

JOINING FORCES

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RESEARCH NEWS YOU CAN USE

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IN THIS ISSUE

This issue of *Joining Forces* features an article by a noted child abuse researcher, Kathleen Kendall-Tackett. She focuses on some important recent findings on the relationship between abuse and health. We hope this article will stimulate research interest and dialogue between FAP personnel and other health care providers.

Secondly, we feature abstracts on the association between spouse and child abuse in families and the possible influence of spouse abuse on child abuse in families receiving home visitation. It is our objective to heighten the interest of all FAP personnel to the importance of collecting research data on the effects of home visitation for new parents.

THE LONG-TERM HEALTH EFFECTS OF VICTIMIZATION

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Survivors of childhood or adult domestic abuse often suffer from health problems long after the abuse has ended. Abuse survivors are sick more often and go to the doctor more. They report more symptoms and depression, are less likely to describe their health as good, and have almost twice as much surgery (Kendall-Tackett, Marshall, & Ness, 2000).

Pain Syndromes

One factor that might drive higher healthcare use among adult survivors is the increased likelihood of one or more chronic pain syndromes. There is growing evidence that traumatic events physiologically lower pain thresholds (Kendall-Tackett, 2000). Traumatic events can trigger these changes and create a hypersensitivity to subsequent stimuli, which often translates into increased pain. Such pain makes day-to-day living more difficult. Various types of pain have been studied with regard to past victimization. These studies are summarized below.

Headache, Back Pain, & Pelvic Pain

High rates of chronic pelvic pain and severe premenstrual syndrome have been found among adult survivors of childhood physical and sexual abuse (Hudson et al., 1992; Walling et al., 1994a). Likewise, severe headaches have also been found among women who had experienced physical, emotional or sexual abuse (Hudson et al., 1992; Walling et al., 1994b). Childhood abuse has even been related to whether surgery for back pain is successful. In a study of spine surgery, patients were questioned about five types of childhood trauma: sexual abuse, physical abuse, emotional abuse, parental substance abuse, and abandon-

ment. Those reporting three or more types of abuse had a surgery failure rate of 85%, compared with a 5% failure rate among those with no history of trauma (Schofferman et al., 1992).

Fibromyalgia Syndrome

Fibromyalgia syndrome (FMS) is a chronic pain syndrome characterized by diffuse soft-tissue pain (Boisset-Piolo, Esdaile, & Fitzcharles, 1995). Two studies have recently considered the effects of childhood physical and sexual abuse on the development of FMS. They found that FMS is not significantly more likely among adult survivors of sexual abuse than it is among their non-abused counterparts. However, within the group of patients with FMS, those with a history of sexual abuse generally had a *worse experience* of the illness. Sexually abused FMS patients reported significantly more symptoms and pain than did non-abused FMS

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patients (Taylor, Trotter, & Csuka, 1995). Conversely, FMS patients were significantly more likely to report physical abuse during child or adulthood, or physical abuse in combination with sexual abuse than were the non-FMS patients (Boisset-Pioro et al., 1995).

Irritable Bowel Syndrome

Irritable bowel syndrome (IBS) has been the most-studied pain syndrome with regard to past victimization. In studies that compared female patients with IBS to those with organic gastrointestinal illnesses (e.g., ulcerative colitis), patients with IBS were more likely to report a

history of threatened sexual abuse, incest, forced intercourse, and frequent physical abuse than were patients in treatment for organic illness (Drossman et al., 1990; Walker et al., 1993). The comparisons are particularly striking in the study by Walker and colleagues (Walker et al., 1993). Patients with IBS had higher rates of lifetime sexual victimization (54% vs. 5%), severe lifetime sexual trauma (32% vs. 0%), and severe child sexual abuse (11% vs. 0%) than those with organic gastrointestinal illness

Depression and Pain

Do patients report more pain because they are depressed? At least one study says no. Scarinci et al. (1994), found that IBS patients with a history of abuse had altered sensations of pain. Relative to the non-abused patients, abused patients had significantly lower pain threshold levels in response to finger pressure and significantly lower cognitive standards for judging a stimuli as noxious. These results held even after controlling for psychiatric disturbance including depression.

Why Does the Experience of Victimization Influence Health?

There are several factors that have the potential to contribute to health problems among those with a history of victimization (Koss, Koss, & Woodruff, 1991). The first possible contributor is health-compromising behaviors. Not surprisingly, people who have experienced victimization are more likely to engage in harmful and self-destructive behaviors than are those who have not (Gladstone et al., 1999). These behaviors

include risky sexual practices, substance abuse, smoking, overeating, and not wearing seat belts (DeWit, MacDonald, & Offord, 1999; Kaplan et al., 1998; Koss et al., 1991).

Another possible way that victimization may influence health is through depression. Depression has been shown to affect the immune system (Avisar et al., 1997). Conversely, optimism has been shown to boost the immune system (Segerstrom et al., 1998).

Depression is also a common symptom among victims of all types of interpersonal violence (Walker et al., 1993), but the risk may be particularly high in victims of childhood abuse. Patients who had been sexually abused in childhood reported the highest levels of depression, even when compared with other depressed patients (Gladstone et al., 1999).

Finally, health perception (how healthy people perceive themselves to be) is a potent predictor of both illness and mortality. In a study of 3,500 Canadian senior citizens, those who rated their health as “poor” were almost three times more likely to die during the seven-year study as those who rated their health as “excellent.” This proved to be a *more* accurate predictor of mortality than did the objective rating of physicians (Mossey & Shapiro, 1982). Another study of 7,000 adults in California found similar results even after controlling for health behavior, psychological state (including depression), and social

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ties (Kaplan & Camacho, 1983). Past abuse or victimization can influence health perception, with adult survivors expressing less overall satisfaction with their health than did their non-abused counterparts (Moeller, Bachman & Moeller, 1993). A recent meta-analysis of seven studies found that women who had been sexually victimized, either as adults or children, were more likely to consider their health as poor (Golding, Cooper, & George, 1997). These findings remained even after controlling for depression, suggesting that past victimization had a relationship with health perception that was independent of depression or current distress.

Does Timing and Type of Abuse Make a Difference?

Does abuse that occurs in childhood cause different symptoms than abuse that occurs during adulthood? Intuitively, you would expect to see differences since children (whose brains are still developing) are more vulnerable. However, this does not seem to be the case. In one study, patients whose abuse first occurred in childhood did not have worse health outcomes than those whose abuse first occurred as adults (Leserman et al., 1996).

We had similar findings (Kendall-Tackett et al., 2000). In a primary care sample, we found no significant differences between patients who reported abuse in childhood vs. abuse as adults. There were, however, significant differences between patients with a history of either type of abuse

and patients without such a history. The patients with the abuse history were more depressed, reported more symptoms, and surgeries, had a worse perception of their health, and were more likely to participate in harmful activities.

As with timing of abuse, there does not appear to be a difference in symptomatology based on type of abuse (physical vs. sexual). Most of the focus has been on past sexual abuse, but physical abuse also has been found to be related to significant effects. In one study of IBS, those who had been physically abused had the worst health outcomes of all (Leserman et al., 1996). What does appear to be related is severity of the abuse. Not surprisingly, the more severe the overall abuse experience (and this can be summed across time and across perpetrators), the higher the level of health problems. For example, someone who experienced both physical and sexual abuse will probably be more symptomatic than someone who experienced only one type, although this is not always true. Similarly, people who experience abuse both in childhood and as adults are frequently more symptomatic than those who experienced abuse only during one time period.

Treatment Approaches

Given this new interest in health issues among abuse survivors, you might be wondering how to approach individual clients. We often tend to treat physical and mental health issues separately. What might be called for, instead, is an approach that integrates both. Even with regard to family

violence, the health care focus is often on how to treat injuries sustained during recent assaults. As Koss and colleagues describe (Koss et al., 1991), the needs of victims of violence go well beyond treatment of the current injuries. We must consider the long-term effects as well.

Mental health practitioners might start by inquiring about physical difficulties, especially pain syndromes. These conditions respond well to mind-body approaches such as relaxation techniques, biofeedback and cognitive restructuring. You can also help clients seek comprehensive care for themselves. Understanding the source of clients' pain often helps them cope with it.

If you are a provider of medical care, you might also inquire about a possible history of childhood or domestic abuse. This is especially important if someone is being treated on an ongoing basis for a chronic pain syndrome such as IBS. This is not to say that the patients' experience of pain is not "real" or that all chronic pain is caused by past abuse. Pain has a particularly strong mind-body component. If patients are educated about the source of their pain (e.g., hypersensitivity caused by a flood of stress hormones), they can be empowered to get the help they need. Once they understand the mind-body component involved in their experience of illness, they may be more likely to accept a psychological intervention and not feel like they are being "blown off."

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In conclusion, past abuse can influence not only mood states and emotions, but physiological processes as well. Recognizing this fact may help both care providers and adult survivors develop effective treatment plans that address all their concerns.

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HOME VISITATION, CHILD ABUSE, AND DOMESTIC VIOLENCE

The prevention of child abuse through pre-natal, in-hospital, and post-natal home visits to new mothers has been a component of the Family Advocacy Program (FAP) for several years. However, there are many questions about the types of programs that should be offered, the staffing, targeted recipients, duration, cost, etc. While such programs in the Army are usually thought of as being for child abuse prevention, it could be asked whether such programs prevent spouse abuse as well. Two recent articles are relevant to the topic. Rumm et al. (2000) estimated the effect of spouse abuse as a risk factor for child abuse in the Army. Eckenrode et al. (2000), using a non-Army sample, found that domestic violence limits the effectiveness of child abuse prevention.

Rumm et al. (2000) used Army Central Registry (ACR) data from 1989-1995. ACR spouse abuse cases were included if at least one of the parents was active duty, were married, and there was at least one child in the family. Only substantiated cases were used in the analysis. The outcome of interest was the first case of child abuse occurring in the family. Follow-up time was measured in family-years (the number of years each married family accumulated in the Army during the study) and stratified by the age of the soldier, the number of children in the family, and military rank (junior enlisted, non-commissioned officers, and officers). (Rank was considered as

a proxy variable for income and education.) Rate ratios and 95% confidence intervals per 1,000 family-years were estimated to compare Army families on the above variables. They found that families with a case of spouse abuse were twice as likely to have a case of child abuse compared with the other Army families. Identified spouse abuse was associated with 2.4 times the amount of child physical abuse (rate ratio=2.4, 95% CI=2.2-2.5) and one and a half times the sexual abuse (rate ratio=1.5, 95% CI=1.3-1.7) compared to the other Army families. Young parents had the highest rate ratio, almost 5 times the rate of the other families (rate ratio=4.9, 95% CI=4.5-5.3). (See statistics article in this issue.) Spouse abuse was not associated with child neglect. They concluded that spouse abuse in a family appears to be associated with an increased risk of subsequent child abuse.

Eckenrode et al (2000) reported on the results of a 15-year follow-up of a home visitation program in upstate New York. Four hundred socially disadvantaged pregnant women were enrolled in the program from 1978-1980 and were randomly assigned to receive routine perinatal care, routine care plus nurse home visitation during pregnancy only, and routine care plus nurse home visitation during pregnancy and through the child's second birthday. A total of 324 mothers participated in the follow-up study. One outcome measure was the number of substantiated reports of child abuse over the entire 15-year period of the study

involving the study child as subject regardless of the identity of the perpetrator or involving the mother as perpetrator regardless of the identity of the child. They found that families receiving home visitation during pregnancy and infancy had significantly fewer child maltreatment reports involving the mother as perpetrator or the child as subject than families not receiving home visitation. For those mothers who received home visits through the child's second birthday, the treatment effect (number of maltreatment reports) decreased as the level of domestic violence increased. For the mothers who reported 28 or fewer incidents of domestic violence over the 15 year period (almost 80% of the sample), home visited mothers had significantly fewer child maltreatment reports during the 15 year period than mothers not receiving home visitation through the child's second birthday. The intervention did not reduce child maltreatment among mothers reporting more than 28 incidents. The authors concluded that domestic violence may limit the effectiveness of interventions to reduce the incidence of child maltreatment.

The article by Eckenrode et al. prompted an editorial (Gomby, 2000) in which the importance of responding to domestic violence in families served by home visitation programs was noted. Gomby suggested that universally available home visitation services may not yield large benefits and that professionals and policy makers should moderate their

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expectations for such services. The data from the civilian programs reviewed by Eckenrode (Memphis and New York) indicated that nurse home visitation programs are likely to be most effective with low-income, unmarried, first-time mothers. Families with low levels of psychological resources received the most home visits. Eckenrode's data also indicated a further limitation on the effectiveness of home visitation: the presence of high levels of domestic violence in the home. Targeting home visitation programs to a special population requires policy makers to confront the dilemma of stigmatizing those families most in need of services, which may then limit the political appeal of the entire program.

There are no long-term data on the effectiveness of the Army's home visitation program. However, Rumm's data suggested that home visitors should not fail to consider the presence of domestic violence in the home and its effects on (1) the increased risk of child abuse, and (2) its effects on the effectiveness of the entire home visitation program. Current home visitation data point to the importance of targeting high-risk groups. However, there are no convincing Army data on what constitutes any high-risk group for child or spouse abuse that can be realistically targeted. Further research is needed in the Army to determine the long-term effectiveness of home visitation and to whom such programs should be offered or mandated.

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STATISTICS: RATE RATIOS AND CONFIDENCE INTERVALS

The article by Rumm et al. in this issue of *Joining Forces* reports some results in terms of rate ratios and confidence intervals. These are two very common statistics used in reporting estimates of the size (or strength) of a finding [rate ratio] and the range of possible values of that estimate [confidence interval]. A rate ratio is the ratio of one rate to another and is reported as a single number whose value represents the strength of the finding. If there were no difference between two groups, the value of the rate ratio would be one. Rumm et al. reported a rate ratio of 2.0 for child abuse among families with an identified incident of child abuse, twice the value for families without an identified incident of spouse abuse.

The rate ratio is a point value. That is, it is a single data point. If one wants to know possible ranges for this value, a confidence interval is computed. The confidence interval represents the

range of possible values that the rate ratio could take given a stated probability value, usually 95%. The stated probability value for the confidence interval is selected by the investigator to represent a reasonable limit that could incorporate possible values of the rate ratio. The width of the confidence interval depends on the variability of the data (the more variability in the data, the wider the interval) and the size of the interval selected.

Rate ratios and confidence intervals are ways of presenting information about the results of a study in addition to the value of statistical significance based on a test such as a t-test, a chi-square test, or others. (Rates were discussed in *Joining Forces* Vol. 1, Issues 3 and 4; statistical significance in Vol. 3, Issue 4.)

It's not too late to make your New Year's Resolutions!

May we suggest . . .

Resolution #1

- Memorize the Four Army Outcomes Safety, Personnel Preparedness, Self-sufficiency, and Community Cohesion

Resolution #2

- Plan a FAP Research Project for FY 2001

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