

**Biopsychosocial Treatment of Nicotine Dependency:
Family Participation
Versus No Partner Group Treatment**

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Statement of the Research Problem

Santayana forewarned that those who do not know history are condemned to repeat it (Munitz, 1939). Unfortunately, knowledge alone is insufficient to produce change. Despite twenty-eight Surgeon General reports documenting the health consequences of nicotine use, cigarette smoking is the primary cause of premature mortality in the United States. Each year 430,000 deaths, 1 in every 6, are directly attributed to smoking (Centers for Disease Control, 1992). Knowledge is insufficient because nicotine is a highly addictive substance that effects both the brain and the nervous system (Henningfield, 1984) and has been found to be "as addictive or more addictive than heroin and cocaine" (U.S. Department of Health and Human Service, 1988, pp. 247-305).

In 1992, the Food and Drug Administration approved a new product to assist smokers who want to quit. Early research on the safety of "the patch" found this product to be beneficial in reducing the negative symptoms associated with nicotine withdrawal (Bannon, Corish, Corrigan, Devane, Kavanagh & Mulligan, 1989; Foulds, Stapleton, Feyerabend, Vesey, Jarvis & Russell, 1992) and improving quit rates among clinical participants (Abelin, Buehler, Muller, Vesanen & Imhof, 1989; Mulligan, Masterson, Devan & Kelly, 1990; Rose, Levin, Behm, Adivid & Schur, 1990). Unfortunately, despite its state of the art advantages, the success of the nicotine patch beyond initial cessation has been less encouraging than anticipated. Although the success rates at 6 months are higher than placebo-control treatment, the overall success rate is comparable to conventional approaches (Fiore, Douglas, Jorenby, Baker & Kenford, 1992; Schwartz, 1987; US DHHS, 1988). Presently, short-term abstinence rates for the patch range from a high of 77% at 6 weeks after cessation (Hurt, Lauger, Offord, Kottke & Dale, 1990) to 18% at 3 weeks (Rose, Levin, Behm, Adivid & Schur, 1990). How to help smokers using the patch become permanent ex-smokers is of current concern and the thrust of the dissertation.

Research Questions

Given the support for nicotine replacement therapy as a viable treatment option, the primary research question of the study was to determine whether the intervention combined with social work counseling improved treatment outcome. The first question asked whether

biopsychosocial treatment was more effective than patch-only (PO) intervention. The literature also identifies "partner support" as a potential factor in successful recovery. Given this conjecture, the second objective was to determine which social work intervention was more effective: Family Biopsychosocial Treatment (FBT) or Individual Biopsychosocial Treatment (IBT).

Methodology

Volunteers were recruited via newspaper ads, flyers and public service announcements. The criteria for participating included: 1) a desire to quit smoking permanently; 2) a history of smoking a pack of cigarettes a day; and 3) married or in a spouse-like relationship with a non-smoker who was willing to participate. This study utilized a pretest-posttest experimental design in which participants were blocked by gender then randomly assigned to one of four conditions: 1) Family Biopsychosocial Treatment (FBT); 2) Individual Biopsychosocial Treatment (IBT); 3) Patch Only Treatment (PO); or 4) Wait-list Control (WAIT).

Analysis of Variance (ANOVA) and Chi-square procedures were utilized to ensure that no differences between groups existed prior to treatment. Overall treatment outcome was evaluated using One-way and Repeated Measures ANOVA. Pair-wise comparisons between groups were conducted using Kruskal-Wallis procedures on the dependent variable "number of days abstinent." The dependent variable "abstinence," (self-report of zero cigarettes, confirmed biochemically) was evaluated at each time period using the Chi-square procedure.

Results

One-way ANOVA revealed highly significant differences among groups on the number of abstinent days. The FBT group was found to have the greatest number of days since the last cigarette smoked, followed by IBT, and finally PO. With the exception of 3 subjects who were able to quit on their own, the control group remained virtually unaltered.

Planned comparisons between PO and WAIT revealed that individuals who received nicotine replacement therapy had significantly higher success rates than those not assigned to treatment. This finding was consistent at 7 weeks, 10 weeks, and 15 weeks. Statistically significant differences between participants assigned to biopsychosocial treatment and those assigned to the PO group were observed on the "number of days abstinent" at weeks 7 and 10. This finding was no longer significant at week 15. At the end of the study (week 15), 72.7% of the FBT group versus 45.5% of the IBT group had successfully quit smoking (self-report data confirmed biochemically). This finding is relevant to social work practice despite the lack of statistical significance.

Utility for Social Work Practice

Educational campaigns and recent governmental legislation have resulted in laws that restrict cigarette smoking in public places. The intended purpose of such legislation is to reduce the number of social smokers and to prompt more chronic users to seek professional assistance (US EPA, 1992). These requests for assistance, particularly from those in distress about being unable to quit on their own, are likely to present helping professionals with a major challenge.

There is an increasing number of settings where social workers may be called upon to develop smoking cessation programs (Moncher, Schinke, Holden, 1992). Social workers employed by hospitals, clinics, agencies, mental health centers, EAPs and HMOs may be involved in both direct and indirect practice toward smoking cessation. This study validated the utility of social work counseling in conjunction with the nicotine patch and found support that family members can be helpful in the recovery process without assuming responsibility for it.

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