A randomized controlled trial of consensus-based child abuse case management

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Abstract

Objective: This study evaluates the effects of expert-assisted child abuse and neglect case management in the German child welfare and healthcare system as perceived by the case workers themselves.

Methods: Case workers with different professions (social workers, counselors, clinic-based and office-based psychotherapists, and physicians) participated in the study. They were responsible for 80 child protection cases which were enrolled for the study and randomly assigned either to expert-assisted case management or to case management as usual. The sample represented a broad range of child protection problems with alleged or confirmed physical abuse, sexual abuse, emotional abuse and/or neglect. The victims were between 0 and 18 years of age. The intervention group received two to six case review sessions provided by child protection experts from outside of the case workers’ own institution within 6 months after referral of the case. The case workers’ satisfaction with the perceived degree of child protection, their level of certainty in the process of investigation, risk assessment and intervention planning, the quality of inter-institutional communication, and the involvement of children and families were evaluated.

Results: Overall, only few between-group differences indicated effects of the intervention program. There was a statistical tendency toward more satisfaction with the perceived degree of child protection in the intervention group. Certainty in the estimation of suspected child abuse decreased significantly in the intervention group, compared with the control group, whereas certainty with respect to intervention planning increased. There were no group differences in the estimation of inter-institutional communication. Case workers in the intervention reported significantly fewer legal prosecutions of the perpetrators than case workers without expert assistance. However, the involvement of children in planning the interventions was significantly lower in the intervention group.

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Conclusions: Expert-assisted case management may change the case workers’ perception of the evidence for abuse and guide their interventions to provide child protection. Modifications of the method should consider improved participation of the child.
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Keywords: Case management; Child protection; Censensus-based intervention; Randomized controlled trial; Risk assessment

Introduction

Case management in child protective services is a process of stepwise decision making that requires complex cognitive, social and emotional abilities, comprehensive knowledge, and multiple specific skills on the part of the child protection worker (Baird & Rycus, 2004; Cheung, Stevenson, & Leung, 1991; Murphy-Berman, 1994). Decisions about interventions on behalf of abused children weigh heavily when considering such consequences as physical safety, emotional stability, nurturance, familial/sibling relationships, and ultimately, staying alive (Hurst & Lewin, 1993). The difficulties associated with making accurate assessments of present risks and future dangers are manifold. A complex prognostic procedure taking into account multiple risk factors, such as developmental timing, severity, subtype, and additional dimensions of maltreatment has to be undertaken by child protective workers (Manly, 2005). Many case workers feel overwhelmed by these tasks and request assistance.

Two types of risk assessment systems have been described (Baird & Wagner, 2000): actuarial-based decisions that are empirically supported by checklists, screening tools, or scales of known risk factors (for example Coohey, 2003; Leschied, Chiodo, Whitehead, Hurley, & Marshall, 2003; Leslie & O’Connor, 2002; Meddin, 1985) and consensus-based structured decisions that require comprehensive communication and case discussion between professionals with expertise in child protection (for example Armbruster, 2000; Benbenishty & Chen, 2003; Kovitz, Dougan, Riese, & Brummitt, 1984). Multidisciplinary child protection teams or inter-institutional collaboration with shared professional responsibility for diagnosis, case management, and treatment are considered especially capable of providing more appropriate investigations and interventions. However, difficulties in team functioning or inter-institutional cooperation may limit the effectiveness of child protection (Kelley, 1990; Kelly & Milner, 1996; Kovitz et al., 1984). For example, an Australian study (Darlington, Feeney, & Rixon, 2005) recently described potential barriers in interagency collaboration between child protection and mental health services. Moreover, it is known that professional group membership accounts for different patterns of prioritizing and using information about out-of-home placements following instances of child abuse (Britner & Mossler, 2002).

In their recent review on interventions for child abuse, Carter, Bannon, Limbert, Doherty, and Barlow (2006) concluded that there is some evidence that procedural changes, such as checklists and structured protocols improve documentation and awareness by healthcare professionals. However, there is not sufficient evidence for the effectiveness of various risk assessment and case management procedures (Carter et al., 2006; Zeman, 2005), and further evaluation with consideration of the specific social, legal, and institutional circumstances of each national child welfare system is urgently needed (Jagannathan & Camasso, 1996; Lalayants & Epstein, 2005; Sundell & Vinnerljung, 2004).

In Germany there are no specialized child protective services available in every community. According to German child and youth welfare law, the general community-based social welfare agencies for chil-
Children and adolescents are responsible for providing child protection; however, different professions and institutions may be involved in the investigation and intervention. Cases of children with alleged or confirmed abuse and neglect may be processed either within the child welfare system, the legal system, or the healthcare system. Coordination between different systems is necessary, but interdisciplinary coordination and networking between different institutions and professionals has been described as dysfunctional by Fegert, Berger, Klopfer, Lehmkuhl, and Lehmkuhl (2001) and Klopfer et al. (1999). The former study demonstrated the need for the training of appropriate diagnosis and intervention procedures in child maltreatment and for the implementation of empirically based guidelines in clinical and child welfare practice. Also Kirchhofer (1996) described the need for more training and case-specific supervision for professionals dealing with alleged cases of sexual child abuse.

It is important to consider the case workers’ perspective, because their evaluation of the case is one crucial perspective related to achieving child protection. The case workers’ satisfaction with the perceived degree of child protection after intervention, their self-perceived certainty with case evaluation, risk assessment and intervention planning, their evaluation of the communication with other institutions that are involved in the case, and the involvement of the children and parents can be seen as relevant indicators of good practice.

Considering the specific circumstances of the German system, we performed this pilot study that was designed to assist child protection case workers. Following the suggestion of Berliner (2005) to provide more evidence for the effectiveness of child welfare interventions by rigorous methodical standards, we used a randomized controlled study design to examine the effects of a consensus-based model of case review and counseling by child protection experts from outside of the institution compared to case management as usual. This intervention model is in accordance with the proposal of Pollak and Levy (1989) to identify community child abuse experts for consultation, because practitioners might be handicapped by their own countertransference to report and handle child maltreatment cases appropriately. The case workers’ decisions in the process of investigation may be triggered by suggestive factors such as the severity of an alleged maltreatment. To reduce the impact of these suggestions and to enhance evidence-based decisions of the case workers, a system of case reviews is needed. The inclusion of experts from outside their own institution combines elements of training and case-supervision provided for the case workers who might be overloaded with the complexity and difficulties of their cases.

Hypotheses

Our hypotheses were that compared to intra-institutional case management as usual, expert-assisted case management would improve

1. the case workers’ satisfaction with the degree to which they felt the child was protected 6 months after referral;
2. the case workers’ certainty of decision making with respect to
   (a) validation of the child abuse and/or neglect,
   (b) estimating the consequences of the abuse/neglect for the child,
   (c) risk assessment, and
   (d) intervention planning;
3. the involvement of different institutions responsible for the security of the child;
4. the quality of inter-disciplinary communication as perceived by the case worker, and
Methods

Participants

Social workers, physicians, psychologists, psychotherapists, and counselors from 12 different institutions in the German state of Baden-Wuerttemberg participated in the study. All participants were responsible for child protection cases in their institutions that belonged either to the child welfare system or to the healthcare system. The institutions agreed to report each newly referred suspected or confirmed child protection case anonymously to the study center during the recruitment phase, regardless of how severe the child abuse or child neglect problem was estimated to be. A case was considered confirmed if there remained no doubts that abuse and/or neglect had happened according to the victim’s own report and/or after a physician or witness from the child’s environment had described clear indication for maltreatment of the child, for example by reporting significant physical findings. The inclusion of alleged cases was due to the frequent difficulties in evaluating the evidence for abuse or neglect and due to the fact that no difference has been found with regard to behavioral and developmental outcome between unfounded and indicated cases (Manly, 2005). Recruitment was conducted between December 2003 and December 2004. The participating case workers agreed on being randomly assigned either to the intervention group or to the control group. Their informed consent was acquired according to the principles of the Ulm University’s IRB. The responsibility for the case management remained ultimately at the reporting institution.

A consecutive series of 80 newly recognized or suspected cases of child abuse or neglect was enrolled in the study during the recruitment period of 13 months. This sample size was considered sufficient to detect relevant between-group differences in the outcome variables. Because non-standardized, self-constructed outcome measures were used for evaluation, no statistical power analysis could be performed in advance for a more accurate estimation of sample size. The majority of the cases (n = 58) came from the child welfare system, and 22 cases were reported by clinicians from the health care system: two clinics for child and adolescent psychiatry, one office-based child psychiatrist and one pediatrician. No case had to be excluded from the study, and all cases could be followed up at 6 months post-referral.

Design

After the study center had received a case report, each case was randomly assigned either to the intervention group or to the control group. Thus, the case workers were blind to the assignment of their case to the intervention or control group when they filled in the case report form. Assignment was done by the study coordinator, who was not involved in the intervention, according to the sequence of arriving case reports using computer-generated random lists. Due to the randomization procedure case workers with more than one case could have one case in the intervention group and another case in the control condition.

Evaluation of intra-family child maltreatment and planning interventions (for example, out of home placement) are often more challenging compared to cases with extra-family perpetrators. To avoid a bias
with regard to the type of child abuse problem, we used two computer-generated random lists, one for intra-family child abuse and/or neglect and the second one for extra-family cases.

The follow-up assessment was done after 6 months in both groups. Due to the self-report perspective, the responding case workers could not be blind to the group assignment at the follow-up assessment. All data that would allow the recognition of the identity of the case were collected anonymously to avoid violations of data protection laws.

**Description of the intervention: expert-assisted case management.** In the intervention condition, the case workers were contacted by a child protection expert in order to hold an initial case conference within 4 weeks of reporting the case. In urgent cases, the first case conference was held within a few days. The time of the case conference was about 90 minutes, and children and their caregivers did not participate. A minimum of one and a maximum of five follow-up case conferences were performed within the intervention period of 6 months (mean frequency 2.6 sessions; mean duration of case management 3.1 months), and other professionals who were working with the same case could be involved in the follow-up sessions if considered necessary by the expert and/or the case worker. The intervention could be finished after the second session if there was a consensus between the expert and the case worker that no further session was needed, and the case could be closed.

The intervention was performed by experts with outstanding practical expertise in child protection. These experts had different professions and affiliations: office-based and clinic-based physicians, psychologists, child psychotherapists, and social workers. They had experience working many years within the child welfare system, and they were selected due to their membership in multi-professional child protection working groups at the community level. They were continuously trained in the method of assisted case management by the research team, including legal aspects and clinical guidelines for diagnosis and intervention planning. Child protection experts encouraged the case workers to involve other professionals in the case conferences if necessary. Written protocols completed at the end of each session recorded the definition of case-specific goals concerning further investigation, diagnosis or intervention, and an evaluation of goal attainment was recorded at the following case conference.

**Description of the control condition.** Case management as usual was defined by the standards of each institution. Some institutions performed internal case conferences, but not all. The inclusion of institutions with heterogeneous standards in the practice of child protection cases appeared adequate, because there are no formal guidelines for child protection practice and for training of child protection case workers in Germany and the heterogeneous situation reflects practice as usual. All institutions that decided to participate in the study were interested in improvements of their child protection standards. Thus, the main differences between the intervention and the control conditions were the review of the case by an external counselor with special expertise in child protection issues and the definition of explicit goals for achieving child protection.

**Time investment for case management.** For face-to-face contacts, the median time investment reported by the case workers in the intervention group was 6.0 hours (mean 11.6, SD 12.6, range 1.5–60 hours), and the median time investment reported by case workers in the control group was 6.5 hours (mean 10.2, SD 10.1, range .5–40 hours). For indirect case management (without face-to-face contact) the median time invested by the case workers in the intervention group was 4.8 hours on each case (mean 8.8, SD 9.9, range 1.3–50 hours), compared to a median of 6.0 hours (mean 11.3, SD 17.0, range .5–100 hours) spent by
the case workers in the control group. These group differences of time consumption were not statistically significant, so no differences of the case workers’ effort between the both conditions (expert-assisted case management vs. case management as usual) have to be considered.

**Measures**

The assessment was based on two instruments that were developed by the authors and completed by the case workers: the *case report form* and the *evaluation form*. A written manual provided the participating case workers with detailed instructions, definitions of categories, and anchor examples. This procedure was applied to improve the reliability of the case workers’ responses.

**Case report form.** In the *case report form* the case workers provided basic socio-demographic data (e.g., age and gender of the child) and information about the case characteristics, such as the relation between the perpetrator and the child or the history of maltreatment. Additionally, the following variables were assessed: The *classification of the type of maltreatment* contained the following domains: description of the child protection problem as neglect, physical and/or sexual abuse (with multiple responses possible); estimation of the severity of the maltreatment incident on a 10-point rating scale, taking into account the amount of risk or harm engendered by the perpetrator’s actions (0 = absence of recognizable harm; 10 = severe abuse with danger of death) (Barnett, Manly, & Cicchetti, 1993). The *case worker’s level of certainty* in validating the abuse or neglect, estimating the consequences of the child neglect and/or abuse for the child, assessing the present and future risks for the child, and planning appropriate interventions was each assessed on a 5-point rating scale from 1 = not at all certain to 5 = very certain at both measurement time points. On these rating scales, all scale points were used by the respondents, and a normal distribution of the ratings of the severity of the case workers’ certainty ratings could be demonstrated. Correlation analyses showed that the case workers’ certainty in validating the case, in estimating the consequences for the child, and in risk assessment were moderately correlated (between \( r = .53 \) and \( .67 \) at baseline assessment and between \( .43 \) and \( .57 \) at follow-up assessment, but certainty of intervention planning was not correlated with the other certainty dimensions. These results indicated sufficient multi-dimensionality of certainty, and therefore separate analyses of the certainty dimensions were performed.

**Evaluation form (after 6 months).** In the *evaluation form* the case workers’ certainty was re-assessed 6 months post-referral using the same format of questions as in the case report form. Additionally, the following variables were measured in the *evaluation form*.

The case workers provided information whether the case was ongoing or closed 6 months after referral. The degree of the child protection that was realized at this time point as perceived by the case worker was estimated (5-point rating scale from 1 = no protection at all to 5 = definite protection). Additionally, the case workers’ satisfaction with the degree to which they felt the child was protected at the time of their 6-month follow-up assessment was assessed by a 3-point rating scale (very satisfied, partially satisfied, and totally dissatisfied).

A checklist with different responses of institutional interventions, such as examination of the child by a physician, involvement of a child welfare agency, out-of-home placement, or legal prosecution of the perpetrator was provided at 6-month follow-up, and the case workers indicated which interventions had involved the child and his/her family. The quality of inter-institutional communication as perceived by the
case worker was assessed with regard to its functionality (e.g., was important information exchanged?), clarity of case responsibility (agreement on explicit tasks of the different professionals/institutions that were involved in the case), and effectiveness (did the case workers believe that the exchange of information and the coordinated interventions improved the child protection?). For these variables, 5-point rating scales from 1 = very good/definitely to 5 = very bad/not at all were provided.

The case workers reported on the involvement of the child and the non-offending caregiver in the process of diagnosis and intervention planning regarding seven different aspects: Did the case worker speak directly with the child? Was the child informed on the role of the child protection worker? Did the child receive information on his/her legal rights, on the ongoing intervention, and on the consequences of the planned intervention? Were the parents/legal guardians involved in the communication, and were they confronted with the alleged child abuse and/or neglect?

*Goal attainment scaling (intervention group only).* Information on case-specific goal attainment was taken from the protocols of the case conferences. Goal definition and goal attainment scaling was not available from the control group. In the intervention group, the process of case management was documented by prospective case-specific goal attainment scaling: At the end of each case conference, the child protection expert and the case worker agreed on the most important goals for the future management of the case. The meanings and operational definitions of one to three most important case-specific goals to be attained by the case worker were documented verbatim. Each goal was assessed in the subsequent case conference by the expert as not attained, partly attained, or completely attained.

*Statistical analyses*

Frequencies, means, and standard deviations of main variables were determined at the baseline assessment. The success of the randomization procedure was tested by *t* tests and *χ*² tests involving the main socio-demographic variables and the baseline values of the main outcome variables. Between-group differences of the categorical outcome variables at the follow-up assessment were examined by *χ*² tests. Repeated measures analyses of variance (*ANOVA*s) involving the continuous variables were calculated for two time points and two groups to examine the effects of group and time and the interaction effects of group × time. To explore the effects of the perceived severity of the child abuse or neglect on the level of certainty of the case workers, subgroup analyses for cases with moderate (<5 on the 0–10 scale) or severe abuse and/or neglect (≥5 on the 0–10 scale) were carried out. Considering the relatively small sample size, a significance level of *α* = .05 was chosen for all statistical tests to reduce the risk of *α* errors, and *p* values between .05 and .10 were considered as statistical trend. All statistical analyses were performed by using the software package SYSTAT 10.2®.

*Results*

The characteristics of the sample as reported at baseline are displayed in Table 1. It can be seen that a wide range of child abuse and neglect was represented; the co-occurrence of different types of abuse and neglect was reported in about 40% of all cases. No significant differences between the intervention group and the control group were found in any of the variables shown in Table 1, indicating comparability of the groups.
Table 1
Description of the cases enrolled in the study (at T1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention group (n = 42)</th>
<th>Control group (n = 38)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years: mean (SD)</td>
<td>9.3 (4.4)</td>
<td>8.7 (5.0)</td>
</tr>
<tr>
<td>Gender: female</td>
<td>45%</td>
<td>53%</td>
</tr>
<tr>
<td>Perpetrator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intra-family</td>
<td>79%</td>
<td>92%</td>
</tr>
<tr>
<td>Extra-family</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>Unknown</td>
<td>7%</td>
<td>3%</td>
</tr>
<tr>
<td>Perceived severity: mean (SD), scale 0–10</td>
<td>4.7 (2.5)</td>
<td>3.8 (3.1)</td>
</tr>
<tr>
<td>Perceived risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>16%</td>
<td>26%</td>
</tr>
<tr>
<td>Sub-acute</td>
<td>22%</td>
<td>26%</td>
</tr>
<tr>
<td>Acute</td>
<td>62%</td>
<td>48%</td>
</tr>
<tr>
<td>Type of problemb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical abuseb</td>
<td>43%</td>
<td>50%</td>
</tr>
<tr>
<td>Emotional abuseb</td>
<td>29%</td>
<td>26%</td>
</tr>
<tr>
<td>Neglectb</td>
<td>55%</td>
<td>50%</td>
</tr>
<tr>
<td>Sexual abuseb</td>
<td>43%</td>
<td>42%</td>
</tr>
<tr>
<td>Combined</td>
<td>45%</td>
<td>42%</td>
</tr>
<tr>
<td>Perceived consequences of abuse/neglectb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical injury</td>
<td>10%</td>
<td>32%</td>
</tr>
<tr>
<td>Developmental delay</td>
<td>33%</td>
<td>24%</td>
</tr>
<tr>
<td>Behavioral symptoms</td>
<td>62%</td>
<td>45%</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>36%</td>
<td>32%</td>
</tr>
<tr>
<td>PTSD</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Level of certainty of validation as child abuse/neglect: mean (SD) (scale 1–5)</td>
<td>2.2 (1.1)</td>
<td>2.2 (.9)</td>
</tr>
<tr>
<td>Level of certainty of consequences for the child (scale 1–5)</td>
<td>2.3 (1.1)</td>
<td>2.5 (.9)</td>
</tr>
<tr>
<td>Level of certainty of risk assessment (scale 1–5)</td>
<td>2.8 (1.0)</td>
<td>2.6 (.9)</td>
</tr>
<tr>
<td>Level of certainty with respect to intervention planning (scale 1–5)</td>
<td>2.6 (.9)</td>
<td>2.4 (.7)</td>
</tr>
</tbody>
</table>

a Multiple types included
b Missing data excluded.

Case workers’ evaluation of child protection

Table 2 shows the case workers’ ratings at the 6-month follow-up assessment. There were no significant between-group differences in risk assessment. There was a statistical trend towards more satisfaction with the effectiveness of the interventions in the expert-assisted group (p = .082). Sixty-nine percent of case workers’ in the intervention group versus 50% in the control group regarded the interventions as sufficient. There was no significant group difference of the proportion of closed cases.
Table 2
Assessment of risk, sufficiency of intervention, and proportion of closed cases as reported by the case workers at follow-up

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention group (n = 42) (%)</th>
<th>Control group (n = 38) (%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk assessment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>7</td>
<td>13</td>
<td>ns</td>
</tr>
<tr>
<td>Sub-acute</td>
<td>57</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>No risk</td>
<td>39</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Interventions considered sufficient</td>
<td>69</td>
<td>50</td>
<td>.082</td>
</tr>
<tr>
<td>Case closed</td>
<td>43</td>
<td>39</td>
<td>ns</td>
</tr>
</tbody>
</table>

Case workers’ level of certainty in decision making

The distribution of certainty ratings at baseline revealed that most of the professionals felt certain or very certain in both groups. As can be seen in Table 3, no significant group effects occurred on any of the four dimensions of decision making. A significant time effect indicated increasing certainty of intervention planning across both groups. Moreover, there was a tendency towards increasing certainty of the validation of abuse/neglect with time across both groups. The interaction effect of time and group indicated a tendency towards a superiority of the intervention group in intervention planning compared with the control group.

Decision making might be more difficult in severe cases of child abuse/neglect, and the impact of the intervention may have had differential effects depending on the perceived severity. Therefore, another series of ANOVAs was performed only for those cases which had initially been reported as moderate or severe (≥5 on the 0–10 severity rating scale) with regard to the potential negative consequences for the child (Table 4). Although there was a loss of statistical power due to the reduced number of cases (23 cases in the intervention group and 16 cases in the control group), these analyses revealed a significant interaction effect of time and group on the certainty in estimating the consequences of abuse/neglect for the child. Whereas the certainty in the control group increased from an already high initial level at baseline, the certainty in the intervention group decreased. A similar effect occurred for certainty in validating the child abuse/neglect problem, although this effect failed to reach statistical significance.

Involvement of different institutions

No significant group differences were found with regard to most of the different involvement of other institutions: consultation of a general practitioner (intervention group 29%, control group 21%); consultation of a pediatrician or child psychiatrist (52% vs. 47%); consultation of the child welfare agency (71% vs. 66%); consultation of a child guidance clinic (12% vs. 26%); out-of-home placement of the child (17% vs. 18%); consultation of a court concerning decisions on guardianship (12% vs. 13%). However, the case workers in the control group reported more frequently that legal prosecution of the perpetrator had been initiated (32% cases vs. only 10% in the intervention group; p < .01).

Inter-institutional communication

After 6 months the child protection workers rated their satisfaction with the inter-institutional communication on 5-point scales. Across both groups, 63% were satisfied or very satisfied, 27% considered the
Table 3
Effects of intervention on the case workers’ self-assessed certainty of case evaluation and management (N=80)\textsuperscript{a}

<table>
<thead>
<tr>
<th>Certainty of . . .</th>
<th>T1</th>
<th>T2</th>
<th>Main effect: group</th>
<th>Main effect: time</th>
<th>Interaction: group \times time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validation of abuse/neglect</td>
<td>Intervention</td>
<td>2.24 (1.07)</td>
<td>Control</td>
<td>2.21 (.91)</td>
<td>F&lt;1</td>
</tr>
<tr>
<td></td>
<td>Estimation of consequences for the child</td>
<td>Intervention</td>
<td>2.47 (1.06)</td>
<td>Control</td>
<td>2.53 (.92)</td>
</tr>
<tr>
<td>Risk assessment</td>
<td>Intervention</td>
<td>2.78 (1.03)</td>
<td>Control</td>
<td>2.63 (.88)</td>
<td>F&lt;1</td>
</tr>
<tr>
<td>Intervention planning</td>
<td>Intervention</td>
<td>2.64 (.87)</td>
<td>Control</td>
<td>2.39 (.72)</td>
<td>F&lt;1</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Repeated measures analyses of variance (ANOVAs) for two groups (intervention group: n=42, control group: n=38) and two assessments regarding the level of certainty (5-point rating scales between 1 = very certain and 5 = very uncertain): significant interaction of group \times time indicate specific effects of intervention.
Table 4
Effects of intervention on the case workers’ self-assessed certainty of case evaluation and management, only cases with high perceived severity (n = 39)\(a\)

<table>
<thead>
<tr>
<th>Certainty of ...</th>
<th>T1 Mean (SD)</th>
<th>T1 Mean (SD)</th>
<th>T2 Mean (SD)</th>
<th>T2 Mean (SD)</th>
<th>Main effect: group</th>
<th>Main effect: time</th>
<th>Interaction: group × time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validation of abuse/neglect</td>
<td>Intervention 1.74 (.75)</td>
<td>Control 1.94 (.77)</td>
<td>Intervention 2.09 (.79)</td>
<td>Control 1.69 (.79)</td>
<td>&lt;1</td>
<td>ns</td>
<td>3.87</td>
</tr>
<tr>
<td>Estimation of consequences for the child</td>
<td>Intervention 2.09 (1.00)</td>
<td>Control 2.19 (0.75)</td>
<td>Intervention 2.57 (.95)</td>
<td>Control 1.94 (.85)</td>
<td>1.04</td>
<td>ns</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Risk assessment</td>
<td>Intervention 2.44 (.95)</td>
<td>Control 2.31 (0.60)</td>
<td>Intervention 2.65 (.78)</td>
<td>Control 2.31 (.79)</td>
<td>1.39</td>
<td>ns</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Intervention planning</td>
<td>Intervention 2.64 (.85)</td>
<td>Control 2.50 (0.82)</td>
<td>Intervention 2.26 (.45)</td>
<td>Control 2.50 (1.16)</td>
<td>&lt;1</td>
<td>ns</td>
<td>1.42</td>
</tr>
</tbody>
</table>

\(a\) Repeated measures analyses of variance (ANOVAs) for two groups and two assessments regarding the level of certainty (scale format see above), only cases with medium or high severity (i.e., ≥ 5 on the 0–10 severity scale; intervention group: n = 23, control group: n = 16): significant interaction of group × time indicate specific effects of intervention.
communication sufficient, and 10% were dissatisfied with the inter-institutional communication. There were no group differences. The participants in the intervention group expressed significantly more frequently the wish to clarify specific responsibility among the different professionals involved in the case (19% vs. 5%, \( p < .05 \)).

**Involvement of children and families**

Seven different aspects which indicated the involvement of children and legal guardians in the process of diagnosis and intervention were rated at the 6-months follow-up assessment. Group comparisons revealed no significant differences in five of these aspects. However, the participants reported that the children in the intervention group were provided with legal information significantly less frequently (17% vs. 45%, \( p = .02 \)) and that information about the probable consequences of the planned intervention was withheld significantly more frequently (31% vs. 11%, \( p = .04 \)), compared with the children in the control group.

**Goal attainment in the intervention group**

The protocols of the follow-up intervention sessions were available from 40 cases for analysis of case-specific goal attainment. The goals had been completely attained according to the protocols of the expert case reviewer in 62%, partly attained in 31%, and in one case (2.4%) the goal achievement was unsuccessful.

**Discussion**

This study evaluated the effects of expert-assisted child protection case management compared with case management as usual within the German health care and child welfare system. The results indicate no consistent support for our hypothesis that case workers perceived the intervention as effective.

The statistical trend towards more satisfaction of the experimental group with the degree of child protection 6 months post-referral should not be over-estimated, because the case workers were not blind to the intervention. The analysis of the specific goal attainment in the intervention group demonstrated that most of the goals had been reached during the intervention time, at least partially. This finding is consistent with the positive evaluation of ad hoc multi-agency case conferences by former conference participants (Jones et al., 1998). However, in our study the majority of cases in both groups were not closed after 6 months, indicating the need for further professional confirmation of the children’s well-being.

Interesting differential results were obtained with regard to the case workers’ certainty in decision making. Considering register-based studies, demonstrating that up to two of three reported child maltreatment cases remains unconfirmed (Reiniger, Robison, & McHugh, 1995; Trocmé & Bala, 2005), it is crucial to prevent false positive diagnoses and to collect sufficient data on the evidence (Faller, 2005). It is remarkable that in our study already at baseline, shortly after referral of the case, most of the participating case workers reported being certain or very certain in validating the child abuse/neglect. Possibly some of the case workers overestimated the certainty of diagnosis. There was a tendency towards increasing subjective certainty in evaluating the case between the first and the follow-up assessment. However, with regard to those cases perceived as moderate or severe abuse and/or neglect, the initial subjective certainty
decreased in the intervention group, whereas the participants in the control group reported an increase in their subjective certainty. Thus, the perceived severity of child abuse/neglect seems to moderate the impact of expert consultation. It may be that some case workers overestimate the evidence for child abuse/neglect in cases with severe allegations, and this bias might be reduced by expert-assisted case management.

A similar effect was demonstrated for the evaluation of the potential harm for the child due to abuse and/or neglect. Case workers in the experimental group reported a decrease in their certainty in evaluating the negative consequences for the child, whereas case workers in the control group became even more certain. Considering the lack of specificity of many symptoms, the decrease of certainty in the intervention group may indicate a more cautious interpretation of these non-specific symptoms.

The case workers’ certainty in risk assessment neither changed with time nor was it significantly improved by the intervention. This failure of the intervention may be due to the fact that most of the children remained in a potentially dangerous environment, and the case workers’ insight into the children’s situation was often limited. Other methods such as validated risk inventories (Leschied et al., 2003) might be superior in improving the case workers’ certainty in risk assessment. However, a statistical tendency indicated that the expert-assisted case workers might have improved more with respect to certainty of their intervention planning than the case workers in the control group. This finding is consistent with a study that described positive effects of intensive family preservation services on the viability of management plans by professionals working with child protection investigators (Walton, 1997).

Most of the procedures aimed at providing child protection did not differ between the intervention group and the control group, except less frequent legal prosecutions of the offenders in the intervention group. This difference may be due to a policy of “protection first—prosecution second” supported by the experts. The priority of providing safety and support for the child by the means of thorough diagnosis and intervention planning has possibly prevented some premature notification of the legal authorities responsible for the prosecution of perpetrators.

The comparison of the involvement of children revealed some unexpected adverse effects of the intervention. Compared with the control group, the children and adolescents in the intervention group were less frequently informed about their legal rights, and they were not as often informed about the consequences of the interventions. Performing case conferences without the child and/or the caregivers may have the side effect of excluding the child/adolescent from decision making during the case management. Other methods of child protection planning focusing on participation, such as family group conferences, can be considered superior in terms of family involvement (Ban & Swain, 1994; Gallagher & Jasper, 2003).

In summary, the results of this study have the following implications: Expert-assisted case management is not generally effective according to the case workers reports. However, for alleged severe cases without clear evidence that abuse and/or neglect had happened, this intervention might be helpful. Future studies should integrate more sophisticated methods for the evaluation of the effectiveness of interventions for child abuse and/or neglect, including multi-informant strategies.

**Limitations**

Several limitations of this study have to be considered. Case workers with more than one case could be randomly involved both in the intervention group and the control group, consequently reducing between-group differences due to a transfer effect. Case workers were not blind for the group, and therefore their ratings at the 6-month follow-up may have been biased. Some ceiling effects seem to have occurred
on the self-constructed scales, and therefore it was difficult to find differential effects. The relatively small sample size did not allow the detection of smaller effects or further subgroup-analyses because of the limited statistical power. Multiple variables were analyzed in spite of the small sample size. Thus a heightened risk of $\alpha$-errors has been taken into account when considering possible minor effects of the intervention.

Moreover, a self-selection bias in our study sample has to be considered, possibly leading to a pre-selection of case workers and institutions who were more interested in child protection than those professionals who did not participate. It can be assumed that the participants in this study on average were more trained and highly motivated for child protection issues than non-participants. Further intervention studies should try to include more non-experienced case workers who might have more to gain from expert-assisted case management. We cannot estimate the proportion of child protection cases that has been referred to our project, compared to all indicated cases within the time period of the research project, because referrals were discretionary and no official child maltreatment registry is available in Germany. Future studies should use methods of monitoring the compliance of the participants with non-selective recruitment strategies. However, as a consequence of the randomization the possible selection bias in this study can be assumed to have influenced both groups. Finally, it has to be considered that a generalization of our findings to different systems of health care and child welfare is not possible. Therefore, as proposed by Sundell and Vinnerljung (2004), the findings of intervention studies for child abuse should be replicated under the conditions of different macro-systems of child protection.

**Conclusions**

The results show limited evidence of effectiveness of expert-assisted case management at 6 months. However, the method has the potential for a thorough case review and for supporting the case workers in the process of decision making. Modifications of the program such as improved inclusion of children/adolescents should be considered. This study demonstrates the feasibility of randomized controlled trials (RCTs) in the heterogeneous real-world field of child welfare, as proposed by Berliner (2005). More RCTs of child protection interventions with larger samples, in different settings, and with the inclusion of more objective and multi-informant outcome measures are necessary.

**References**


