

THE COST-EFFECTIVENESS OF A PROPHYLACTIC MIGRAINE PROGRAM AS CONTRASTED TO PHARMACOLOGICAL MIGRAINE TREATMENT

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OBJECTIVE

To compare the cost-effectiveness of utilizing a non-traditional prophylactic migraine program with traditional pharmacological migraine treatment for patients in a managed care practice in Northern California using a retrospective analysis of a convenience sample.

DESCRIPTION

A retrospective analysis was conducted to show that utilizing a prophylactic, non-traditional migraine program as adjunctive to pharmacological headache treatment for migraine sufferers in a managed care practice had the propensity to be more cost-effective for providing those patients long-term relief than traditional therapy alone.

BACKGROUND

- More than 45 million Americans suffer from chronic severe headaches with approximately 22 million having recurrent migraines annually (Peters, National Headache Foundation, 1997).
- Lifetime prevalence ranges between 16%-17.6%, using the IHS criteria, in international studies in Copenhagen, U.S. and France (Silberstein, Lipton & Goadsby, 1998).
- Evidence suggests that migraine sufferers, 69% of 688, want to be taught how to avoid headaches (Lipton & Stewart, 1999).
- Migraine sufferers want non-pharmacological headache relief methods that are congruent with their own beliefs and philosophical orientations (Campbell, Penzien & Wall, 2000).
- Loss of productivity is estimated between \$1-17 billion per annum (Silberstein, et al), with up to 1/3 of headaches so debilitating that they require bed rest and social isolation.
- Meta-analyses of EMG biofeedback, relaxation training and cognitive-behavioral therapy, with and without selected prophylactic medications, support the effectiveness of these non-traditional modalities (Campbell, et al).
- The Mundo Method Program uses relaxation training, trigger identification and elimination, and mind-body awareness using biofeedback-like techniques (Mundo, 1999).

OPERATIONAL DEFINITIONS

- Traditional Therapy Group: referred to pharmacological based treatment. Cost included specialist visits, diagnostic work-ups, various therapeutic procedures, and pharmacological management, prophylactic and abortive. In this managed care environment, the delegated medical group paid these costs and shared in the risk for pharmacological costs with the health plan. The two entities were referred to as the Managed Care Organization (MCO).
- Non-traditional (Mundo Method) Program: referred to a behavioral treatment and educational approach for migraine prevention. Mundo Method therapy used non-instrumental biofeedback technique for headache relief.

METHODS

Sample Description:

- Non-traditional Program: group format where participants attended 5 or 6 weekly sessions, 87% female, age 17-62 years, with a median of 19 headache years. Encounter data was not available for this group to link cost of prior traditional therapy. Three different managed care providers sponsored the group program (1995-1999) sharing the cost with the clients via a co-pay arrangement.
- Traditional Group: comprised of managed care members using abortive migraine medications from the MCO pharmacy database over a one year period (September, 1999- September, 2000). Prophylactic medications could not be ascertained due to their use for other conditions. Encounter data for office visits, specialist referrals, emergency care visits and procedures were crossmatched with the pharmacy database. The medical records of the ten members with the highest treatment and pharmacy costs were reviewed to verify that treatment was for migraine headaches. Information regarding this group's use of other prophylactic measures was not available.

Design:

A cost-effectiveness analysis (CEA) assumed the benefits of a given treatment and investigated the costs of various alternatives associated with reaching objective (Penner, 2000). CEA allowed the inclusion of effectiveness indicators that dealt not only with dollar amounts but quality of life (Getzen, 1997).

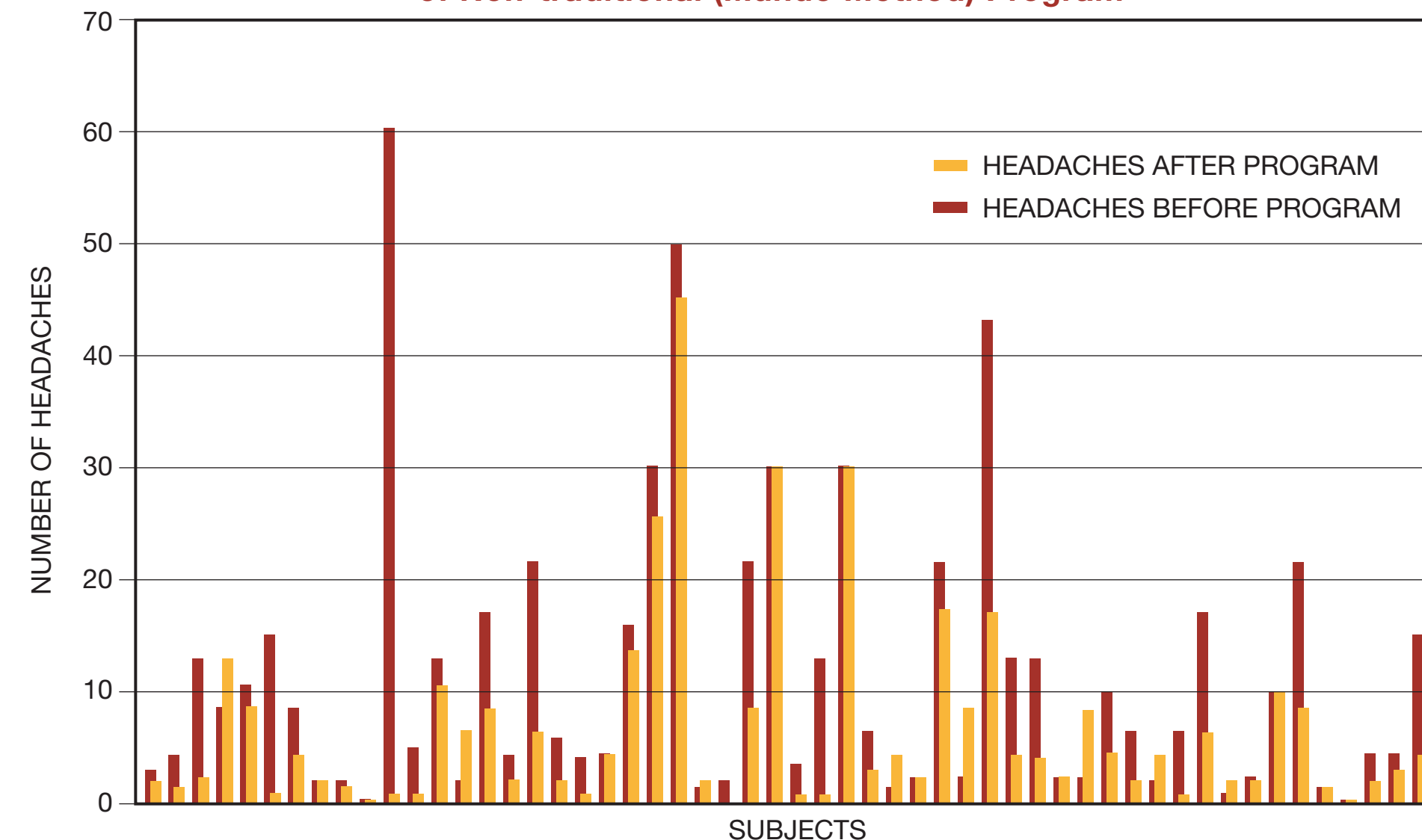
- Non-traditional Group: Retrospective analyses of Mundo Program questionnaires (1995-1999), both baseline and at end of program sessions, were conducted. Only clients whose headaches could be assessed as meeting the IHS criteria for migraine headaches were included (n=78).

Table 1. Non-traditional Program Descriptor Groupings

- Descriptors for headaches: associated symptoms
- Use of abortive medications
- Use of prophylactic medications
- Number of headaches before and after application of program
- Clients perception of their headaches on completion of program
- Demographics: age, sex, occupation, headache years
- Comments on program related to any changes in life

- Traditional Group: The pharmacy data base identified an annual cost for abortive drugs (Sumatriptan Succinate, Naratriptan HCL, Rizatriptan Benzoate, and Zolmetriptan) as \$18,246 for 54 members. The cost ranged per member from \$90-\$2189 for the year. Analysis of the annual cost for the 10 members with the highest cost for the treatment of migraines using traditional methods was averaged. Only the cost of prescription abortive medications and office visits associated with treatment were included. Costs for diagnostic work-ups and emergency room visits were evaluated but not included in the average cost since not all members had their work-up during this period. The projected savings to the MCO if these clients were to attend the non-traditional program were assessed.

Figure 1. Change In Headaches Per Month with the Application of Non-traditional (Mundo Method) Program



(n=78). Evidenced a 41% reduction of headaches after program application.

RESULTS

- Analysis of the Non-traditional Group evidenced a 41% reduction in the number of headaches, with clients having 59% the number of headaches after the 5 or 6 session program. Although some clients did not experience a reduction of headaches, they described a reduction in the length and intensity of headaches. There was a 52% decrease in the use of abortive prescription medication. Only 17% (9% after) used prophylactic drug treatment. 97% of the 78 subjects commented on an increased self-control and understanding of headache pattern. These two responses related to quality of life changes for this study.
- The Traditional Group had an average cost of \$2187/client/year for abortive prescription medications and office visits associated with direct migraine treatment.
- Applying the Mundo Method Program to the Traditional Group a projected reduction of 41% was anticipated. Factoring in a cost for the six-week program at \$1500 a group (ten clients), a cost per member would be \$100 plus \$50 member co-pay. Savings to the MCO were estimated at \$896/year/client minus the \$100 cost per member.

Table 2. Total Projected Savings of Using the Non-traditional (Mundo Method) Program Compared to Traditional Treatment Over First Year

	PHARMACY COSTS	OFFICE VISITS COSTS	COMBINED COST
COST OF TRADITIONAL TREATMENT FOR TOP 10 MCO MEMBERS	\$7164 PER ANNUM	\$14,693 PER ANNUM	\$21,857 PER ANNUM
PROJECTED 41% REDUCTION USING NON-TRADITIONAL PROGRAM YIELDS SAVINGS	-\$2973 PER ANNUM	-\$6024 PER ANNUM	-\$8997 PER ANNUM
COST OF 6-WEEK SESSION TO MCO FOR 10 MEMBERS			\$1000

TOTAL PROJECTED SAVINGS PER 10 SUBJECTS WITH THE MUNDO PROGRAM AS COMPARED TO TRADITIONAL TREATMENT FIRST YEAR

\$7961

CONCLUSIONS

- Cost reduction was noted in the decreased cost per client per year as evidenced by a decreased use of abortive and acute therapy and increased self-control. The implications for decreased dollars lost to illness, increased productivity and quality of life were significant.
- Subjects in the Non-traditional Program shared general remarks in the survey comments related to increased quality of life with the reduction of migraine occurrence. A qualitative study of the program's effect on quality of life issues in the treatment of migraines is recommended.
- The findings that biofeedback, stress reduction, relaxation and trigger avoidance help reduce frequency of headaches were consistent with the literature.

Addendum: Data submitted in abstract, 2/1/01, indicated a 65% reduction. Revised data as of 6/1/01 showed a 41% reduction. Poster reflects this latest data analysis. This was a non-sponsored study.