Original article

Intelligence Is Associated With Voluntary Disclosure in Child Sexual Abuse Victims

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A B S T R A C T

Purpose: The purpose of this study was (1) to determine whether intelligence level is associated with the pattern of the disclosure and (2) to elucidate which, between the verbal and performance intelligence, better reflect the pattern of disclosure in child and adolescent sexual abuse victims.
Methods: Data were collected on 162 participants who visited a public center for sexually abused children and adolescents between January 2013 and December 2014. Demographic information, case characteristics, and disclosure pattern as well as intelligence quotients (IQs) of subjects were gathered. Intelligence was analyzed as level, full scale IQ, and the verbal and performance IQ.
Results: Eighty-one subjects (50.0%) voluntarily disclosed that they have been sexually abused. In regression analysis, intellectual level, age, and the number of perpetrators were associated with disclosure pattern. Full scale IQ was associated with the disclosure pattern (odds ratio = .983, 95% confidence interval = .968–.997, p = .017). When intelligence was divided into verbal and performance IQ, verbal IQ affected the pattern of disclosure (odds ratio = .973, 95% confidence interval = .956–.991, p = .003) with linear correlation (p = .001).
Conclusions: We found that IQ was associated with the disclosure pattern. The intelligence, especially in verbal domain, is linearly correlated with the probability of voluntary disclosure. We suggest that special legal assistance and social concern are required for children and adolescent victims below normal intelligence to make them disclose the sexual abuse.

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IMPLICATIONS AND CONTRIBUTION

Voluntary disclosure of sexual abuse is important in the initiation of intervention. The present study identified that intelligence level, especially the verbal intelligence, is associated with the disclosure pattern of sexual abuse in children and adolescents. Special legal and social assistance is required for children with intellectual disability and borderline intelligence.

Sexual abuse involving children and adolescents is a major social issue [1]. Studies have indicated that the child sexual abuse is widespread although the prevalence rates vary considerably [1–4]. In South Korea, the number of cases of child sexual abuse reported to the police doubled in 5 years [5]. Because sexual abuse has serious medical, legal, and relationship consequences, and tends to be repeated, prompt intervention is crucial [6].

Voluntary disclosure refers to the victim of sexual abuse reporting the abuse or maltreatment on his or her own initiative, while involuntary disclosure means gradual reporting following persistent demands or accidental revelation [7]. Most of the research that has explored the disclosure patterns and several associated factors such as abuse characteristics and the relationship with the perpetrator has been performed in Western

countries [6,8–10]. Although the early disclosure of sexual abuse can initiate the intervention process and thereby minimize the potential damage of secrecy [8], previous studies have found that approximately half of the victims will never disclose sexual abuse spontaneously [6,9]. Moreover, this problem is greater in children with intellectual disabilities who are not capable of protecting themselves due to verbal, physical, or mental dysfunction [11–13].

Individuals with intellectual disabilities are at a higher risk of being maltreated and sexually abused [12,13]. A meta-analysis found 15% of intellectually disabled children had been subjected to sexual violence, with the risk being 4.6 times higher than that for children without intellectual disabilities [14]. Their vulnerability is due to factors that include dependency, a need to belong, lack of knowledge regarding sexuality, communication skill deficits, and inability to protect themselves, which can be simply attributable to their lower intelligence level. In previous studies, the association between intelligence and the pattern of disclosure was investigated [15,16]. They found that the diagnosis of the intellectual disability (ID) or borderline intellectual functioning (BIF) was associated with higher rates of nondisclosure and under-reporting. However, no previous study has investigated the association of degrees of intelligence with the disclosure pattern pertaining both victims with and without normal intelligence.

We hypothesized that the degree of intelligence is related to involuntary disclosure of sexual abuse in children and adolescents both with and without ID. In addition, we also presumed that there may be differences between the verbal and performance intelligence in reflecting the disclosure pattern. The aims of this study were [1] to identify the associations between intelligence and disclosure patterns and [2] to investigate which, between the verbal and performance intelligence, better reflect the pattern of disclosure in child and adolescent sexual abuse victims.

Methods and Materials

Subject enrollment

This study enrolled 227 participants aged 3–18 years who visited the Incheon Sunflower Children's Center for sexual abuse between January 2013 and December 2014. The Sunflower Children's Centers are government-funded public centers affiliated to hospitals that provide medical consultation, psychological counseling, legal advice, and assistance with launching criminal investigations. Among the 227 dyads of child and guardian who were admitted to the center during 2 years, 26 subjects who did not agree to participate in the study, 12 subjects for whom there were insufficient data, 24 subjects with an objectively very low probability of abuse judged by police investigator, case manager, or medical staff, and 3 subjects who stopped the follow-up to the center were excluded. In total, 162 dyads were included in this study.

Demographic and case characteristics

Data were gathered in individual interviews conducted in a face-to-face and in-depth manner with a specially trained psychologist, social worker, and child psychiatrist. Interviews were also conducted with the caregivers of the victims separately from victims. We gathered information about both the victims (age, sex, family status, and living status) and the perpetrators (age and sex). Thorough case histories of sexual abuse were acquired as

follows: the location, type, and duration of abuse, the number of perpetrators, the relationship between the victims and perpetrators, and other types of physical or mental harassment. The type of abuse was divided into sexual abuse and sexual harassment. Sexual abuse was defined as the penetration or attempted penetration of the genital of the offender. Sexual harassment involved enforced sexual behavior other than sexual abuse, in which the perpetrator uses the child for sexual stimulation such as touching of the body parts, indecent exposure, and child grooming.

Cases of voluntary and involuntary disclosure were defined as suggested by Sorensen and Snow [7]. Involuntary disclosures were additionally divided into the following five types according to the exposure method: after direct questioning, witnessed assault, underinvestigation, rumor, and others.

Intelligence assessment

The intelligence was evaluated according to the criteria A of the mental retardation in the DSM-4, text revision [17]. An intelligence test was given using Korean Wechsler Preschool and Primary Scale of Intelligence for victims younger than 6 years [18], version IV of the Korean Wechsler Intelligence Scale for Children for victims with 7–16 years of age [19], and version IV of the Korean Wechsler Adult Intelligence Scale (K-WAIS-IV) for victims 17 years and older [20]. Some of the subjects were evaluated with earlier versions of these tests (K-WAIS-III and K-WISC-III). The tests were standardized and validated for Korean people [18–20]. The K-WAIS-IV and K-WISC-IV includes full scale intelligence quotient (FSIQ) and four domains of cognitive function comprised the verbal comprehension index, the perceptual reasoning index, the freedom from distractibility index, and the processing speed index. The verbal comprehension index and perceptual reasoning index domains were used as verbal IQ and performance IQ in the present study. The subjects were divided into three intelligence level: ID, BIF, and normal intelligence. Those in the ID group were additionally categorized into mild, moderate, and severe ID. The cutoff IQ for borderline intelligence was 85, whereas the cutoff IQ for mild, moderate, and severe ID was 70, 55, and 40, respectively.

Written informed consent was obtained from all participants and their legal guardians. This study was approved by the institutional review board of Gachon University Gil Medical Center (GAIRB2015-94).

Statistical analyses

Descriptive statistics were used to analyze the demographic data of the victims, their families, and the perpetrators. The chi-square test or independent *t*-test was used to compare the case characteristics between the voluntary and involuntary disclosure groups. We applied the univariate binary logistic regression test to analyze the probability of voluntary disclosure according to the variables which are known to be related to the disclosure pattern including intelligence level and IQ. The multivariate binary logistic regression analyses with all predictors included were conducted to find the factor associated to the disclosure pattern the most. We also examined the possibility of a linear or nonlinear relation between intelligence level and the disclosure pattern using cubic spline terms. All statistical analyses were performed with SPSS for Windows (version 23, SPSS, Chicago, IL) except SAS 9.4 (SAS Institute Inc., Cary, NC) for cubic spline terms. Probability values of $p < .05$ were considered indicative of statistical significance (two way).