PROBLEMS WITH THE DIAGNOSIS OF FACTITIOUS DISORDER BY PROXY IN FORENSIC SETTINGS

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Factitious disorder by proxy, also known as Munchausen's syndrome by proxy, has attracted growing interest in recent times. The disorder is characterized by the deliberate fabrication or induction of medical symptoms in a child by an adult caretaker. The likelihood that the disorder is overdiagnosed is explored through a consideration of current research in the light of the base-rate problem and Bayes's Theorem.

The medical-psychiatric disorder known as factitious disorder by proxy (FDBP), also known as Munchausen's syndrome by proxy, has attracted growing interest in recent times. The original name was derived from Munchausen's syndrome, a disorder which is characterized by deliberate induction or fabrication of medical symptoms in oneself in order to obtain or prolong medical attention. The name of the disorder was changed to factitious disorder by proxy in the DSM-IV. Individuals who suffer from factitious disorder by proxy carry the disorder a step further, making use of a proxy, a child. In some cases, symptoms have been fabricated in order to subject children to unnecessary diagnostic procedures and hospitalization. In other cases, however, real symptoms have been induced through poisoning or other methods, such as suffocation to produce seizures, or doses of laxatives or ipecac to induce gastrointestinal symptoms. Although FDBP can occur in either male or female caretakers, the literature on the subject almost exclusively mentions the mother as perpetrator.

Timely intervention is essential in cases of FDBP. It is a serious disorder with sequelae which may include psychological damage to the child, serious physical harm and, in some cases, death. The risk of harm to the child, combined with the shocking nature of the abuse associated with FDBP, has drawn attention to the disorder. As it has become more widely known, an increasing number of criminal and civil actions have been filed.
against parents suspected of having FDBP, some of which have resulted in conviction. However, several of those convicted, or even jailed, for child abuse were later found to have had nothing to do with their children’s illnesses.

While false positives and false negatives are inevitable for every diagnosis, there are indications that FDBP is particularly prone to overdiagnosis. The most obvious indicator is the scarcity of empirical research on the subject. Many articles about FDBP have been published in the scientific literature, but the vast majority are clinical rather than empirical; that is, they are based on the experiences of physicians and psychologists in diagnosing or treating the disorder, rather than on rigorously conducted studies with well defined inclusion and exclusion criteria.

Moreover, my review of the literature on the subject revealed that nearly every article which discusses the signs and symptoms of FDBP uses as a major source a single article by Rosenberg (1), which examined 117 cases. Although this article broke new ground in the description of FDBP, a single article’s conclusions can only be considered preliminary data. In addition, serious issues have been raised about the methodology of the study on which the article is based. Despite these problems, all of the testimony that I have observed which dealt with the characteristics of FDBP, FDBP morbidity and mortality rates, and the profiles of FDBP mothers has been taken directly from this article.

To give an example of the methodological problems in Rosenberg’s study, the 9 percent mortality figure cited by Rosenberg is mentioned in numerous subsequent articles on FDBP in the scientific literature. However, a letter by Meadow (2) in response to Rosenberg pointed out that the 9 percent mortality rate which she reported was in error. He was aware of this because the two largest series of cases that Rosenberg utilized in her study were authored by him. He pointed out that many of these cases reappeared in other papers utilized by Rosenberg without being cross referenced. He concluded his letter by urging that “the quantitative aspects [of Rosenberg’s article], particularly in relation to morbidity rates, mortality rates, and other outcome indicators be neglected.”
A second and related problem in the diagnosis and prosecution of FDBP cases is the confounding influence of medical-psychiatric testimony. In general, the FDBP cases which are included in studies have been classified as FDBP either through court findings or through the judgment of physician panels. Some studies have included only court-founded cases; however, in these cases court findings are often influenced by physician and mental health testimony. Because this testimony may or may not be supported by empirical evidence, there is no way to know whether or not the FDBP diagnosis was correct. As a result, even in studies which include only court-founded cases, systematic error can be introduced into subsequent research and diagnosis (see Figure 1).

**Figure 1**

![Diagram](attachment:diagram.png)

Observation of MSBP profile characteristics

MSBP diagnosis

Medical testimony

Positive court finding

Studies of MSBP profile characteristics

The same type of phenomenon can be seen in eyewitness identification and police line-ups. Suppose, for instance, that a mugging victim mistakenly believes that his assailant was blond and blue-eyed, when in fact the attacker had gray hair and brown eyes. The victim gives this incorrect description to the police, who naturally round up individuals matching this description and put them in the lineup, inadvertently reinforcing the original misidentification of the victim. This introduction of systematic error can lead to the conviction of the innocent. In the same way, overreliance on shaky data about FDBP can lead to misdiagnosis.
Another serious problem in the diagnosis of FDBP is the use of vague, general, and possibly false psychological profile data in making the diagnosis. It is important to differentiate between diagnostic criteria which are robust indicators of FDBP and those which are weak indicators. Robust indicators include pathognomonic signs such as lab tests showing the presence of ipecac or laxatives in split samples, or hidden camera videos of a mother smothering the child to induce seizures. Profile data, however, are weak indicators, and their use in making a diagnosis of FDBP is unreliable, even when restricted to characteristics strongly associated with bona fide FDBP.

In order to understand the difficulties associated with the use of profile data, it is necessary to be familiar with the base rate problem, which occurs when making judgments about rare phenomena. The term base rate refers to the number of instances of a particular phenomenon in the general population. For example, the base rate of brown hair in the general population is high, whereas the base rate of redheads is much lower. Problems occur in diagnosis or in making other types of judgments when the base rate of the phenomenon being studied is low in the general population.

To illustrate this problem, let us suppose that a test has been developed which accurately identifies 100 percent of the serial killers who take it, and misidentifies a mere 1 percent of non-serial killers as serial killers. Assuming that the base rate of serial killers in the population is 1 in 100,000 individuals, such a test would have no practical use because of the base rate problem. Consider that if 100,000 men took the test, the test would identify the one bona fide serial killer, but would also misidentify 1 percent of the remaining 99,999 men as killers. Since 1 percent of 99,999 is 999 men, the test would be hundreds of times more likely to misidentify an individual than to identify him correctly. This example illustrates the fact that a small percentage of a large number can be many times larger than a large percentage of a small number.

This principle applies to FDBP because it appears to be rare, or to have a low base rate. Those who have attempted to gauge the prevalence of
FDBP have found relatively low rates for the disorder, and my review of the literature uncovered no evidence of well-researched epidemiological data which suggests otherwise. For example, Light and Sheridan (3) found that out of 20,090 cases of children being monitored for sleep apnea, 54 cases (0.27 percent) were suspected of being related to FDBP.

Another study by Rahilly (4) looked at 340 babies with serious episodic health problems and found five cases (1.5 percent) that he suspected might be related to FDBP. Some authors have stated that the incidence of FDBP is probably more common than is generally believed (5), but this theory brings to mind the familiar riddle, “How many undiscovered islands are there in the Pacific Ocean?” Like undiscovered islands, undiscovered cases of FDBP cannot be counted before they are discovered, and existing research indicates that FDBP is a rare disorder.

The base rate problem raises serious questions about the use of behavioral profile data as a tool in the diagnosis of FDBP. According to many articles and books on FDBP (5, 6), the typical factitious mother is overly attentive to her child, is friendly and solicitous of medical staff, and often has some type of medical background. Assuming that this is true (and there appears to be only preliminary research to support this) the presence of these characteristics would still have little or no predictive validity. The reason for this is that this profile is quite general, and is probably common in mothers of chronically ill children who are not factitious mothers. Even if every single factitious mother fits this profile, it is likely that using this type of data to identify the disorder will produce an unacceptably high rate of false positives (that is, indicating FDBP when it is not present). This is because a small percentage of a large number (the number of nonfactitious mothers with these characteristics) is apt to be much larger than a large percentage of a small number (the number of factitious mothers with these characteristics).

This principle is illustrated in Table 1. In this example, assume that 100 percent of FDBP mothers have a “typical” FDBP profile (that is, they are overly attentive to the sick child, solicitous of the medical staff, and have a medical background). Assuming that one percent of all mothers of
chronically ill children are actually FDBP mothers, and assuming that the “typical” FDBP profile is also found in five percent of nonFDBP mothers of chronically ill children, four out of five mothers identified by this profile as FDBP mothers would actually be nonFDBP mothers. Since it is probable that the vast majority of mothers with this profile do not have FDBP, testimony of this nature is much more likely to be wrong than right, and probably does not meet the criteria for expert testimony laid out in Frye (7) or Daubert (8).

Table 1. The Base Rate Problem in Identification of FDBP Mothers

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Rate of typical FDBP profile in FDBP mothers</td>
<td>100%</td>
</tr>
<tr>
<td>Base rate of FDBP mothers among mothers of chronically ill children</td>
<td>1 in 100</td>
</tr>
<tr>
<td>Number of FDBP mothers correctly identified out of population of mothers of chronically ill children</td>
<td>100% x 1 = 1</td>
</tr>
<tr>
<td>Base rate of typical FDBP profile in non-FDBP mothers of chronically ill children</td>
<td>5%</td>
</tr>
<tr>
<td>Base rate of non-FDBP mothers among mothers of chronically ill children</td>
<td>99 in 100</td>
</tr>
<tr>
<td>Number of FDBP mothers incorrectly identified out of population of mothers of chronically ill children</td>
<td>5% x 99 = 4</td>
</tr>
</tbody>
</table>

A related problem in diagnosis and adjudication of FDBP is the broad range of behavior and characteristics attributed to those who have the disorder. This type of problem has been seen in other syndromes such as sexual abuse accommodation syndrome and rape trauma syndrome. These diagnoses and associated testimony have been criticized because broad ranges of sometimes contradictory signs and symptoms are presented as evidence to support the diagnosis. For example, an alleged victim who is diagnosed with rape trauma syndrome may appear calm and unemotional or may be crying and hysterical; either reaction is considered consistent
with rape trauma syndrome. In fact, there is almost no behavior that the alleged rape victim could demonstrate which would be considered inconsistent with the syndrome.

The same criticism can be applied to prevalent theories about the indicators of FDBP. Libow and Shreir (5), for example, give the following as one of the "guidelines for suspecting and identifying MSBP":

A parent who appears unusually calm in the face of serious difficulties in her child's medical course while being highly supportive and encouraging of the physician, or one who is angry, devalues staff, and demands further intervention, more procedures, and the like.

Descriptors which cover such a broad range of behavior cannot possibly have predictive validity. In addition, it is important to point out that these lists of profile characteristics are derived either from clinical experience or from preliminary empirical studies.

Ultimately, the biggest obstacle to accurate diagnosis of FDBP is related to statistics, probability theory and the nature of clinical prediction and diagnosis. In his excellent and thought provoking article, "Weighing Evidence in Sexual Abuse Evaluations: An Introduction to Bayes's Theorem," Wood (9) makes the point that rare diseases and disorders are very likely to be overdiagnosed. He points out that evaluators of disorders such as FDBP generally use terms such as weak, moderate or strong to characterize the strength of evidence, and suggests that more precision is afforded by using the likelihood ratio, which expresses the probability that a piece of evidence will be seen in one group as opposed to another. For example, it is hypothetically possible that 70 percent of children who have been sexually abused wet the bed, and that 20 percent of nonsexually-abused children wet the bed. The likelihood ratio can be worked out in the following manner:

Percentage of abused children who wet the bed: \[ \frac{70}{7} = 7:2 \]

Percentage of non-abused children who wet the bed: \[ \frac{20}{2} = 7:2 \]
This means that, in this example, abused children are 3.5 times more likely to wet the bed than nonabused children. In applying Bayes's theorem, a fundamental tool in statistical research, one uses the likelihood ratio in conjunction with the base rate of the phenomenon being studied to arrive at the relative probability of group membership (FDBP victim, sexual abuse victim, etc.) Dr. Wood points out that Bayes's theorem predicts that if a disease is rare, most identified cases will be false positives unless the diagnostic criteria are very well defined, are measured very exactly, and are very rare in the absence of the disorder.

To give an example, let us assume that one out of every 1,000 chronically ill children is actually the victim of a caretaker with FDBP. Let us also suppose that, in a particular case, a physician testifies that the child in question had a very unusual complex of febrile seizures and that he believes the mother was fabricating the symptoms. When asked on the stand what the chances are that these symptoms could occur in this manner if they were not fabricated, the physician states that it would be very rare, estimating the odds at less than one out of 500. If this ratio is inserted into the formula suggested by Bayes's theorem we see the following results:

\[
\frac{1}{999} \times \frac{500}{1} = \frac{500}{999}
\]

\[
\frac{500}{500 + 999} = 33\% \text{ probability of FDBP}
\]

This means that, even with strong evidence of FDBP, the rarity of the disorder makes it likely that most of the cases identified which are not based on incontrovertible evidence of fabrication or active abuse by the alleged perpetrator, are likely to be false, and that a number of cases brought before the court will be misdiagnosed as FDBP when the child is actually chronically ill.
Another difficulty with the diagnosis of FDBP relates to a lack of adherence to the diagnostic criteria for the disorder. According to the DSM-IV (10):

The essential feature [of FDBP] is the deliberate production or feigning of physical or psychological signs or symptoms in another person who is under the individual’s care. The motivation for the perpetrator’s behavior is presumed to be a psychological need to assume the sick role by proxy. External incentives for the behavior, such as economic gain, are absent. The behavior is not better accounted for by another mental disorder.

According to these criteria, in order to justify a diagnosis of FDBP, several conditions must be present. First, the perpetrator’s behavior must place the child at risk or cause harm. The harm can be related to the administration to the victim of painful or potentially risky diagnostic procedures or treatments. Second, the perpetrator must be fabricating these symptoms consciously; that is, she must be aware that the child does not have the condition for which she is consulting physicians. Third, the purpose of the symptom fabrication must be the secondary gain achieved by taking on the patient role by proxy.

The APA Ethical Principles (11) and the Specialty Guidelines for Forensic Psychologists (12) make it clear that, in assessing the presence or absence of a psychological condition or disorder in a forensic context, the evaluator has an obligation to explore all logical alternative hypotheses about the nature and cause of the condition. In cases involving allegations of FDBP, it appears that insufficient attention has often been paid to alternative explanations for the perceived problem. In particular, little weight appears to have been given to the DSM-IV diagnostic criterion which states that fabrication of symptoms must be intentional.

The entry level for an investigation would be suspicion by a physician, nurse or other concerned individual that the FDBP perpetrator is bringing the child in for treatment of symptoms that do not objectively exist. Many of the books and articles on FDBP point to a number of indicators of
FDBP. These include taking the child to multiple physicians, demanding specific procedures, leaving out significant portions of the child’s medical history, atypical medical presentation and clinical course, and frequent changes of domicile. When these factors are noted and suspicion of FDBP is raised, a number of alternative hypotheses are suggested:

1) The unusual clinical presentation and course may be the result of misdiagnosis. The likelihood of misdiagnosis is increased in disorders with a low base rate. A tragic example of this can be seen in the case of Patricia Stallings (13), who was found guilty of murdering her child by poisoning him and sentenced to prison. She was pregnant at the time she was imprisoned, and gave birth in prison. The infant was placed in foster care, but soon died of what proved to be a rare genetic disorder. Subsequent reexamination of the lab work of the older sibling showed that he had the same genetic disorder, and that Ms. Stallings had had nothing to do with the child’s death.

2) The parent may be demanding of diagnostic tests and treatments and “doctor shop” out of a sincere belief that she is doing what is best for her child. The parents of a child with a chronic and/or low incidence diagnosis can become quite knowledgeable about the disease and may, in some cases, know more about the diagnosis than some physicians. While extreme examples of this behavior may cause the child to endure painful and possibly dangerous medical procedures, the purpose of the behavior is not to achieve the secondary gain of taking on the patient role by proxy. Such behavior might meet the criteria for child abuse or neglect, but it does not meet the criteria for a diagnosis of FDBP.

3) The parent, particularly if she is inexperienced or unsupported, might see symptoms and illness in a child where there are none, and might be convinced that every snuffle is a respiratory infection, every headache a brain tumor, and every episode of loose stools evidence of some dire gastrointestinal condition. In
such a scenario, the parent might even exaggerate the child’s symptoms in order to get the physician to take her fears seriously. This would be akin to an adult whose MMPI-2 validity scales suggest a degree of symptom exaggeration which proves to be related to a “cry for help” rather than an intentional desire to mangle. Such behavior by a parent in relation to a child might be termed “hypochondriasis by proxy” rather than FDBP. Again, in extreme forms such behavior could rise to the level of neglect or abuse, but would lack the conscious component necessary for a diagnosis of FDBP.

4) Personality factors or disorders could create a situation which appears to be related to FDBP, but is not. For example, a parent with a personality disorder with prominent narcissistic and paranoid features might mistrust the opinions of physicians caring for her child, derive satisfaction in proving them wrong, and enjoy the secondary gain of being the brave parent of a chronically ill child. However, if this process is not conscious, it does not meet the criteria for a diagnosis of FDBP. Once again, this behavior might be determined to be harmful to the child and a finding of abuse could be made by the court.

5) In cases of symptom induction, it is conceivable that a parent’s real intent could be infanticide, and that she is inducing symptoms in order to make the death appear to be the result of an illness. In such cases, careful surveillance would help to make the differential diagnosis and prevent further harm to the child victim.

In each of these alternative scenarios involving symptom fabrication or exaggeration, a child is exposed to the negative effects of unnecessary, painful and possibly dangerous medical procedures. However, the conditions necessary for the parent to be diagnosed with FDBP would not be present due to the absence of conscious motivation to fabricate symptoms for the express purpose of obtaining the secondary gain associated with being the parent of a chronically ill child. Despite the fact that the harm to
the child in such a case can be just as severe as in a bona fide case of FDBP, the distinction is an important one for several reasons.

First, the literature on the treatment of FDBP is extremely pessimistic about the prognosis for this disorder. However, if one of the alternative scenarios applies, it is possible in some cases that the child’s safety could be protected. In such cases, the court or child protective agency might coordinate the child’s medical treatment, and the parent might be constrained from moving or consulting physicians other than those who are appointed by the court and informed about the situation.

Finally, there are indications that the important distinction between the clinical diagnosis of FDBP and the legal determination of child abuse or neglect has become blurred. It is important to remember that parents are not put on trial for having FDBP; they are tried for the suspicion that they have actually caused their children physical or emotional harm. The inclusion of testimony about the psychological characteristics of FDBP mothers is akin to testimony that an alleged perpetrator of sexual abuse has the characteristics of a pedophile, or that an alleged bank robber is the kind of person who might rob a bank. Such profile testimony is generally not allowed in trials, and it should not be allowed in child abuse and neglect proceedings. In the same way, psychological evaluations of the alleged FDBP mother should not be undertaken before adjudication of the case, since there is no test or procedure which can reliably differentiate FDBP mothers from the general population.

Given the difficulties in accurate diagnosis of FDBP cases and the high probability of false positives, it is extremely important to use rigorous procedures in investigating and evaluating this syndrome. Effective evaluations require very careful evaluation of the child’s medical condition, a thorough review of medical records from all available sources, interviews of collateral contacts, careful consideration of the time line of the disorder, split samples of medical materials drawn from the child, and video surveillance of the parent. Making a diagnosis of FDBP with less comprehensive and stringent procedures makes it likely that an inappro-
priate diagnosis of the syndrome will be made, with all the cost to the family and child that this entails.

REFERENCES

7. Frye v. United States, Court of Appeals of District of Columbia, November 7, 1923
8. Daubert v. Merrell Dow Pharmaceuticals, Supreme Court of the United States, No.92-102, June 28,1993

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Eric G. Mart, Ph.D. is a licensed psychologist in private practice in Manchester, New Hampshire. He specializes in cognitive-behavioral treatment of individuals and families and frequently provides psychological evaluations and testimony for New Hampshire and Massachusetts courts in civil, criminal and educational due process cases. He has provided psychological evaluations, consultation and testimony in FDBP cases in New Hampshire, Florida and New Jersey and has had articles published on various subjects related to forensic psychology, including personal injury, custody issues, and ethical issues related to psychological assessment and testimony.