study was completed, however there is no reason to expect that they would differ from those included in the study in any systematic way. The characteristics of those with complete and incomplete CORE-OM data are given in Table 1. Table 2 illustrates the characteristics of those students who had scores out with the clinical range at baseline. Please note that this table also includes data for individuals who did not have complete CORE-OM data at follow-up and who have,

therefore been excluded from the main analyses. The most common reasons for referral for both groups were anxiety and depression.

Non-response bias

As the reliable change methodology used to assess improvement or deterioration necessitated the use of complete CORE-OM data, we conducted a series of group comparisons to assess whether individuals who omitted some items (and were thus excluded from the main analysis) differed systematically from those who completed all CORE-OM items at both baseline and follow-up. We used independent t-tests for the continuous variables and chi-square tests for the categorical variables. If there were no significant differences between the participants with complete and incomplete CORE-OM data, we assumed that no substantial systematic bias was introduced by excluding those with incomplete data.

Group level change

We evaluated whether statistically significant changes before and after counselling had occurred at the group level using a within-subjects t-test. However, because group level statistically significant change does not guarantee that clinically significant change has occurred, we also computed an index of clinically significant change described below.

Reliable change

Assessing change across two time points is subject to challenges deriving from the difficulty of disentangling true change from measurement error and renders the use of 'difference scores'- the simple subtraction of scores at one time point from the other- problematic. This has led to the development of indices of reliable change (RC) which aim to assess whether a statistically significant change has occurred that is not attributable to

measurement error or relevant sources of systematic error (Hinton-Bayre, 2010). Using reliability and standard deviation information about the measure in the relevant population, it is possible to define a threshold of change that an individual must meet in order for their change on that measure over time to be considered statistically reliable. Using data from two normative studies (Evans et al. 2002; Connell et al. 2007) and a reliable change index suggested by Jacobson & Traux (1991), Connell et al. (2008) arrived at an RCI of 4.8 as the magnitude of change necessary to occur to be considered reliable (at $p<0.05$). We utilised this value in the current study.

Clinically significant change

Jacobson & Traux (1991) noted that statistically reliable change does not guarantee clinically significant change. While there may be many possible definitions of clinically significant change, they suggested that a generally applicable definition and one which is reasonable in the context of counselling interventions is for an individual who entered therapy as part of the population of a clinical population leaving therapy as part of the healthy population. Connell et al. (2007) defined a cut-off point on the CORE-OM of 10 to divide clinical and healthy populations based on the distribution of scores in clinical and non-clinical populations. This cut-off point was based on the arguments of Jacobson & Traux (1991) and takes into account the means and standard deviations in both clinical and healthy populations. Combining reliable change with a change in scores from above to below this clinical cut-off point, therefore, gives clinically significant change.

Predictors of clinically significant change

Within the sub-group of clients who began with CORE-OM scores in the clinical range, we explored whether any of the available demographic and therapeutic variables were associated with making a clinically significant change. Using multiple logistic regression, we

assessed whether age, gender, pre counselling severity (as measured by AUCC, number of

sessions, and CORE-OM baseline scores predicted whether an individual made a clinically

significant change.

Results

Comparison of participants with complete and incomplete CORE-OM measures

Table 1 illustrates no significant differences between those with and without completed CORE-OM questionnaires in relation to age, gender, severity ratings pre and post counselling, CORE-OM total scores pre and post counselling, or number of sessions. We, therefore, assumed that any effects of non-response bias on our results would be minimal.

<Insert table 1 about here>

Group level changes in scores

At the group level, there was a statistically significant improvement in CORE-OM scores following counselling intervention (t(308)=15.45, p<.001). Mean scores improved from 17.31 at baseline to 9.89 at follow-up while variance in scores remained approximately constant (SD= 5.96 at baseline versus 5.89 at follow-up).

Reliable and clinically significant change

Pre-intervention, 266 clients (87%) had a CORE-OM score above the suggested clinical cut-off of 10 (Connell et al., 2008) and post-intervention, 124 clients (41%) had a CORE-OM score above this cut-off. There were 140 clients who had scores that improved from the clinical to healthy range during the course of counselling. This represented 53% of the individuals who began with a score in the clinical range.

In terms of reliable change, 192 clients (63%) showed an improvement in scores greater than the reliable change index of 4.8. In addition, 5 clients (2%) showed deteriorations in scores that represented a reliable change. The remaining clients showed a change in scores that did not exceed the reliable change index.

In terms of clinically significant change, 131 clients showed a reliable change in combination with crossing the clinical cut-off to move from the clinical to healthy range. This is 43% of the whole sample and 49% of clients who began counselling with scores in the clinical range.

<Insert Table 2 about here>

Relations between clinically significant change and other variables

The results of the logistic regression are provided in Table 3. The only predictor to significantly predict the occurrence of clinically significant change associated with counselling was the number of sessions. Here, more sessions were associated with a reduced probability of making a clinically significant change.

Discussion

In the current study, we evaluated the extent to which university counselling services are able to effect clinically significant change in university students experiencing high levels of distress. In the sample, almost half of attendees at a counselling service who began the counselling process with difficulties severe enough to be defined within the clinical range met the criteria for having made a clinically significant improvement and overall 63% of attendees showed a reliable improvement. On the other hand, only 2% of attendees showed a reliable deterioration in symptoms. This is consistent with the reliable deterioration figure of 1% for CORE-OM recovery & improvement rates reported in the Benchmarks for Higher Education Counselling Services (CORE, 2010).

The concept of clinically significant improvement reflects change that is not only statistically significant but that makes a real and meaningful difference to an individual's functioning. In the case of responses to counselling intervention, it imposes much more stringent criteria for improvement than do statistical criteria. The fact that almost half of the sample showed a clinically significant improvement, therefore, supports the effectiveness of university counselling services in helping individuals to regain psychological health.

The proportions of individual showing clinically significant change are similar to the results found by Connell et al. (2008), where 54.3% of individuals made a clinically significant improvement based on a CORE-OM cut-off value of 10. In addition, the results are broadly consistent with rates of reliable and clinically significant improvement found in NHS psychotherapy services (see Connell et al., 2008, for an overview). While there is increasing pressure on all psychological therapists to provide effective but efficient services as a measure of a quality service (Campbell, Roland, & Buetow, 2000), these results must also be considered in the context of the additional constraints that university student

counselling services operate under. In such services, the duration of therapy, number of sessions and therapeutic endings may all be impacted by structural factors, such as the length of academic terms, the timing of exams or the duration of a student's programme of study (Rowland, 2003), rather than by therapeutic factors alone. Research suggests that this may, in turn, influence effectiveness. Connell et al. (2008) found that the number of sessions combined with type of ending may be important for outcome, with those who dropped out of student counselling after attending less than three sessions being rated as making the least improvement. While the authors note that the number of cases on which their results were based was small, this research indicates that the number of sessions may be an important factor in determining the outcome of counselling. There is also evidence from primary and secondary care psychological services (Barkham, Gilbert, Connell, Marshall, & Twigg 2005; Shepherd et al., 2005) that the duration of input can impact on outcome. The current study showed the opposite effect: more counselling sessions were associated with a reduced likelihood of making a clinically significant improvement. However, we used observational data and the most likely explanation is, therefore, that those with difficulties more resistant to counselling required more sessions and were also less likely to make a clinically significant improvement on completion of these sessions. Thus, future studies in which therapeutic factors such as the number of sessions are experimentally manipulated will be required to clarify the contribution of such factors to counselling outcome.

Limitations and Future Directions

In terms of study limitations, as with the study by Connell et al. (2008), the present study could only include those students for whom pre and post counselling outcome measures were available. It is, therefore, unclear how effective counselling was for those who did not complete these measures. It can also be argued, that the most relevant people to consider when evaluating the effectiveness of counselling are those who have completed counselling

and have a planned ending. In the present study, the available data did not indicate whether

the end of counselling was planned or unplanned and so the paper is unable to compare the

effectiveness of counselling intervention, for students with planned or unplanned endings.

The level of distress of students and associated demand on counselling services may also vary

throughout the year, for example in relation to examination stress, which may also influence

outcome. It will be important for future research to explore the ways in which these factors

may act individually and in combination with each other to impact on therapeutic outcome, in

order to maximise the effectiveness of counselling interventions.

A further limitation of the study is that the figures used to estimate reliable and

clinical change are based on sample estimates that will inevitably show a degree of

imprecision as estimates of the corresponding values. Therefore, some individuals will be

mis-classified in terms of whether they made reliable and clinically significant change. In

addition, the particular index of reliable change suggested by Jacobson and Traux (1991)

utilises information from the baseline sample to estimate reliable change. Fortunately, the

CORE-OM appears to show very similar variance and reliability in clinical and non-clinical

populations (e.g. Evans et al., 2002) meaning that this is unlikely to have anything but a

trivial effect on results in practice. The RCI also applies a uniform cut-off point for

individuals irrespective of their initial scores, in spite of the fact that test reliability may vary

as a function of symptom severity. Future studies using item response theory (IRT) models

to investigate differential reliability across symptom levels should help to refine estimates of

the magnitude of change necessary to represent reliable change for an individual with a given

initial score. A related benefit of an IRT approach is that, in contrast to using a sum score

which treats all items as contributing equally to estimates of symptom severity, it is possible

to derive scores for which items contribute according to their 'severity'. For example, it could

be argued that an individual who has successfully resolved symptoms of suicidal ideation has

shown a more clinically significant improvement than an individual who has resolved symptoms of feeling like crying. This is because the former represents a more severe level of distress and its resolution may, therefore, be argued to have made a more significant difference to a person's wellbeing and functioning. It may, therefore, be desirable to have these differences in severity reflected in scores on the instrument.

The particular definition of clinically significant change used in the current study is a general definition that could be applied across many contexts (Jacobson & Traux, 1991). However, what constitutes clinically significant change may vary from individual to individual as particular symptoms are more or less salient. Therefore, an interesting possibility would be to analyse the extent to which counselling can effect clinically significant change as defined by the agreed goals of the clinician and client on an individual basis.

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Table 1

Comparison of the characteristics of those with complete and incomplete CORE-OM questionnaires

	Incomplete Questionnaire	Complete Questionnaires	Comparison	
			t	p
	Mean (SD)	Mean (SD)		
AUCC severity rating (baseline)	4.8 (0.9)	4.6 (0.9)	1.59	.12
CORE OM score (baseline)	16.0 (5.5)	17.3 (6.0)	-1.57	.12
Number of sessions	5.4 (1.52)	5.4 (1.63)	0.23	.81
Age (years)	22.4 (3.8)	22.8 (4.4)	-0.55	.59
Sex[a]			χ^2	p
Male	19	89		
Female	34	214	0.90	.34
Transgender	0	1		

[a]Sex information was missing for 1 participant in the complete questionnaire group and 2 participants in the incomplete questionnaire group. The chi-square test does not include the transgender group due to insufficient data.

Table 2

Characteristics of the clients who had CORE-OM in the non- clinical range at

baseline

	Mean	**SD**
AUCC severity rating (baseline)	3.9	.72
AUCC severity rating (follow-up)	2.4	1.3
CORE-OM total score (baseline)	.74	.23
CORE-OM total score (follow-up)	.62	.34
Number of sessions	5.04	1.7
Duration of treatment (days)	78.9	28.1
Age (years)	22.6	3.2
Gender (data were missing for one person)	**Male**	**Female**
	10 (22%)	35 (78%)

Table 3

Logistic regression predicting clinically significant change associated with counselling

Predictors	β	SE(β)	p
Intercept	2.47	1.10	.03
Sex[a]	-0.22	0.28	.43
Age	-0.06	0.03	.05
Number of sessions	-0.17	0.08	.04
AUCC severity	0.16	0.17	.33
CORE-OM baseline	-0.04	0.03	0.15

[a]This does not include transgender category due to insufficient data (only 1 person reported their sex as transgender). Males are used as the baseline category.