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Abstract

The objective of this study was to evaluate the clinical and organisational efficacy of formulation-based consultancy to clinical teams using a randomised control trial methodology. Patients in an Assertive Outreach Team were randomised into cognitive analytic consultancy (CAC; N=10) or treatment as usual (TAU; N = 10). CAC consisted of three consultancy sessions with individual team members to formulate and map the dysfunctional roles and procedures adopted by both patient and team. Subsequent changes to practice were then supported via team supervision. Measures of patient and team functioning were taken across four discrete study phases; (1) baseline team training, (2) case consultation, (3) team supervision and (3) three month follow-up. Team members were additionally interviewed before and following the trial. No differences were evident between CAC and TAU in terms of patient outcomes. However, the climate of the AOT significantly improved longitudinally over the course of the trial, with CAC facilitating enhanced clinical and team practices. The results are discussed in terms of methodological limitations, the advantages/disadvantages of team consultation and the potential for the further development of the CAC model.

Practitioner points

1. Team consultation needs to be guided by a theoretical model.
2. Measuring organisational and clinical outcomes is equally important when evaluating team consultancy approaches.
3. Cognitive analytic consultancy offers promise in supporting teams in managing complex and demanding clients and caseloads.

Demand for access to more psychotherapeutically informed approaches to mental health care grows year on year (DoH, 2007a), supported by a strong evidence base (e.g. Roth & Fonagy, 2005). Policy demands a shift in mental health service culture whereby psychological means of formulating distress are commonplace and supported via multidisciplinary team approaches (DoH, 2007b). Mental health teams unfortunately report limited training, supervision and support in such psychological models (Kerr, Dent-Brown & Parry, 2007). Whilst teams are cost-effective (West & Markiewicz, 2004) and are positively evaluated by service users/carers/referrers (Onyett, 2006), effective teamwork is dependent upon sound communication and clear objectives (Onyett, 2003). Both these aspects of teamwork have been found to be generally poor among mental health teams (DOH, 1996). Being in a team can be an important source of reward and support (Mickan, 2005) as staff work with complex patients over sustained periods (Kerr et al. 2007). Patients' relationships with clinical teams appear moderated by their attachment style (Catty, Cowen, Poole, Ellis, Gayer, Lissouba, White & Burns, in press). The behavioural manifestations of attachment (e.g. clinginess from the patient) can evoke strong emotional reactions in staff (Ryle & Kerr, 2002), with risk of dysfunctional reciprocation and/or associated burn out (Kerr et al., 2007).

Psychological formulations are descriptive maps of patients' cognitive, affective and behavioural patterns which describe the origins and maintenance of mental health problems (Eells, 2007). Whilst case formulation is at the heart of a psychological approach to mental health, less attention has been paid to using formulations with teams as an aid to patient management (DoH, 2007b). The small evidence base accrued has broad methodological limitations including small sample sizes, over reliance on qualitative methods, use of unreliable quantitative measures, absence of follow-up, paucity of experimental designs and poor description of the intervention. Three structured delivery methods have been piloted; (1) team formulation meetings during which psychological

formulations are developed by the team (e.g. Dummett, 2006), (2) team consultancy whereby formulations are first created during sessions with individual team members and then shared with the team (e.g. Kennedy, Smalley and Harris, 2003) and (3) training the team in case formulation (e.g. Maguire, 2006). In terms of unstructured team consultation, then some practitioners adopt a 'chipping in' approach (Christofides, Johnstone & Musa, in press). Cognitive behavioural (CBT) and cognitive analytic (CAT) approaches to formulation are the two main structured approaches that have been evaluated. The main clinical and theoretical difference between CAT and CBT approaches to team formulation is that CAT conceptualizes and maps the relationship between the team and the patient as a reflection of the patient's typical modes of relating to others, learnt in childhood (Kerr et al., 2007). Carradice (2012) therefore notes that CAT is team formulation is particularly indicated when teams are struggling to contain a patient and may be responding to the patient in an unhelpful manner.

Dummett (2006) developed practical guidelines for creating CBT formulations within team formulation meetings, through the use of a formulation 'template.' The majority of CAMHS staff reported the template as helpful, due to its clarity and simplicity. Berry, Barraclough and Wearden (2008) evaluated the impact of 'one-off' CBT-based team formulation meetings. Following the meetings, staff reported more positive appraisals of psychotic patients, were less blaming and had greater confidence/optimism in their work. Summers (2006) provided twice weekly CBT formulation consultancy meetings for a multidisciplinary staff team working with psychosis. Although these meetings provided opportunities for identifying new ways of working, improved staff-patient relationships and increased individual staff satisfaction, the process was noted to have little impact on patient care. Kennedy et al., (2003) used CBT formulation as a consultancy tool for staff and patients within an inpatient unit. An audit tool was completed by all stakeholders and identified positive outcomes including enhanced collaboration, communication, usefulness,

education and change. Maguire (2006) provided training in CBT case formulation to support workers for homeless adults, with staff reporting a reduction in their stress levels and an increase in perceived ability to help clients to change.

Dunn and Parry (1997) developed the CAT-informed team consultancy for patients with borderline personality disorder (BPD). Whilst this approach was claimed to be successful, the approach lacked any formal evaluation. Kerr (1997) and Carradice (2004) replicated the approach to note that formulations were understood by the team and had a positive impact on case management. Carradice (2004) noted that following CAT consultation, staff reported new insights into the patient and felt empowered to work differently with the patient. Thompson et al. (2008) delivered skills level training in CAT formulation to an adult Community Mental Health Team, followed by 6-months of group supervision. Staff qualitatively reported improved clinical confidence, which was attributed to the provision of CAT's clear structure, containment of anxiety and provision of hope. Staff also reported a more unified approach, improved communication, increased confidence and increased team morale.

The aims of the current study was to examine the Carradice (2012) CAT consultation model (CAC) using mixed methods within a randomized controlled design, in a larger sample size and different diagnostic group. The quantitative hypotheses for the current study were as follows: Ho1: patients randomized to CAC will experience reduced psychological distress compared to the treatment as usual group, Ho2: patients randomized to CAC will be easier to engage with compared to the treatment as usual group and Ho3: team climate will improve over time as a result of CAC. The qualitative aims of the study were to explore the experience of staff in terms of receiving CAC and its impact on the clinical and organisational practices of the team.

Method

The organisational context

The trial was conducted in an NHS Assertive Outreach Team (AOT). AOTs typically work with patients with treatment resistant schizophrenia (who often also display co-morbid symptoms of personality disorder) whose needs have out-striped what can be effectively offered in traditional mental health services, such as community mental health teams (SCMH, 2001). The AOT approach is defined by a multi-disciplinary team based delivery, a low ratio of service users to team members, high frequency of client contact within their own environments, emphasis on client engagement/therapeutic relationships, a time-unlimited approach and a no drop-out policy. The main interventions delivered by AOTs include medication provision, symptom monitoring, practical assistance, problem solving, developing life skills and psychosocial interventions (Firn, 2007). AOTs work outside traditional expectations of mental health roles and across primary and secondary health/social care, coordinating with different agencies such as housing, social security and criminal justice systems (Ryan, Morgan & Rapp, 2004). Staff competencies are a needs-led approach, effective engagement skills, low expressed emotion, realistic expectations of change and a commitment to long-term therapeutic relationships (SCMH, 2001).

Patient selection and randomization process

The entire caseload of the team available for the study as minimal exclusion criteria were employed. The AOT was made up mental health nurses, social workers, medics and support staff, with consultation provided by Clinical Psychologists. Ethical approval for the project was granted via the local research ethics committee. Figure 1 describes the

consort diagram for the study. Patients were excluded if they were (1) currently admitted as an in-patient, (2) abusing substances to a degree that would inhibit their ability to engage in the project, (3) did not have a primary diagnosis of schizophrenia and (4) were referred to the team following initiation of the project. Six patients were excluded from the study due to exclusion criteria and 8 patients due to being referred after that start of the project. From the available remaining team caseload (n=103), 20 patients were then selected at random using a computer random number generator. From this sample, 10 were then randomly allocated into the CAC arm and 10 randomly allocated into the treatment as usual (TAU) arm. Treatment as usual constituted the fact that the care coordinators did not receive any consultancy on the patient, but the patient did receive all routine aspects of care – only the consultancy to the worker was withheld. Two patients discontinued CAC and 1 patient discontinued TAU (i.e. they refused to complete the measures, but the team remained involved in their care). The mean number of years in mental health services for the entire sample was 20.85 (SD = 9.34, range 6-36), mean number of years in the AOT was 8.30 (SD = 1.62, range 5-10) and mean number of in-patient admissions 15.50 (SD = 12.60, range 1-52).

insert figure 1 here please

Mann Whitney tests compared TAU and CAC patients in terms of service, biographical and psychometric details to ensure that randomisation had been successful. There were no differences apparent between CAC and TAU in terms of age ($U = 28.00$, $Z = 0.10$, $p = 0.10$), years of contact with mental health services ($U = 45.00$, $Z = 0.73$, $p = 0.73$), years of contact with AOT ($U = 37.50$, $Z = 0.35$, $p = 0.35$) or number of admissions ($U = 36.50$, $Z = 0.31$, 0.31). TAU and CAC did not significantly differ in terms of

assessment levels of psychological distress (U = 28.88, Z = -1.39, p = 0.96), disability (U = 28.50, Z = -1.06, p =0.13) or overall engagement with the team (U = 44.00, Z = -0.08, 0.28).

Organisational Intervention

The project had four phases; (1) team training, (2) case consultation (3) CAT team supervision and (4) follow-up. In terms of team training, the team received 2-days input on the theoretical basis of CAT and specifically the development of sequential diagrammatic formulations (SDR; Ryle, 2004). SDR's are a diagrammatic summary using cognitive analytic theory of the key reciprocal roles (coping responses learnt in childhood in response the neglect, abuse, absence or abandonment) of the patient and the target problem procedures (patterns of thinking, feeling and doing) that link and maintain reciprocal roles (Kellett, 2012). The supervision group was initiated during the training phase, but the emphasis in the group initially was on generic clinical supervision and providing a reflective space. The second phase of the project concerned CAT consultation and lasted for 3 months. Care coordinators and support workers attached to patients in the CAC arm were consulted with on three occasions in order to produce an SDR. Consultation was conducted following the Carradice (2012) consultation structure and diagram 1 describes a typical SDR produced. As is consistent with theory, the SDRs produced mapped the team and the patient procedures. The project measured clinical outcomes for the patients despite delivering an organisational intervention, as it was anticipated that improving the insight of the team regarding the patients via consultation and the general functioning of the team via supervision would improve the engagement and mental health of the AOT patients. Consultation is therefore sometimes referred to as 'indirect' work with patients.

insert diagram 1 here please

The third phase of the project introduced CAT-based supervision and lasted for four months. Care-coordinator and support staff took responsibility for sharing their patient's SDR at group CAT supervision attended by the entire team. The function of the wider team was to support the individual workers in their work with the patient and to begin to develop new ways of working with the patient (i.e. CAT 'exits') based on the SDR. These were listed as team exits on the SDR, as would an exit during individual CAT be completed (Ryle, 2004). Exits were a mixture of changes to the team management of the patient and changes to the manner in which the worker might intervene with the patient. All the SDRs were placed in the patient notes and were used in daily team meetings concerning necessary task allocation and risk management. The final aspect of the project was a follow-up phase that lasted for 5 months. During this phase the theoretical orientation of the supervision group was altered back to that of generic group supervision and the CAT element was dropped. The group was voluntary at all stages, but was typically attended by all team members each week and lasted for one hour.

Patient measures

Patient and staff measures were completed at four time points; pre-training, post-consultation, post-supervision and at follow-up. The measures are described below:

Clinical Outcomes in Routine Evaluation Outcome Measure (CORE-OM; Evans, Connell, Barkham, Margison, McGrath, Mellor-Clark & Audin, 2002). This 34-item scale measures psychological distress including subjective wellbeing, commonly experienced problems or symptoms and life/social functioning. The CORE-OM has been demonstrated to have good concurrent (Evans et al., 2002) and discriminant validity (Connell et al., 2007), sound

internal and test-retest reliability (Evans et al., 2002) and is sensitive to change (Connell et al., 2007).

Work and Social Adjustment Scale (WSAS; Mundt, Marks Shear & Griest, 2002). This is an 8-item measure of functional impairment (i.e. disability) attributable to an identified problem or condition. The WSAS has good internal and temporal reliability and is sensitive to differences in disorder severity and change (Mundt et al., 2002).

Staff measures

Service Engagement Scale (SES: Tait, Birchwood, & Trower, 2002). This 14-item scale measures patient engagement with mental health teams – the scale is completed by staff (care coordinators or case managers) and concerns the team's perception of the patient. Four sub-scales assess availability, collaboration, help-seeking and treatment adherence and higher scores on the sub-scales indicate lower engagement – the scale also produces a full score for overall engagement. The SES has good internal and test-retest reliability, including discrimination between criterion groups in AOTs (Tait et al., 2002) and has been used to measure service engagement in psychosis (Tait, Birchwood & Trower, 2003).

Team Climate Inventory (TCI: Anderson & West, 1998). This 44-item scale measures facet-specific climate for team innovation and has four sub-scales derived from exploratory factor analysis (a) team vision, (b) participative safety, (c) task orientation and (d) support for innovation. Individual team member responses are summed to create a group level mean for each sub-scale. The TCI has been subject to confirmatory factor analysis (Tseng, Liu, & West, 2009) that found a satisfactory four factor solution of the extant sub-scales. The TCI has previously been used extensively with health care teams (Proudfoot, Jayasinghe, Holton, Grimm, Bubner, Amoroso, Beilby & Harris, 2007).

Qualitative Interviews

Two semi-structured interviews were designed in order to explore staff's opinions of the CAT approach, their current clinical practice and their relationships with patients. All staff who undertook case management were asked to participate in the interviews, which were conducted at the team base prior to (N=7) and on completion (N= 8) of the project. The first (i.e. pre CAC) interview used the following prompts; (1) do you have any hopes/concerns regarding the project, (2) how do you feel about your relationship with your clients, (3) how do you feel in your role as care coordinator, (4) what is the major challenge within your role, (5) how do you cope when your relationships with clients are difficult, (6) in what ways do you think about/reflect on your relationship with your clients and (7) are you sometimes confused about what is happening with clients and find it hard to know what to do? The second (i.e. post-CAC) interview used the following prompts; (1) has anything stood out for you from the project, (2) how do you feel about your relationships with clients now, (3) has the way in which you work with your clients changed in any way, (4) what was you experience of the supervision, (5) how did you find using the CAT model and (6) if you have developed new ways of working with your clients, what are they?

Data analysis

In terms of patient outcomes, Friedman's Test assessed whether change had occurred within the CAC and TAU arms. Prior to team member scores on the team climate measure (TCI) being aggregated to the group level, within-group inter-rater reliability was assessed (IRR; James, Demaree & Wolf, 1984). IRR scores >0.70 demonstrate acceptable levels of agreement (Proudfoot et al. 2007). Friedman's test then assessed whether there had been any changes to the climate of the AOT over the course of the trial.

Uncontrolled effect sizes were calculated by dividing the mean change score achieved between the training phase (T1) and follow-up (T4) by the mean pre-intervention (T1) standard deviation (Barkham, Gilbert, Connell, Marshall, & Twigg, 2005; Westbrook & Kirk, 2005).

An inductive qualitative content analysis was used to identify content categories that emerged from the manifest substance from the interviews (Elo & Kyngas 2007). Content analysis is a research method for making replicable and valid inferences from data to their original context, with the purpose of providing knowledge, new insights, a representation of facts and a practical guide to action (Krippendorff, 1980). Each interview was tape recorded and transcribed and then content categories and sub-categories identified from the transcripts. Transcripts were then re-read and categories and subcategories counted per interviewee to provide an index of coverage across the interviews (Krippnedorf, 1980). The results section therefore highlights the most dominant categories and sub-categories found at each time point (pre and post-CAC) and reports the proportion of staff in AOT endorsing themes and sub-themes for context purposes. Sub-themes needed to be reported by half of the participants to be included as a result. Throughout the qualitative results, illustrative quotes are provided in order to provide a richer and more descriptive account of the analysis (Elo & Kyngas 2007).

Results

Quantitative findings

The clinical outcomes for the patients randomised to CAC and TAU are detailed in Table 1. No significant differences in psychological distress (χ^2 (3) = 5.86, p = 0.11),

disability (χ^2 (3) = 6.60, p = 0.08) or overall engagement with the AOT (χ^2 (3) = 1.39, p = 0.70) occurred in the TAU group. Similarly, no significant reductions in psychological distress (χ^2 (3) = 1.31, p = 0.72), disability (χ^2 (3) = 1.10, p = 0.77) or overall engagement with the AOT (χ^2 (3) = 1.91, p = 0.59) occurred for patients in CAC. Both hypotheses 1 and 2 were therefore rejected; CAC had no discernible clinical impact on patient outcomes.

insert table 1 here please

The team climate results are reported in table 2. The inter-rater reliability of the team members was satisfactory across all four phases on each of the TCI subscales. In support of hypothesis 3, there was significant increase in participative safety (χ^2 (3) = 26.56, $p < 0.001$), support for innovation (χ^2 (3) = 18.81, $p < 0.001$) and task orientation (χ^2 (3) = 11.09, $p < 0.01$) in the AOT. However, there was no significant increase in the clarity of team vision over time (χ^2 (3) = 6.02, p = 0.11). Large effect sizes were recorded for participative safety (d = 1.72), support for innovation (d = 2.42), a moderate effect size for task orientation (d = 0.30) and small effect size for team vision (d = 0.14). Post-hoc analysis comparing study phases with Wilcoxon signed-rank tests (with a Bonferroni correction applied, resulting in a significance level set at $p < 0.017$) showed that the introduction of the case consultation phase of the project had a significant positive effect on the climate of the AOT. Participative safety in the AOT significantly improved across each of the study phases.

Insert table 2 here please

Qualitative findings

The initial (pre-intervention) interviews conducted with staff (N=7) contained 5 main category themes; (1) *clinically entrenched,* (2) *relationships with patients*, (3) *the challenge of the care coordinating role*, (4) *coping* and (5) *little time for reflection*. Table 3 contains the main category themes, proportion of the team endorsing category themes and example quotations from team members.

Insert table 3 here please

The interviews conducted following CAC (post intervention, N=8) contained four main category themes; (1) *increased awareness,* (2) *changes made to the clinical approach,* (3) *enhanced teamwork* and (4) *use of the CAT model*. In terms of the first main category theme, *increased awareness,* 7/8 of staff reported that they had both gained a deeper understanding of both their patients and their relationship with their patients. In the team in terms of increased awareness, 5/8 stated that they now thought about their patients in a different manner and no longer felt stuck in unhelpful patterns:

Staff 2: "Well the relationship isn't any better, but I wouldn't expect that, but I can understand it better. I can, rather than get stressed and upset about things, think about it in terms of what is going off for her and how that might be making her behave and I can react differently to it."

The *changes made to the clinical approach* main category themes are summarised in table 4 which contains the sub-category themes, proportion of the team endorsing the sub-category and example quotations.

Insert table 4 here please

In terms of the *enhanced teamwork* main category theme, all staff felt that the CAT-based supervision had helped with cohesion and teamwork. Team changes are summarised in table 5, which contains the sub-category themes, proportion of the team endorsing the theme and example quotations.

Insert table 5 here please

The final main category theme *use of the CAT model* contained two sub-category themes (1) *experience of CAT-based supervision sessions* and (2) *use of formulations*. In terms of the first sub-category theme, all staff (8/8) felt the CAT model was useful in sharing difficult therapeutic relationships in team supervision. In the team, 6/8 felt that supervision had provided time to reflect on practice and so helped the team to share experiences, which they might not have done otherwise:

Staff 8: "What CAT has done for us is it's actually highlighted the difficulties individual workers have got. I mean people go out there and are doing all sorts, but they wouldn't often share it."

In terms of *use of formulations,* 4/8 reported using the formulations with patients, more often as an 'internal guide' when with a patent:

Staff 5: "To be honest more as a reference point. To reflect and go back, to think that's where I am. As a sort of reminder, a pathway… right…and it's ok to go that way because that's the way I'm going. I understand why it's going that way but this is what I can do to steer out of it. So it's always sat there as a reference point to keep reminding me."

6/8 stated they had been able to use formulations and the support of CAT group supervision to develop 'exits' for patients:

Staff 5: "With this client there's definitely been an exit and we've moved to a different area that I wanted to move onto. So it's not been stuck in that cycle where visits were nice, and were nothing else, they weren't going anywhere. I moved out of that and I still kept a good relationship."

Discussion

The present research has been the first attempt to systematically deliver and evaluate CAC and this was attempted in the context of an AOT. Prior to the CAC initiative, team members generally felt challenged by their work, felt entrenched in crisis work, unsupported in the role and struggled in their relationships with their patients. The introduction of CAC had little impact on patient outcomes, but the clinical and organizational functioning of the team improved as a result of CAC. This finding was mirrored across quantitative and qualitative results. It is worth noting that the trial was conducted with patients, who had already outstripped the capacity of mainstream secondary mental health services and therefore any consultation intervention may have

been unlikely to have an immediate and marked effect. It was unlikely (on reflection) that a short project introducing a new approach would be likely to significantly shift patient symptomatology in an AOT context, particularly with the short follow-up employed in the current study. Further evaluations could usefully be housed in teams in which there may be a little more 'plasticity' available with regards to patient change (patients with mild to moderate anxiety and depression in Primary Care, for example), adopt a longer follow-up approach and possibly use different outcome measures (process measures of staff interactions, for example).

There was significant increase over the phases of the project in the sense of participative safety in the team and a large associated effect size. Participative safety (Anderson & West, 1998) measures the degree of information exchange, psychological safety and support available in a team. Psychological safety is an important aspect of team work, as low safety results in defensiveness, poor cohesion and a tendency towards lone working (Edmundson, 1999). The group supervision aspect in the current research appeared central in creating participative safety. Whilst the group supervision was voluntary, it tended to be extremely well attended – recording attendance rates would have been a useful addition to the methodology. The supervision of the team required a balance to be struck at all times between managing the group and facilitating the group supervision (Proctor, 2008). The qualitative results noted that team reported more active care of each other and having more a unified team clinical approach. Team member's sense of task orientation significantly increased over the phases of the project, which indicates an increasing emphasis on monitoring of the quality of the team's work over time (Anderson & West, 1998). The AOT were more focused on the task of providing care and qualitative evidence indexed changes to clinical approaches, indicating greater clarity of structure and purpose with patients. There is evidence to show that good communication and support improves team performance (Van der Vegt & Bunderson, 2005).

The largest methodological limitation was that CAC and TAU arms existed within the same AOT and therefore some care coordinators had patients spread across both arms. There was therefore a risk of 'contamination' from the CAC to the TAU, as care coordinators may have been tempted to use the CAT model with TAU patients, particularly given the pre-project interviews which noted staff being stuck and frustrated in unhelpful patterns with patients. Staff were instructed regularly not to contaminate the TAU arm and this was monitored at group supervision. If contamination did occur, it had no discernible impact on patient outcomes. Future consultation research would benefit from having control or comparison teams against which clinical and organizational outcomes could be benchmarked against (Lilienfeld, 2007). The project was also limited by having a small clinical sample size in each arm. The inductive content analysis was completed by a single researcher; the reliability of the content analysis could have been improved through using inter-coder reliability methods (Elo & Kyngas 2007). No measure of CAC fidelity exists, so there was no way of assessing the competency of the CAC conducted. The development of consultancy competency measures would enable more effective supervision on team consultation to occur. Finally, no process measures were taken of clinical sessions with patients and therefore despite team members' assertions that their clinical practices had changed, there was no convincing pre-post process measure change to evidence this.

In conclusion, the current research has indicated that CAC has an organisational impact, but that its clinical is negligible, at best, in terms of the outcomes measured. Staff and patient needs need to be viewed from a position of equipoise when considering consultation outcomes. Consultancy may solely prove solely to influence staff processes, but that is important in supporting staff, reducing burnout, encouraging reflection and developing cohesive teams. The chain of processes involved from consultancy to the team, to changes in staff behaviour, to that of change in patient's symptoms may be too

long and complex to always study effectively. As policy drives the greater use of consultation in mental health teams (DoH, 2007b), then increased training and supervision needs to support senior clinical staff in these rapidly expanding and vital roles. As current consultation practice around formulation can be that of occasional, unstructured and possibly a-theoretical 'chipping-in' (Christofides et al, in press), then senior staff also need to be supported in delivering effectively structured consultation approaches, with a clear consultation model (derived from theory) guiding practice. The team formulation consultation literature is sparse in terms of evidence and therefore future research efforts need to use the spectrum of practice-based and evidence-based methodologies to further knowledge, guided by the 'hour-glass' model of empirical progression (Salkovskis, 1995).

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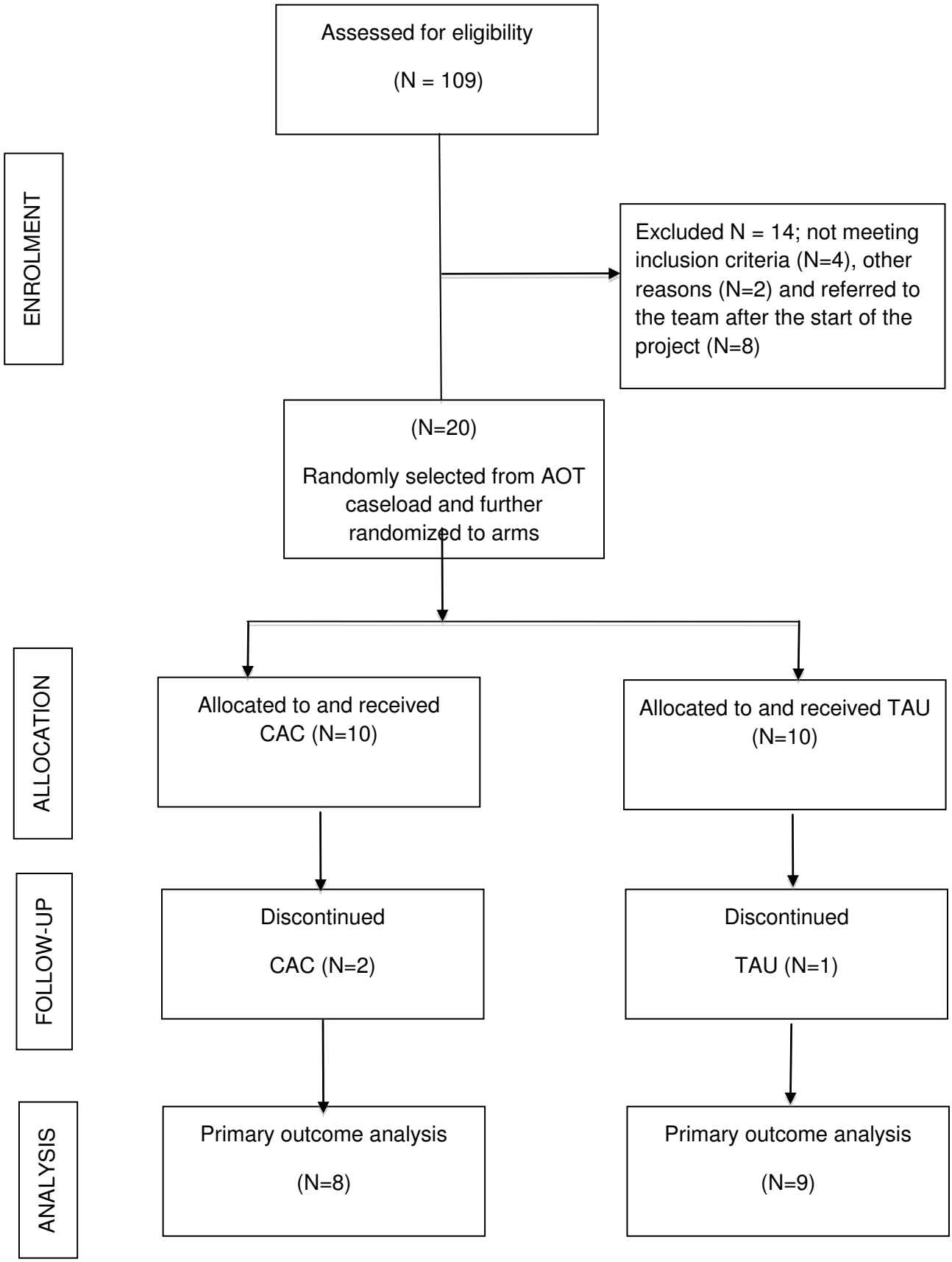
Figure 1; CONSORT diagram for the CAT consultancy trial



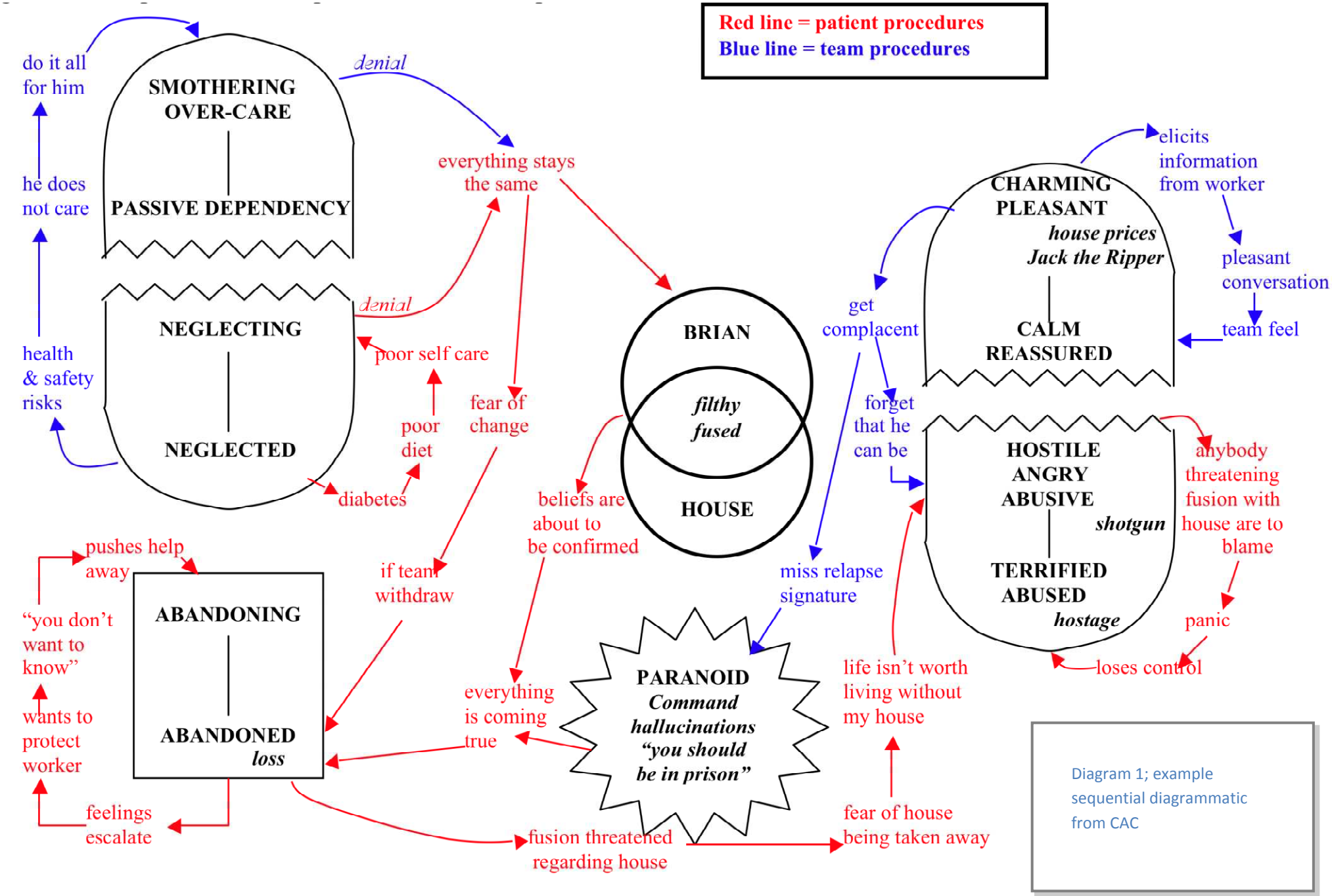


Diagram 1; example sequential diagrammatic from CAC

Table 1; means (sds) on measures of patient functioning in CAC and TAU at the four time points

	Treatment as usual				**CAT consultancy**			
	Baseline	Formulation	Supervision	Follow-up	Baseline	Formulation	Supervision	Follow-up
Staff completed measure								
SES – availability subscale	4.00 (1.63)	3.43 (0.78)	3.22 (0.44)	3.44 (1.01)	4.00 (1.41)	3.88 (1.64)	3.50 (0.83)	4.00 (1.00)
SES – collaboration subscale	5.90 (2.07)	5.57 (2.29)	3.89 (1.61)	4.22 (1.48)	6.90 (2.28)	6.50 (2.67)	5.00 (2.09)	6.71 (2.05)
SES – help seeking subscale	7.30 (3.05)	7.14 (3.62)	5.56 (1.87)	6.11 (2.14)	8.80 (2.30)	8.38 (2.30)	7.17 (2.48)	7.57 (2.63)
SES – treatment adherence subscale	5.60 (1.83)	6.00 (2.23)	4.44 (1.01)	4.78 (1.92)	6.90 (3.69)	5.50 (1.69)	4.83 (1.60)	5.29 (1.60)
Patient completed measures								
CORE-OM	37.80 (37.33)	40.50 (20.20)	31.62 (12.94)	42.25 (11.53)	37.01 (29.69)	24.40 (22.28)	31.42 (21.83)	35.14 (23.07)
Work and Social Adjustment Scale	15.22 (14.46)	17.44 (11.78)	16.57 (10.56)	23.38 (6.14)	21.44 (13.99)	17.88 (8.69)	17.25 (9.31)	19.75 (8.87)

Table 2; median (IQR) team climate over time and study phase comparisons

Scale	Baseline median (IQR)	Baseline r_wg index	Case consultation median (IQR)	Consultation r_wg index	CAT specific supervision median (IQR)	Supervsion r_wg index	Follow-up median (IQR)	Follow-up r_wg index	Baseline to case consulta-tion Z score	Case consultation to CAT group supervision Z score	CAT group supervision to follow-up Z score
Team Climate Inventory – participative safety subscale	3.75(3.29 to 3.91)	0.75	3.83 (3.20 to 4.08)	0.76	3.83 (3.30 to 4.16)	0.83	4.00 (3.60 to 4.41)	0.85	-0.17	-3.02*	-2.99*
Team Climate Inventory – support for innovation subscale	3.12 (2.81 to 3.48)	0.71	3.25 (3.06 to 3.50)	0.77	3.37 (3.25 to 3.68)	0.77	3.50 (3.25 to 3.50)	0.78	-0.81	-2.59*	-2.22
Team Climate Inventory – team vision subscale	4.81 (4.04 to 5.04)	0.68	4.90 (4.36 to 5.31)	0.63	4.90 (4.50 to 5.50)	0.63	5.00 (4.42 to 5.61)	0.64	-1.55	-2.85*	-0.35
Team Climate Inventory – task orientation subscale	4.28 (3.48 to 5.21)	0.72	4.42 (3.71 to 5.07)	0.75	4.42 (3.78 to 5.28)	0.75	4.57 (4.14 to 5.21)	0.73	-0.21	-2.31	-2.15

* $p < 0.017$; IQR = inter quartile range; r_wg index = inter-rater reliability (James et al., 1984) within the team according to phase of project

Table 3; the pre-CAC team context category themes

Main category theme	Frequency of the main category theme (N=7)	Example evidence
Clinically entrenched	7	*It's easy to get sucked into doing things like they have been* done already (staff 6).
Lack of support	7	I have the odd bit of support from the team from *work I'm close to and I'm just trying to work on the management structure to try* give me the support that was agreed, which in my opinion has not been forthcoming (staff 1).
Feeling confused	6	That the more complex the client, the more people involved in their care, planning what happens with them and very often I feel confused (staff 7).
Difficult relationships with clients	5	*I don't have excellent relationships with all of them; I think they fluctuate don't they? I think at the moment there are a couple of* clients who are disengaging from me (staff 5).
High responsibility	5	*Although you don't think about it on a da*y-to-day basis, I often think if something went wrong, it would be my neck on the block (staff 4).

Little time for reflection	4	*I don't have* time to think about the subtle things that are going on in the relationship at work (staff 4).

Table 4; type and frequency of changes made to clinical approach

Main category theme = change in clinical approach; sub-categories	**Frequency of sub-category theme (N=8)**	**Example evidence**
New insight	6	Well I did like sitting down and doing the formulation, I found it really useful. It was good to be able to look at the case from a *different perspective altogether from a point of view I wouldn't* normally use. So it was quite insightful you know (staff 7).
Increased awareness of patients perspective	6	I could think more about a particular client and where he was coming from (staff 7).
More direction in clinical work	5	It has made visits more purposeful as I am achieving quite a few objectives (staff 5).
Behaving and thinking differently	5	Without doing what we did, the formulation, I would have been *tempted to pull out and let someone else step in, as that's what I* would have thought were the right things to do (staff 2).

Table 5; type and frequency of changes to teamwork

Main category theme = changes to the team; sub-categories	**Frequency of the sub-category theme (N=8)**	**Example evidence**
Enhanced sharing of clinical information	8	It has influenced my practice, not only for my clients but for the *other clients in the team that I didn't know about* (staff 3).
Increased team cohesion	8	I think it has helped us work better together and made us think about our approach a bit differently (staff 2).
Better understanding of team caseload	7	Because we have talked about them in that session, you might *have to go and see them on a visit and you can see what's* going off a bit better, rather than someone just telling you. You can, well I remember what the formulation was (staff 2).
More consistent approach	6	*That's what it's about really, getting other people to see what she (client) is coming from. So when I'm off all hell doesn't let* loose (staff 3).
Increased communication	5	I think supervision sessions have been really useful, as they have got people communicating better (staff 1).
Better care of colleagues	5	We look after each other more I think, whereas before people just had their caseload and someone was just a name on a list. I

		think it's made us work better together, support each other better and understand what's going off with each other (staff 2).