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Special Feature Article

A Questionnaire Survey on Biopsychosocial Factors of Convicted Child Maltreatment Cases: Validity, Safety, and Ethical Considerations

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Abstract

For supporting parental care and preventing child maltreatment, a comprehensive understanding of the biological, psychological, and social factors in parents and households is essential. We conducted survey research during 2016-2021, with caregivers (or cohabitants with children) who were incarcerated for their child abuse conviction. Scientific research on human participants with criminal records requires thorough ethical considerations, such as informed consent and privacy protection, as much as clinical research that entail mental disorders does. This research was approved by our Ethics Committee, and was conducted at facilities that were approved by both the Correction Bureau of Ministry of Justice and the correctional institution itself to be involved, after our extensive explanation and communication about the purpose, significance, and the contents of our research. We collected information of child abuse cases, in which the perpetrator was sentenced to prison and whose name was reported in the media with real name. We requested participation via postal mail, and those who replied gave written consent. Control parents who have some experience of parenting were collected by advertisements. The survey consisted of more than 400 questions, which were constructed as needed from questions regarding their life history, the Beck Depression Inventory (BDI), Adverse Childhood Experiences (ACE), the SCID-II personality questionnaire, traumatic experiences, Parental Stress Index (short form), or about stress factors around the time of the crime. These were performed via three

rounds of postal mail between RIKEN and the participants in penal institutions, starting with the least stressful of the questions. Unclear answers were reconfirmed with the participants for further clarity. To balance the scientific validity and the risk for participants, cautions were taken such that i) questions about the facts of illegal acts were replaced with more cognitive questions, ii) indications were placed to stop answering the survey whenever the participant experienced psychological stress by the questionnaire, iii) we remained neutral for the incident and its judgement as an independent research organization. The survey is still ongoing, but during the four years, 36 perpetrators provided written consents and 31 successfully finished the four rounds of mail survey. The number of control parents was 178. Surprisingly, we received multiple positive remarks from the convicted participants for attending the survey at the end of the communication. The processes, findings, and remaining challenges of conducting this sort of research are further discussed.

Keywords : child abuse, forensic psychiatry, research ethics, informed consent

Introduction

This article is based on a report, with some additions, presented at a symposium held online, entitled: "Problems and Issues in Case Reports and Research on Cases with Difficulty in Obtaining Consent", held at the 116th Annual Meeting of the Japanese Society of Psychiatry and Neurology. While many of the abstracts in this symposium dealt with clinical cases, this presentation dealt with criminal cases as a group rather than as individual cases, which may have been slightly different from others.

However, as in the case of mental illness, there is no doubt that obtaining consent and protecting the interests of

the patients and their families are particularly important. From this perspective, this paper reports on the design and progress of the authors' study.

The "conditions under which research involving human subjects is ethically permissible," 4) as presented by the chairperson, Dr. Ozaki, in his closing remarks, are as follows:

- [1] Value
- [2] Scientific validity
- [3] Fair subject selection
- [4] Favorable risk-benefit ratio
- [5] Independent review
- [6] Informed consent
- [7] Respect for potential and enrolled subjects

The above seven items are listed as ethical requirements. The following topics are numbered accordingly.

It is important to note that we are novices regarding these issues, and our intention is not to argue that the methods and research designs described here are desirable or good. Rather, we would appreciate the frank opinions and criticisms of experts as we present the history of the project that we have carried out while trying things out according to the circumstances.

I. Purpose of the Study

As the number of reports of child abuse continues to increase, child welfare administrators are extremely busy simply confirming the safety of children and intervening, and are often unable to provide sufficient support for parents and families. For example, according to the "Research Report on the Improvement of Parental Support Programs," the Japanese fiscal year 2009 research project by the Ministry of Health, Labour and Welfare to promote research and study on child-rearing support, the percentage of abuse cases in child guidance centers where parental support programs are implemented is only 3.2%, a low figure. Even if a child is temporarily protected, if there is not sufficient support for the caregiver and home environment, a safe

place for the child to return to will not be secured, and this will not lead to a fundamental solution. Therefore, we decided that we needed to conduct research specializing in support for caregivers, who tend to be secondary to the child, and applied for a project commissioned by RISTEX, the Research Institute of Science and Technology for Society of the Japan Science and Technology Agency, and started the research project: "Construction of a system to reduce child abuse through caregiver support", in 2015. The purpose of this study was to prevent child abuse and its recurrence by providing a wide range of support for caregivers regardless of whether abuse had occurred. To this end, various studies were conducted in collaboration with social science fields, such as law and family sociology, brain science, and pediatrics. As part of this project, our group at RIKEN designed a questionnaire survey to ask caregivers involved in child abuse about their own childhood and background factors at the time of the incident. It had two purposes.

(1) It would be useful to hear the opinions of those who have experienced difficulties in the parent-child relationship about what kind of systems and structures would be useful to better support caregivers ([1] Value). However, existing data, such as: "Verification of Cases of Child Abuse Deaths", by the

Ministry of Health, Labour and Welfare and: "Verification Reports on Child Abuse Deaths", issued by local governments for individual cases, provide detailed information on medical findings at the time of a child's death, support by the child guidance center, and the process of intervention, but often do not include interviews with the children and caregivers concerned, so we considered it necessary to supplement this part of the report.

In animal behavioral neuroscience, which is the main field of the authors' work, considerable knowledge has already been accumulated on when mammalian parents are likely to abandon or attack their offspring. Roughly speaking without fear of misinterpretation, in animals, there are two main types of factors: "pathological factors" (conditions different from normal) which cause problems in parental care due to organic disruptions in the brain or because they were brought up in an inappropriate environment, which inhibits their social development, and "physiological (also called adaptive in evolutionary biology; see references for details.) factors" in which the motivation for parental care decreases even when the parent has no problem with brain function or social development, but offspring are unlikely to grow up safely due to the environment, such as the availability of

food, number of external enemies, or number and health condition of offspring at that time. Various subdivisions exist within these two classifications 5)6). As humans are also mammals, it is natural that similar factors exist in the background of child abuse cases, and in fact, news reports and domestic and international surveys have described some of them¹⁻³). It is necessary to more comprehensively investigate and quantify the specific items and how often they are recognized in child abuse cases in contemporary Japan. We believe that if such findings are obtained, they can be utilized for welfare or psychological/medical support ([1] Value).

II. Research Methodology

1. Research Participants

The survey did not initially focus on prisoners, as we wanted to request cooperation from those who had experienced inappropriate child-rearing due to difficulties. However, the problem was how to identify the relevant parties and request their cooperation.

In general, there is a method in which a questionnaire survey is administered to an unspecified number of caregivers, and the scores defined as "inappropriate caregiving" are used to extract the relevant upbringing history and environmental factors, and there are

already many such studies. However, the probability of encountering severe cases of inappropriate child-rearing that can be compared with animal cases is very low with this method. On the other hand, even research institutes directly related to child welfare administration and commissioned research are having difficulty in obtaining cooperation from child guidance centers that are aware of difficult child-rearing cases from the viewpoint of personal information protection, and it is difficult for RIKEN basic researchers, who are not in the field of obstetrics and gynecology or pediatrics, to be introduced to such cases.

However, some criminal cases of child abuse are reported by real names, and the processes of the trial, judgment, and sentence are also reported in some cases. In individual cases, some journalists have corresponded and met directly with suspects and post-sentence prisoners, and have published their personal information as books. Overseas, a study conducted brain PET of a suspect during the trial of a murder case, alleging no legal responsibility because of mental incompetence, and detected decreased glucose metabolism and left-right differences in the prefrontal cortex, amygdala, etc.7). Using these data as a reference, we planned to collect cases of child abuse

that were reported involving real names and led to being sentenced to prison from media materials, and conduct a questionnaire survey by mail. Since the prisons in which the parties are located are unknown, if multiple requests for research cooperation are sent to several prisons, only the first one will be returned unopened and unaddressed from the prisons in which the parties are not located, and only one letter will be sent to the relevant parties themselves. We first approached the Adult Correctional Services Division of the Correction Bureau of the Ministry of Justice, which has jurisdiction over prisons, to explain our plan, and were told that the decision on whether to approve the plan would be left to each prison. We mailed a letter explaining the research plan to 51 men's prisons and 11 women's prisons nationwide, excluding traffic-related and medical prisons. Two men's prisons and 1 women's prison informed us that they were unable to cooperate, but excluding those prisons, it was practically possible to conduct the questionnaire survey through correspondence with the persons concerned.

In parallel, we applied to the RIKEN Human Subjects Research Ethics Committee for this project. The review committee members included not only researchers with experience in human subject research, but also lawyers and

members of the general public who were not researchers, so the review fell under the ethical requirement [5] Independent review. In the course of this review process, we received comments, such as: "Do not assume the accused is the perpetrator, even if he/she has been sentenced (in many cases, the accused is not satisfied with the outcome of the trial)," and "Avoid questions that are psychologically burdensome for the sake of safety" ([7] Respect for potential and enrolled subject), and obtained permission to conduct the study after making modifications (as described later, we re-applied for modifications again).

Of the 279 child abuse cases that occurred between 2006 and 2017, in which the actual names were reported and prison sentences were confirmed, letters requesting cooperation in the study were sent to 129 persons who may have been in prison at the time of the cases, of whom 73 did not return the sealed letter and were considered to have been served. Of these, 36 (49.3%) agreed to participate in the study, and 31 (20 males and 11 females) had completed their responses by February 2020, approximately 4 years after the study began (note: thereafter, by the end of 2020, 42 had cooperated and 38 had completed their responses).

The main types of maltreatment identified from newspaper reports and

written judgments were physical abuse in 25 cases, neglect including medical neglect in 3 cases, and other types of abuse in 3 cases. The relationships with the children were 11 biological fathers, 10 biological mothers, 5 adoptive fathers or stepfathers, 3 mothers' boyfriends, and 1 male and 1 female in the "other" category (e.g., live-in companion).

The general control group (general caregivers) was recruited through Internet and free newspaper advertisements for adult collaborators who had experience in child-rearing. Sixty-five men and 113 women responded to the same survey. The control group consisted of biological parents except for one adoptive father.

2. Questionnaire Content

Overall, the mailed questionnaire consisted of more than 400 questions, arranged in order of decreasing burden, as follows:

(1) Past medical history (including psychiatric visits, head injury, etc.), difficulties and pleasures in current life, Beck Depression Scale (BDI-II), part of Structured Interview for DSM-IV (SCID)-I, SCID-II (except antisociality), and autism-spectrum quotient 10 Item version (AQ-J-10). Although the questionnaire is voluminous, many of the items are easy to answer, such as true or false or 4-item systems.

(2) Questions on the developmental

history starting from preschool to elementary school, work history, traumatic experiences in SCID-I, SD3 (Short Dark Triad), and VAST-J (Varieties of Sadistic Tendencies-JAPANESE version). More descriptive questions asking for clarification of previous questions and specific examples of applicable items in SCID-II.

(3) Questions about the guardians when they were minors, adverse childhood experiences (ACE) WHO version (2 to 3 questions each for domestic violence, psychological abuse, physical abuse, and sexual abuse), and attachment-related questions.

(4) Questions related to the development of the child victim (one child was selected for the general control group), the relationship with the child, the Parenting Stress Index-Short Form (PSI-SF), stressors at the time of the incident (at the time of child-rearing for the general control group), things they wish they had done, and support they wish they had received, etc.

We mailed the above questionnaire in three batches [(1), (2), (3), and (4)] to the case group and two batches [(1) and (2), (3) and (4)] to the general control group. (For details, see Ref. 8).

We did not actively ask about the specific facts of the child abuse cases that led to the prison sentences through questionnaires or other means. The details of the case were generally known

at the time of contacting the parties concerned, since there were other materials that could be referred to, such as news reports of the trial process and case reports by local governments. The specifics of each case, such as who committed the abusive acts, when, and what kind of abusive acts, had already been scrutinized in the process leading up to the trial, and there was little merit in asking about them anew, or it may have caused undue psychological stress, or on the contrary, it may have led them to start talking about how their partner was wronged or how the trial was unfair and how they were misled. In cases where the parties were dissatisfied with the verdict and planned to request a retrial, they sometimes asked us to defend them in the retrial based on the results of the questionnaire survey. In such cases, we explained our neutral position, saying: "We at RIKEN are a research institute, not a judicial body, so we cannot make judgments about the trial or verdict."

On the other hand, since the parties were in the process of being convicted and confessing their crimes, there was no reason for us to condemn them again. As an institution independent from the correctional institutions, the authors treated the parties as ordinary research collaborators, not as perpetrators.

III. [2] Scientific Validity

1) Subject Selection

Although this is not considered a violation of [3] fair subject selection, the research methods and design described above unavoidably resulted in the following characteristics and biases in the subjects, which remain as future issues to be addressed.

1) Study subjects described in news reports, and minors and perpetrators of sexual abuse, whose real names were not reported, were not included. Also, the number of cases of neglect is quite small considering the frequency of occurrence. As a result, the above case group is quite biased toward physical abuse. In order to investigate the background factors of caregivers that led to neglect and sexual abuse, it is necessary to obtain the cooperation of the Ministry of Justice and Legal Research Institute.

2) Subjects in the case and control groups showed marked differences in various response items. The most marked difference was in the final level of education, where the majority of both male and female subjects in the case group had less than a high school diploma (junior high school graduate or high school dropout), while there were no male subjects in the general control group who had less than a high school diploma. Therefore, it was not possible to completely exclude the effect of educational background, not only by

matching between groups, but also by analysis of covariance with the final educational background as a covariate. Since the final education level of the case group is almost the same as the average final education level of inmates in criminal cases, it is possible to determine whether the differences between the child abuse case group and general caregiver group were due to factors specific to child abuse cases or criminal cases in general by conducting the same survey on inmates not involved in child abuse cases. A similar survey was also conducted on caregivers who experienced difficulties in raising their children, although the abuse was not severe enough to become a criminal case.

2. Questionnaire Items

The survey was unique in many respects, and as described below, it was not possible to use the existing questionnaire scale as is; there were cases in which specific items had to be excluded or modified. In addition, some prisons did not allow the respondents to directly fill out the survey form that we sent them and return it to us, and in such cases, we had to have them transcribe the response portion on a separate letterhead and send it back to us. For this reason, even standardized questionnaires should be analyzed in comparison with a general control group, rather than using standardized scores.

Thus, we had to "Be flexible when asking questions and careful when interpreting." As a result, it was not possible to use scales or questionnaires with strict rules of use, and those that could be used more flexibly were selected.

Specific examples are described below:

1) Avoid asking about facts that may lead to the pursuit of additional crimes.

The collaborators in the case group were in prison, and all communications were reviewed by the facility staff. Therefore, we felt that we should avoid asking questions in the questionnaire that could lead to the pursuit of additional crimes. Specifically, the antisociality section of SCID-II includes a direct question asking whether the subject has ever committed arson, robbery, or forced sex, even if he/she was a minor, and if he/she is suspected of such crimes, it may pose a risk to the subject and may cause a bias that prevents him/her from answering truthfully. Therefore, these items were removed and replaced with questions asking about cognitive styles. SD3, VAST-J, etc., were added to supplement the questions on aggression. SD3 has elements of antisociality, narcissism, and Machiavellianism, and there is a marked correlation between the antisociality items and originally designed antisociality items, and generally consistent results were

obtained.

2) Problem of Time Lag

PSI-SF usually asks about ongoing child-rearing. However, in the case group, years have often passed since the incident occurred, and the respondents are asked to recall the time and answer the questions. As a result, we had to change the PSI-SF questions to the past tense. Thus, we also asked the general control group to recall when their children were in preschool, not only those who were still raising children, but also those whose children had already grown up. Although this design is still in the process of being analyzed, we believe that it will allow us to examine biases caused by looking back in the past or by the gap in time in the general control group.

3) Others

Question 6 of BDI-II asked the following questions:

0 Do you think you are being punished for something?

1 I think I may be punished

2 I think I must be punished

3 I think I am being punished now

In the group of cases during imprisonment, there were many people who selected 3 for this question only, even though they showed little tendency toward depression in the other questions. Since this was not the intention of the scale, it was considered appropriate to exclude this question

from both the case and general control groups.

Regarding attachment, questions such as "Did your mother/parent...?" are often used. Especially in the case group, it is not uncommon for the respondents to have no memory of their biological mothers, to have multiple stepmothers, or to have grown up in a foster home. Therefore, we added explanations in each case as to whether we were asking about their biological parents, or whether they could answer about their grandmothers who were their guardians, or about people who were close to them among the staff at institutions, etc.

3. Reliability of Answers

In a questionnaire survey, the reliability of responses is always an issue that cannot be ignored. The following measures were taken to address this issue:

1) Agreement rate of duplicate responses

In such surveys, it is common to verify whether subjects are answering the questions with a certain level of concentration by looking at the agreement rate of questions with obvious answers or duplicate questions inserted at different times. In particular, the current study used a variety of psychological measures across multiple questionnaires, which often contained similar questions. Although some

omissions were made due to the large number of questions, a certain amount of overlap was left in the design so that the reliability of the responses could be verified by the rate of agreement.

2) Repeat questioning

Taking advantage of the fact that the questionnaire survey was conducted multiple times, we re-asked the questions that were answered vaguely in the previous survey in the next round. Although most of the responses were carefully filled out and were not unreadable in most cases, there were a few responses that could have been misinterpretations of the questions simply due to the large number of questions in the questionnaire. SCID-II is originally conducted in an interview, and it is desirable to ask for details when "yes" is marked, so we asked for specific answers to the greatest extent possible.

3) Confirmation of case reports, verification of abuse cases from local authorities, and written judgments, if any

If there was any such external information on the case, we could check the consistency with the answers. As an example, there was a case in which a party with exaggerated characteristics listed his/her occupation as "university professor" and his/her income and savings as very large values, but his/her living conditions were different. In such

cases, there was also a general control group and parties with little reference information, so we did not exclude them unconditionally as unreliable, but rather conducted statistical processing for cases in which these parties' responses were included in the group and those in which they were excluded, and if there was no difference in the results, it was considered acceptable, and we discussed both results.

IV. Safety of and [4] Favorable Risk-benefit Ratio for Subjects Participating in the Study

The risks (or concerns) to subjects of participating in this study and measures to address them included the following:

1. Time was required to answer the questionnaire

In response to this, we sent gratuities converted to an hourly rate based on the approximate time it took to answer the questionnaire.

2. Psychological burden caused by questions about past traumatic experiences and incidents

The questions about childhood abuse and the stressful situation at the time of the incident were essential for the study, but there was a risk of psychological burden caused by answering them. In particular, subjects in prison may not be able to easily obtain psychological support in

such cases. Therefore, we initially planned to limit the content of the questionnaire to that causing little psychological burden, and to ask about traumatic experiences and the time of the incident in person to those who would be able to cooperate after release. However, after the completion of two rounds of questionnaire surveys, we received many comments that they could cooperate more or wanted to be asked more, while we did not hear any complaints that the questions were too burdensome. Therefore, we applied for a change in the research plan and decided to add further questions to questionnaires (3) and (4) as well.

However, in consideration of safety, each questionnaire included the following statements: "Please tell us as much as you are comfortable," "If you feel sick, please stop immediately," etc. In particular, Questionnaire (4) included the following statement, which could be read before opening the questionnaire: "This questionnaire asks you about the time of the incident. If you do not wish to see the questions, you may discard the questionnaire without opening it." We printed this text on the back of the questionnaire, folded it up, and sent it to the respondents. Perhaps because

of this, we have yet to receive any reports or complaints from either the case group or general control group that they experienced any significant psychological burden resulting from the questionnaire.

3) Concerns about leakage of personal information due to publication of questionnaire responses

When the request for cooperation was first sent to the parties involved in the case, many of the initial (pre-consent) replies expressed concern about whether their names would ever be revealed or whether the information would be leaked to the mass media if they cooperated in the research. Their experience with the unfavorable press coverage of the case at the time seemed to cast a shadow over them. We explained to them that RIKEN is independent of the media and is obligated to protect the interests of its research collaborators, and that the research is published as anonymized data, so no personal information could be leaked to outside parties. This seemed to convince many of them, and most eventually agreed to cooperate.

After the study progressed and some of the results were presented in interim reports, we received more interviews from the media than we had expected. Among them, there were requests to photograph and

report on handwritten questionnaires, or to learn about specific cases to some extent. In such cases, we made a copy of a part of the material (e.g., a part of a questionnaire or a letter, inked if necessary) that we judged would not be personally identifiable if shown to the media, mailed it to the subject research collaborator, asked if it was acceptable to show or report in this form to the press, and only gave permission to the media for use if permission was granted. We also fully understood the independence of the news reports, and as long as the news reports were made with the cooperation of this study, we requested that they not be treated in a manner that would greatly contradict the purpose of the study, which was to: "understand and support, rather than to blame caregivers, or child abuse will not be eliminated."

4. Risks associated with the special circumstances of incarceration

As mentioned above, we decided to avoid directly asking about facts related to the crimes in the questionnaire items as much as possible in order to avoid disadvantages for those in correctional institutions, as it might lead to the pursuit of additional crimes.

On the other hand, as for the benefits of participating in the research, there were, of course, those who were happy

to receive the honorarium, but quite often, the reason for participating in this survey was stated in the letter as social significance, such as: "even after the incident, I still see child abuse cases in the media, and I feel that I am not the only one who is troubled by the parent-child relationship, and that there are others. I don't want other parents and children to have to go through what I went through, and I wonder if sharing my experiences can be helpful to other parents and children."

After completing the questionnaire, we received several positive comments such as: "I am glad to have participated in the study. I would like to cooperate in the future if there is anything I can do," or "Answering the questions made me look back on myself and my case." Although we only asked the questions in a straightforward manner, and did not give any particular comments in response to the answers, it is possible that the participants were able to recall and verbalize the sequence of events from their upbringing to the incident, and that this may have brought them to a new realization. Furthermore, there were even some who wrote that they had not yet been able to face the case at the beginning of the study, but that they were able to face the case and deceased child through the research cooperation, and they expressed their gratitude. This was an unexpected result that suggests

room for the development of psychological support in correctional treatment.

V. [6] Informed Consent

Since the collaborators in this study were not clinical cases but subjects recruited for the purpose of research from the beginning, there were no cases in which consent could not be obtained. On the other hand, it is worth considering whether the voluntariness and validity of the consent were sufficient.

First, regarding whether the consent was truly voluntary, in this study, the percentage of participants who participated in the study after being asked to do so was quite high (nearly 50%), but even so, the majority did not participate. In addition, if the participants were unwilling to give their consent to participate in the study, their willingness to cooperate and ability to concentrate may have been low, as evidenced by the large number of blanks in their subsequent responses and low agreement rate with duplicate questions, but no such tendency was observed compared with the general control group. Rather, once the consent forms were returned, they were carefully and basically coherently answered. In addition, although not necessary, a letter sometimes accompanied the survey form, in which

the participants expressed their satisfaction with their participation in the study (as described above). Thus, we consider that consent was not often given in an involuntary manner, such as to please someone.

Regarding the need for family consent for research participation and reporting, it should be added that several people in the authors' case group confirmed with their family members themselves whether they would be able to participate in the study. In general, the necessity of family consent depends on the ability of the individual to give consent, the way the report is made, and the situation of the family.

VI. [7] Respect for Potential and Enrolled Subjects

Since the ultimate goal of this study was to support caregivers, we also conducted non-survey interactions in accordance with the wishes of the parties to the extent that it served that purpose. For example, for those who said: "I do not accept gratuities; instead, I would like you to send me books (on developmental disabilities, child abuse, addictions, etc.) that are relevant to my problem," we sometimes purchased and sent books to the same value as gratuities (Of course, we declined requests to send unrelated books or gifts from the viewpoint of fairness and not being able to use the research budget.)

In response to requests for information on counseling, social work, and educational programs for parenting without corporal punishment, etc., in their residential areas for employment after release and for rebuilding relationships with their remaining children, we sometimes provided them with contact information for related organizations.

To increase the transparency of the research process, the parties involved in the case groups were sent public information about the research project and the 2018 interim report to let them know how their research collaboration could be helpful. Similarly, we mailed the published articles to the collaborators of the interviews.

Although we do not discuss the results of the study in this paper due to space limitations, we found that, on average, almost all risk factors that are basically the same in other mammals, such as abuse experiences, poverty, and complicated family structures, were significantly more frequent in the case group than general control group, and overlap was much more frequent. On the other hand, the study participants were diverse. Some spoke about their harsh upbringing histories of abuse to listeners for the first time, while others had no particular adverse experiences. Some wrote about their feelings toward the victim and other living children,

while others denied responsibility for the incident until the very end. In order to understand the diversity and complexity of the background of child abuse without simplifying it, and to identify useful factors for support, in addition to comparing the means of the case and general control groups, it is necessary to increase the scientific and social values of the data by various methods, including cluster analysis and other statistical methods, qualitative studies, and, if possible, functional brain imaging. This will ultimately lead to respecting the contributions of the parties who cooperated in the study.

Conclusion

This special issue provided an opportunity to review the authors' research design and summarize the challenges and countermeasures. In addition, although the symposium was held online due to COVID-19 measures, we received many very helpful comments in the post-symposium discussion session. I would like to take this opportunity to thank again the symposium chairperson, Dr. Norio Ozaki, Dr. Ichiro Kusumi, the speakers, and the members of the Ethics Committee.

There are no conflicts of interest to disclose in connection with this paper.

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