The Bucharest Early Intervention Project

Case Study in the Ethics of Mental Health Research

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Abstract: The Bucharest Early Intervention Project is the first ever randomized controlled trial of foster care as an alternative to institutional care for young abandoned children. This article examines ethical issues in the conceptualization and implementation of the study, which involved American investigators conducting research in another country, as well as vulnerable participants. We organize the discussion of ethical questions about the study around several key issues. These include the nature and location of the vulnerable study population, the social value of conducting the study, the risks and benefits to participants of participating in the study, and post-trial obligations of the investigators. In discussing how these questions were addressed as the study was designed and after it was initiated, we describe our attempts to wed sound scientific practices with meaningful ethical protections for participants.

Key Words: Randomized clinical trial, institutional rearing, orphanned and vulnerable children.

THE RESEARCH PROJECT

The Bucharest Early Intervention Project (BEIP) was a randomized controlled trial of foster care as an alternative to institutional care for young children conducted between 2000 and 2005 (Zeanah et al., 2003). The purpose of the study was to determine whether removing young children from institutional care and placing them in foster care would enhance their developmental outcomes as assessed through brain and behavioral functioning. Comprehensive developmental follow-up assessments of brain and behavioral functioning in children were completed when they became 8 years old and are under way as they turn 12 years old. Three United States investigators served as Principal Investigators (PIs), and they partnered with a non-governmental agency in Romania to complete assessments of infants and children, create a foster care network, and develop an administrative structure that could support study personnel for the duration of the study. The scientific and humanitarian components of the study were supported largely by the John D. and Catherine T. MacArthur Foundation through the Research Network on "Early Experience and Brain Development," chaired by Charles A. Nelson, PhD.

The chief goal in designing the intervention was to implement high-quality foster care for young abandoned children that was affordable, culturally sensitive, and replicable in other settings. There are compelling data substantiating that the quality of child-parent relationships in the early years predict important outcomes in later childhood and beyond. The foster care model has been described in detail elsewhere (Nelson et al., 2007, supplemental online material; Smyke et al., 2009), but it involved training three project social workers to support and monitor 56 foster homes. They were trained to encourage the enhancement of social relationships between the foster parents and the child and to oversee the quality of care in the foster home environment. These social workers received weekly consultation from experienced psychologists in the United States throughout the life of the project to help them respond effectively to foster parents and the children they cared for.

A total of 136 children between 6 and 31 months old who were being raised in all of the six institutions for young children in Bucharest, Romania, participated in the study. They were assessed comprehensively at baseline on a variety of cognitive, language, social, and psychiatric measures, as well as measures of brain functioning (Zeanah et al., 2003). These measures included psychological tests, interactional assessments between caregiver and child, interactional assessments between examiner and child, physical measurements such as height and weight, and brain electrical activity measured through electroencephalograms and event-related responses. After baseline assessments, 68 children were randomly assigned to care as usual (continued institutional care), and 68 others, to placement into the foster family homes. There were no significant differences between those who would go to foster care and those who would experience care as usual (continued institutional care) before randomization on any of the measures assessed at baseline (Smyke et al., 2007).

In addition, 72 children with no history of institutional rearing were recruited from pediatric clinics in Bucharest to serve as a comparison group for the children with histories of institutional rearing. This group was necessary to include because the investigation involved measures that had not been used previously in Romania, and their performance allowed us to determine how typically developing Romanian children performed in relation with those who had experienced institutional rearing. Not surprisingly, there were large differences between the children who had been institutionalized and those who had not, but on virtually every assessment, Romanian children who had never been institutionalized performed similarly on assessments to children in the United States (Smyke et al., 2007).

Although the overall pattern of results clearly favors the children placed in foster care, the effectiveness of the intervention varied across developmental domains (Nelson et al., 2009). The results have examined the main effects of the intervention, the degree of catch-up or recovery among children with institutional rearing, and the question of the timing of enhanced environments on outcomes.

Regarding the main effects of the intervention, for most domains of development, foster care produced significant gains compared with care as usual. Furthermore, these results are probably conservative estimates of the advantages of family care versus institutional care because we used the data analytic strategy known as “intent to treat.” This type of analysis compares groups of participants based on the initial treatment intent rather than on the placement conditions the children experienced. Although, as the study continued, the care-as-usual group included children who were adopted domestically and who were returned to their biological parents and children who were placed in government-sponsored foster care, this group of children was considered for purposes of analysis as one group—randomized to remain in the institution.
Second, for most domains, the foster care children did not attain levels of functioning comparable with those of community-raised Romanian children. This suggests that foster placement made possible some but not complete recovery after early deprivation. However, it is important to remember that the children placed in institutions had many risk factors that the never-institutionalized children did not have, and this may well have contributed to their incomplete recovery.

Third, the timing of the intervention mattered for some domains but not others, compatible with sensitive periods in brain development (Fox et al., 2010). That is, for brain activity and security of attachment, children placed in foster care before 24 months had significantly better outcomes than did children placed after 24 months. On the other hand, psychiatric symptoms was reduced by placing children in foster care, but earlier or later placement did not affect results. Obviously, timing results have significant implications for policies regarding orphaned, abandoned, and maltreated children.

BACKGROUND: CARE FOR ABANDONED CHILDREN IN ROMANIA

Foster care barely existed in Romania at the time the study began. Poverty was widespread after the disastrous reign of the Romanian dictator, Nicolae Ceausescu, who had attempted to pay off all of Romania's foreign debt in the 1980s, leading to food and supply rationing. Worse, he had imposed coercive pronatalist policies on women of reproductive age, insisting that they have at least five children (Kligman, 1998). When impoverished families were forced to have children they could not afford, many of them abandoned their children to state-run institutions. In the Communist ideology in Romania, this was not stigmatized because the government suggested that the state could raise children more effectively than parents. As a result, there were tens of thousands of children being raised in state-run institutions. All of this was discovered by the Western media in 1990, months after the sudden collapse of the regime, poverty actually increased in the early 1990s, and institutionalization of children increased as well. Ten years later, when BEIP was started, Romania was still reforming the child protection structure (as they continue to today) and grappling with large numbers of institutionalized children and a steady stream of abandoned children.

In the Ceausescu era in Romania, and for many years after that, abandoned children were cared for in “Legans” (meaning cradles), that is, institutions for abandoned young children from birth to age 3 years. A rigid system of “child protection” was implemented. At age 3 years, the children were assessed by a psychiatrist and a psychologist, and based on results, they were sent either to children’s homes or to institutions for handicapped children. The former were smaller group homes with rotating staffs in which the children had some personal space and may have even attended public preschools. The latter were often large institutions with very limited resources, rotating staff, and regimented care. Handicapped children, following in the tradition of Soviet “defectology,” were considered damaged and often “irrecuperable,” and they were merely housed with no efforts at remediation made (Tobis, 2000).

There had been some limited foster care in Bucharest in the 1990s, but these homes were mostly run by international adoption agencies. Because international adoption from Romania was banned by the government in 2001, these homes no longer existed when our project began. Government foster care was made possible by legislation passed in 1997, but it was implemented in other parts of Romania much more commonly than in Bucharest at that time. Therefore, creating a foster care network involved starting without an existing infrastructure and with social workers who had no previous experience with child welfare. Ceausescu had banned social work training in 1969 on the grounds that no one had social problems that the State could not handle.

ETHICAL ISSUES

To discuss the ethical dimensions of BEIP, we begin by stating that the case involves American investigators conducting a study with an extremely vulnerable population in a country with fewer protections for human subjects than the United States. The study addressed a number of scientific and policy questions. Among the scientific questions was whether there were sensitive periods for the development of specific cognitive and social skills such that young children who were living in institutions during these age periods would benefit less from intervention than those removed from conditions of extreme deprivation and placed into foster homes before the end of this sensitive period. Among the policy questions addressed by the study was which form of care is preferable for abandoned children (institutional versus family-centered), even though there is widespread consensus among most child protection professionals about the answer to that question. In the United States, as discussed below, foster care has been the preferred form of care for more than 100 years, and the consensus is clear that family care is preferable to institutional rearing for young children.

This case study of the BEIP is organized around a series of questions about the ethical soundness of the study, drawn from the concerns outlined above. In responding to the questions, we describe how we considered and addressed each of them, either before or during the study. Many of these issues have been discussed previously, and this account will draw from those discussions (Miller, 2009; Millum and Emmanuel, 2007; Nelson et al., 2007; Wassenar, 2006; Zeanah et al., 2006a, b).

Study Population: Location

Why was the study conducted in Romania? Couldn’t the study be conducted in the United States?

For more than 100 years, United States child welfare policy has endorsed that children should be raised in families rather than in institutions and that if institutions are necessary, they should be as family-like as possible. As a result, there are few young children placed in group settings in the United States. According to data from the Child Welfare League of America (2007), less than 0.5% of children less than 3 years old in care in the United States are in group-care settings, and virtually all of these are intended to be short-term placements. Therefore, there were an insufficient number of young children in group care in the United States to make a study feasible. In addition, there is no policy debate in the United States about the best approach for abandoned children, although group care is sometimes still used (Harden, 2002).

In contrast, in Romania at the time of the onset of the BEIP study, the question of foster care versus institutional care was far from settled. In fact, the investigators were originally invited to conduct the study by the Secretary of State for Child Protection in Romania because of a debate there about the most appropriate care for abandoned children. At the time of Ceausescu’s ouster in the revolution of 1989, there were perhaps 170,000 children living in institutions in Romania (Rosapepe, 2001). Therefore, the question of how best to care for these children was a significant policy dilemma. On one side of the debate were those who argued that institutional care had been practiced for more than 100 years and that trained professional caregivers were preferable to untrained foster parents. In addition, there was deep suspicion among some about the motives of foster parents—rumors of pedophilia or child trafficking were not uncommon among the people we talked with. On the other hand, others believed that Romania needed to close their institutions and move to family-based care, as had been done in some other countries such as the
United States and the United Kingdom. Publicity about the conditions of thousands of children housed in poorly staffed and materially deprived institutions also created pressure for developing alternatives to institutional care.

We conducted the study in Romania because at the time, there were tens of thousands of children being reared in institutions there, because the best form of care for these children was a matter of debate rather than a settled policy question, and because we were invited originally by a government official who requested a scientific investigation to inform policy.

**Study Population: Abandoned Children**

*How can we justify studying abandoned children? Who can consent for them and who will speak on their behalf with regard to research activities?*

It would be hard to find a more vulnerable population than preverbal abandoned children. In any research study involving minors, legal guardians, such as a child’s biological parents, must consent. For children lacking parents, there may be concern that their legal guardians may be less vigilant about ensuring protection, particularly if the legal guardians are not emotionally invested in the children as individuals. In Romania, local commissioners on child protection were the legal guardians of abandoned children and had to provide consent for their participation. Clearly, research involving vulnerable children needs to pay scrupulous attention to adequate protection. With regard to the BEIP study, there were two additional layers of protection for institutionalized children. The first was that institutional review boards (IRBs) at each of the United States universities for the three PIs had to approve the study before implementation. Two key questions considered by the IRBs involving concerns about exploitation were who would provide informed consent for the institutionalized children in our study and whether the activities and procedures of the study entailed more than minimal risk.

Given the difficulty in obtaining consent from the child’s biological parents, consent had to be obtained by local commissioners. In addition, the IRBs wanted evidence that the research would provide either direct or indirect benefit to the study population. Minimal risk, that is, risk that is comparable with routine daily activities, was also important for similar reasons. Vulnerable children certainly should not be exposed to risks that exceed those typically asked of family-reared children. For this reason, BEIP included only measures and procedures that had been used with hundreds (or more) of children being raised by their biological parents. All three IRBs agreed that the BEIP studied abandoned, institutionalized children because the scientific questions being addressed were focused squarely on the best interest of these children. In addition, all three IRBs at the home institutions of each of the PIs’ universities reviewed and approved the protocols as involving no more than minimal risk, that is, the kind of risks likely to be encountered in everyday life.

In addition, caregivers (or foster parents) had to assent to the specific activities and procedures involved in the study, although we cannot be sure how much protection this provided. The concern, of course, is that in some cases, institutional caregivers also may have lacked emotional investment in the children’s well-being.

**Social Value: Equipoise**

*Didn’t we already know that foster care is better than institutional care? Was the study really necessary?*

The principle of clinical equipoise is that there ought to be genuine uncertainty among experts about whether a proposed intervention is better than standard care for research to be ethical. Why subject participants to any risk, one may ask, to conduct a study when the outcome is all but a foregone conclusion? As noted, in the United States, official policy had concluded many years ago that foster care is more desirable than institutional care.

These considerations actually contain two different questions about foster care versus institutional care. First, is there a consensus about which form of care is preferable, and who shares that conclusion? Second, how convincing are the data upon which expert opinion rests? That is, is there a disconnect between the prevailing consensus of expert opinion and what the evidence actually indicates?

With regard to the first question, deciding between institutional care and foster care as a societal intervention for abandoned children was decidedly not settled in Romania at the time the study began. In fact, institutional care for orphaned, abandoned, and maltreated children had prevailed there for several hundred years, as it has much of the world. Therefore, the question is far from settled as a matter of policy, regardless of what United States psychological researchers or child welfare professionals may have concluded (Zeanah et al., 2006c). The BEIP was uniquely positioned to provide data relevant to the question of whether foster care offered advantages over institutional care for children who were abandoned and placed in institutions in the Romanian context. With such data, we believed, Romanian policy makers could make more informed decisions. The Romanian Secretary of State for Child Protection who invited the study originally believed that if data from a study within Romania favored foster care, skeptics about foster care would be more readily convinced.

With regard to the second question, it is worth asking about the database on which that opinion rests. It turns out that there were less than a dozen mostly small descriptive studies that had ever compared children raised in foster care with children raised in institutions. All of them indicated that children in foster care were developing more favorably than children in institutions, and that there were negative effects to being raised in an institution early in life (Zeanah et al., 2006c). On the other hand, none of the studies used random assignment; hence, the selection of children for placement into groups may have been systematically biased. It is plausible that children who were developing more favorably would be placed in families and that those with delays or who were handicapped would remain in institutions. On balance then, we concluded that the database for this important policy question was remarkably thin.

Furthermore, Miller and Brody (2003) have argued that the principle of clinical equipoise is flawed and should not be applied as a standard for ethical clinical trials. Clinical equipoise, they note, equates clinical research with clinical care and holds investigators studying participants to the same standards as clinicians providing care to patients. Clinical research, they argue, is not a therapeutic activity devoted to the care of patients but rather is designed for answering scientific questions to produce knowledge that will be of benefit to society rather than to any individual participant. Therefore, in our view, a randomized controlled trial was not only justifiable but also required to examine the question of which caregiving approach was most advantageous for young children who were abandoned and placed in institutions. This knowledge was generated to benefit the larger society rather than each individual participant.

**Risks and Benefits**

*How can we justify randomizing children to an intervention that experts widely believe to be inferior (i.e., institutional care)? Doesn’t this mean that the risk/benefit ratio was unfavorable for at least half of the participants? If the investigators got a clear sense early on that foster care was more favorable, why not employ a “stop rule”?

Here, an important question is whether the risks involved are increased because of participation. This would raise significant concerns, particularly because BEIP involved a vulnerable population.
In fact, half of the study population in BEIP were randomized not to receive the intervention. Nevertheless, this was a continuation of the current government-provided intervention—institutional care. They were placed in institutions, not by the BEIP but by the government, because they had been abandoned. In addition, no child remained in institutional care because of the study. If children had been assigned to remain in institutional care for purposes of the study, the risk-benefit ratio would clearly be unfavorable for that group. However, that was not the case for BEIP. Throughout, we used a rule of noninterference regarding placement. That is, whatever plans for a child’s placement that were made by the local Commissions on Child Protection were implemented without regard to their study participation. This was true for all 136 children, and indeed, some children in the foster care group also were returned home to their biological parents or adopted domestically.

The Commissions reviewed each child’s placement every 3 months and made decisions about custody and placement as usual. Participation in the BEIP did not limit or affect in any way the removal or reinsertion of any of these children from institutions or their placement in foster care, if foster homes other than those we supported became available. In fact, at the time of the assessment at 54 months of age, 28 children in the care as usual group were still institutionalized, 9 had been adopted within Romania, 18 were in government foster care that did not exist when the study began, 11 had been returned to their biological families, and 2 were placed with extended families.

Furthermore, if the research had not been conducted, children in the intervention group would have experienced more time in institutional care. Foster care was not an option at the time the study began for abandoned young children living in Bucharest. No research participants had their risk increased by the research, except for the risks associated with foster placement. In fact, because half of the children were randomized to foster care, arguably, they were better off than if the study had not been conducted.

An additional factor to consider in assessing risk benefit ratios is the overall benefit to society. If risks to participants are low, as they were in BEIP (because, without the study, all of the children would have experienced extended institutional care), then the advantages that accrue from knowledge gained from research becomes an important consideration. In Romania, for example, although much progress has been made in developing alternatives for abandoned children, thousands of children remain in institutions. How best to care for these children is an especially important question there. Therefore, the results of this study have many potential benefits for the larger population of institutionalized children in Romania and perhaps those in other parts of the world as well. Policy makers concerned about how best to enhance the long-term outcomes of abandoned children should attend closely to research comparing different forms of care. Furthermore, there are millions of abandoned children worldwide, and many are being raised in institutions (Browne et al., 2006; NGO Working Group on Children Without Parental Care, 2006; Zeanah et al., 2006c). The BEIP results, with appropriate cross cultural cautions, have implications for many of these children.

In studies of drugs developed to treat a specific medical condition, randomized controlled trials are stopped if preliminary data suggests clear advantages for the drug being evaluated. At that point, the treatment is made available to those participants who were originally randomized to the placebo arm of the trial. This ensures that participating in the trial does not preclude or unnecessarily postpone obtaining effective treatment. We were not able to use a “stop rule” because of the cost of foster care and the limitations of project funding. We spent about half of our funds on foster care and about half on research. Any increase in foster care funding would necessarily reduce the research component and weaken what could be learned from the project. When we analyzed early returns of the effects of the intervention and found that foster care appeared to be beneficial, instead of stopping the project, we arranged to report results at a press conference to which we invited ministers of departments concerning child well-being (e.g., Ministry of Health, Ministry of Child Protection, Ministry of Education). Our presentations at the press conference were introduced by the United States Ambassador to Romania, who urged that the government of Romania make use of the findings. We also obtained funding for and hosted continuing education meetings in 2002 and 2003. To these meetings we invited child protection professionals, child development specialists, mental health professionals, healthcare professionals, and neuroscientists from all over Romania. We presented some of our early findings at those meetings.

**Posttrial Obligations**

What about after the study ended? Isn’t it a problem to implement a study and then after obtaining results, withdraw the intervention? There are reasonable concerns about investigators who study high-risk vulnerable populations, collect the data they need, and then leave the study population with little to show for their participation when the study ends. From the outset, we were determined to avoid this pitfall.

We enacted two approaches to ensure that the study population and others would enjoy benefits beyond the life of the study. First, we attempted to ensure that no child randomized to foster care would be returned to institutional care after the study ended. We attempted to negotiate agreements with each of the sectors in Bucharest (governmental districts) that they would assume support of foster homes after the study concluded. Four of the five sectors agreed to this condition. In fact, at the formal conclusion of the trial, support for all of the remaining children in BEIP foster homes had been transferred to the local sectors in Bucharest. Since the formal intervention ended in 2005, a set of twins has been placed in a “social” apartment (four to six children living in an apartment in a private apartment complex cared for by rotating caregivers), and two others have been placed in institutions for handicapped children because of unmanageable behavior and serious aggression. At the time of the assessment at age 8 years, of the 68 children originally placed on BEIP foster homes, 35 remain with their same foster parents, and 6 of them have been formally adopted by their foster parents.

A second effort to meet posttrial obligations is that the investigators obtained $900,000 in start-up funding for the creation of a Child Development Institute in Bucharest. The vision is that this Institute will oversee clinical services, research, and policy proposals relevant to high-risk children. We obtained matching funds from one of the Sector 1 in Bucharest, on the grounds of what was once perhaps the largest institution for young children in Romania. The place has been renovated, and the opening ceremony was scheduled for October 2011. We are working with Romanian partners to attempt to procure sustainable funding for this effort that, in our view, could contribute meaningfully to Romania’s child welfare needs.

In addition to these measures, of course, we have generated data that we believe has proximal application in Bucharest and Romania, and distal applications in other counties in which young children are being raised in institutions.

**CONCLUSIONS**

Research with vulnerable populations should be guided by ethical principles that then must be translated into specific cultural, historical, and political contexts. Making the guiding principles explicit can help clarify decisions and practices, which is especially important when working with vulnerable populations. For these reasons, ethical considerations were widely discussed from the inception of the BEIP to ensure that ethical principles in international research with
vulnerable populations were applied and monitored throughout the implementation of the intervention and during follow-up assessments. The questions throughout this article were discussed at length within our group and with a number of other investigators as well as with three university IRBs. The reasoning that we used is described above as answers to the questions posed.

FURTHER READINGS

Selected Examples of Publications of Results From BEIP


Previous Discussions and Commentaries About BEIP


Articles About Children Raised in Institutions


Articles Regarding Ethical Issues in Research With Children


DISCLOSURE

The authors declare no conflict of interest.

REFERENCES


