A Home Treatment Program by an Indigenous Professional, the Visiting Nurse, with a Group of Adolescent Suicide Attempters.

Denver Dept. of Health and Hospitals, Colo.

In this study, the effectiveness of a Visiting Nurse counseling program with the adolescent suicide attempter is examined. Both experimental and control subjects represented all socioeconomic groups. The nurses who worked with the control group had no special training, and were not encouraged to counsel the adolescents. Those working with the experimental group were asked to counsel them to see them at least weekly for one month, and training sessions for techniques were provided. The tests administered to the clients in both groups included: (1) Zung Self-Rating Depression Scale; (2) Suicide Attempt Project Form (SAFP); (3) Rosenzweig Picture-Frustration Study; and (4) Barrier and Penetration Scores. Results included: (1) help from the nurses was accepted in most cases; (2) those in the experimental group were more amenable to expectations and suggestions of others; (3) those in the experimental group internalized more of their anger on post-testing; and (4) the rate of recovery from depression was higher for the experimental group. (KJ)
A HOME-TREATMENT PROGRAM BY AN INDIGENOUS PROFESSIONAL, THE VISITING NURSE, WITH A GROUP OF ADOLESCENT SUICIDE ATTEMPTERS

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Each year, some 700 patients are treated in the emergency room of Denver General Hospital for medical and surgical problems consequent to their suicide attempts. About 35 per cent of these patients are adolescents. All suicide attempters are routinely referred to mental health clinics or other psychiatric facilities for follow-up care. However, relatively few of the patients follow through on these recommendations. In two separate samples of suicide attempters studied during the past three years, 16 and 21 per cent respectively actually arrived at the mental health clinic for their initial appointment. Tuckman and Connan report a similar experience. They found that only three per cent of families of suicide attempters made contact with psychiatric or counseling agencies within a six-month period following the attempt.19
Consequently, the authors began to search for other means of reaching out to these patients who were obviously in extreme discomfort if not, in fact, severely in danger of completing suicide in further attempts. We began to work with the Visiting Nurse Service, asking Visiting Nurses to call upon suicide attempter patients in their homes and to counsel them or refer them for further help. In a surprising number of cases, the Visiting Nurse, untrained in counseling techniques, was able to establish a meaningful relationship with the patient and bring about a significant change in his life.

Some years ago, Margaret Rioch, et al., demonstrated how untrained, carefully selected housewives could be taught to do psychotherapy. A more recent research project by Hans Huessy, et al., featured the recruitment of indigenous nurses to be trained as crisis counselors. Early results indicate that these individuals were able to learn and effectively apply mental health concepts in their crisis intervention efforts. The Denver Visiting Nurse brought her past experience in working with individuals and families in their homes to the task of counseling with the suicide attempter. Her background was considered a major asset.

The following experiment was devised to test more rigorously the proposition that Visiting Nurses, with appropriate support and consultation, can successfully counsel with suicide attempter patients in their homes. It was hypothesized that patients treated by Visiting Nurses would demonstrate a
significantly greater involvement and recovery than a comparable control group. In this study, the effectiveness of a Visiting Nurse counseling program with the adolescent suicide attempter is examined. A suicide attempt was defined as any behavior which was self-destructive to the individual.

RESEARCH DESIGN

Study Population

Both experimental and control subjects were selected from a particular quadrant of the city distinguished by the following characteristics: 1) all socioeconomic groups were represented, 2) the population was typified by stability of residence, which consisted of housing projects and single family homes, and 3) coverage by the Visiting Nurse Service was available. An adolescent was defined as an unmarried individual, under 25 years of age, who occupied a dependent economic position in his family.

Control Group

Beginning March 1, 1969, every adolescent suicide attempter who lived in the pre-selected quadrant and who appeared at the Denver General Hospital emergency room was enlisted as a control subject. Over a 12-week period, 17 subjects were obtained.

On the morning following the subject's visit to the emergency room, he was contacted by phone or in person and asked to take part in the study. The patient's family
physician, if there was one, was also contacted and permission to see the subject was obtained. The subject was then seen by the testing team of psychologist and psychiatric nurse, and three tests were administered. Later in the same day the VN (Visiting Nurse) who worked in his neighborhood also initiated contact with him.

With these control group subjects, the nurses were asked to see the patient, fill out the SAPF (Suicide Attempt Project Form) questionnaire, and proceed to treat the patient as a routine referral. That is, the nurse was to use her best judgment about how to handle the patient. In some instances, she would refer the patient to a local mental health facility for further care. In other instances, she would continue visiting the patient herself; in still other cases, nothing at all would be done. Regardless of her treatment plan, the nurse was asked to return to the patient's home one month later and fill out a comparable form of the initial SAPF lethality questionnaire. The testing team also retested the subject at this time.

The Visiting Nurses working with this control group population received no special training or preparation for working with suicide attempters. They were not encouraged to take on these patients for counseling or indeed to do anything at all with them. In fact, the testing team went to considerable lengths in order not to become involved in the clinical care of the patient. At the conclusion of this phase of the study, the authors had before and after measures, with an
interval of one month, of 17 routinely treated suicide attempters.*+

Experimental Group
A few months later, the experimental group (N=24) was collected. These subjects included adolescents, residents of the sample neighborhood, who had received emergency care at either Denver General Hospital or St. Anthony's Hospital from October through December, 1969. The Visiting Nurse staff which worked with this group was essentially the same, except for normal job turnover. The procedures used with the two groups of subjects differed only slightly. With the experimental group, the nurses were again requested to fill out the SAPF during their first visit and one month subsequent to the suicide attempt. They were also specifically instructed to

*The nature of this work clearly prohibits establishing a pure no-treatment group because, in effect, treatment would then be denied to patients who ordinarily would have received it. Such a procedure would violate the purpose of the hospital community, and would therefore be unacceptable.

†The first visit with three subjects of the control group and eight subjects in the experimental group took place on the hospital ward. Further visits with all of these subjects were in their homes.
counsel with the patients, to see them at least weekly for one month, and to concern themselves with the patients' families' reactions to the suicide attempts. The independent variable was the psychotherapeutic intervention applied to the experimental group by the Visiting Nurses.

In addition, a weekly training session was established for all nurses who took part in the project. An experienced psychiatrist conducted group meetings in which the patients were discussed, feelings and opinions shared, and treatment goals planned. The psychiatrist was also available for individual consultation and assistance where indicated. These arrangements were made to support the Visiting Nurse who was involved in an unfamiliar undertaking.

At the close of one month of weekly counseling sessions, the nurse was then given the option of continuing to work with the patient, referring him elsewhere, or closing the case. At this time the testing team revisited and retested the subject.

This research design required careful attention to schedules and testing procedures. It required the testing team to work weekends and evenings in order to see subjects on schedule. Several times subjects were seen late. Within these limits it was quite workable, and subject attrition was low. All subjects approached volunteered to cooperate in the study. Only one subject could not be located for retesting.
Tests Employed

Three tests and one questionnaire were administered to both control and experimental groups on the day after the suicide attempt. All four measures were repeated one month later.

Zung Self-Rating Depression Scale. This scale has been validated as a measure of depression in several clinical settings.21, 22 The subject rates himself on 20 items which reflect vegetative and subjective signs of depression. The authors hypothesized that suicide attempters who were treated by Visiting Nurses would show greater relief from depression on retesting than would control group subjects.

Suicide Attempt Project Form (SAPF). This questionnaire was composed by the authors from a wide variety of research data on the clinical and demographic signs which contribute to lethality. Some of the items of this scale were borrowed from Farberow,4 others from Seiden,3 and still others were abstracted from the experience of the testing team. A total of 53 items was constructed. Of these, 14 were invariate. That is, the responses were not changeable over time, e.g., "Were you born in a rural area?" The other 39 items were variate and inquired about changes in relationships, mood, job status, and physical condition; such changes could be expected over a relatively brief interval in the subject's life history. This questionnaire was filled out by the nurse in the presence of the subject.

For analytic purposes, the SAPF items were sorted into
four categories (stress, role, help, and physical) with approximately an equal number of items in each. Stress items were directed at the subject's degree of internal comfort. Role items were principally geared to work adjustment or other daily activity. Help items were directed toward whether the subject was able to ask for and use help from other people in his life; and physical items inquired into the presence of somatic symptoms or physical injury. With all these variables, it was hypothesized that VN-treated subjects would show significantly greater improvement on one month retesting than the control subjects.

**Rosenzweig Picture-Frustration Study.** This test was developed as a projective technique in 1945.17 The subject is presented with a cartoon situation in which the protagonist has just been frustrated (e.g., mud splashed on his new suit). He is asked to respond to the situation as if he were the protagonist. There are 24 items, and scoring is for direction of aggression and reaction type. Direction of aggression is identified as either extrapunitive (where aggression is turned onto the environment), intropunitive (where aggression is turned by the subject upon himself, or impunitive (in which aggression is evaded). Reaction type is scored as either obstacle-dominance (in which the frustrating object stands out in the responses), ego-defense (wherein defensiveness predominates), or need-persistence (whereby a solution to the frustrating problem is emphasized). The Group Conformity Rating is a comparison of the subject's scores with those of a normal population.16
The Picture-Frustration Study has been investigated and found valid for measuring aggression. Though controversial, psychoanalytic tradition proposes a direct relation between introverted aggression and depression. It was hypothesized that the treatment group would show a rise in external aggression and a decrease in conformity score when retested.

**Barrier and Penetration Scores.** Valid test scores derived from projective techniques are few and far between. In *Body Image and Personality*, Fisher and Cleveland describe at length two personality measures derived from projective data. In addition, they outline fairly extensive research results which provide construct validity for their definitions.

The Barrier Score which was employed was derived from administering the Holtzman Inkblot Technique to all subjects. This score is defined by Fisher and Cleveland as indicative of "self-steering" behavior. In several studies, Barrier Scores were positively related to task completion, goal-setting behavior, self-expressiveness, suggestibility, capacity to tolerate stress, and ability to express anger outwardly when frustrated. The Barrier Score is made up of inkblot responses, the content of which encompasses objects which enclose, protect, or which separate man or creature from his environment (e.g., buildings, tunnels, clothing).

The Penetration Score, also derived from inkblot responses, is obtained from perceptions of objects which are damaged, impaired, or vague in their delineation. It also includes perceptions which indicate entering or leaving. Fisher and
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The Penetration Score, also derived from inkblot responses, is obtained from perceptions of objects which are damaged, impaired, or vague in their delineation. It also includes perceptions which indicate entering or leaving. Fisher and
Cleveland relate penetration responses to increasing psychopathology and a sense of body disintegration.\textsuperscript{5}

Fisher and Cleveland predicted that over therapy, penetration responses would decline and barrier responses would increase.\textsuperscript{5} We evaluated our data along these dimensions.

**RESULTS**

**Nurses' Reactions to New Role**

At the time that the experimental phase began, the treatment team consisted of 12 Visiting Nurses. Seven had been functioning in their public health positions from three to six months. The remaining five had from 1\textfrac{1}{2} to 3\textfrac{1}{2} years of public health nursing experience.

There was initial reluctance among some of the Visiting Nurses to assume a clinical role with the suicide attempter subjects. This resistance was manifested in most instances by comments to the effect that "I'm not equipped with the psychiatric skills which these people's problems require." Some of the nurses expressed feelings of being overwhelmed by the needs of the entire family, not just the patient. On the other hand, a few nurses readily accepted the opportunity to involve themselves in this major shift in their roles.

The nurses' reactions to the weekly group meetings with the consultant psychiatrist were also varied. In general these sessions were viewed as a time to share one's problems about a particular patient and family with co-workers and the consultant. Frequently the consultation time was used for
establishing a plan for intervention in the nurse's subsequent meetings with the patient. Some nurses seemed to derive support from the empathy communicated by the consultant. One comment made by a nurse which illustrated this was "He really seems to share the feelings of responsibility for these patients with us." The value of these meetings was also measured by the nurses in terms of the practicality of the suggestions offered.

There was a fair amount of reticence to share one's own behavior with patients in the peer group. One Visiting Nurse stated that she felt the interaction between herself and the patient was confidential and therefore could not be revealed. Other nurses seemed to be uncomfortable about sharing what might have been mistakes in their interaction with patients. Nurses without advanced education, i.e., a master's degree, generally have limited experience in presenting their patient interactions to groups. One would wonder whether this kind of group session was a new experience for most of them.

When the monthly followup period was drawing to a close, most Visiting Nurses were considering referral of the study subjects under their care to a mental health facility for long-term psychiatric therapy; they could not or did not desire to offer further counseling. The patients were generally manifesting much less anxiety and experiencing less difficulty in their lives. As a result, some of them refused referral when this was suggested by the Visiting Nurse. Since the patient would not follow through with what the VN thought best for him, she expressed feelings of guilt and stated that the patient
would have received more appropriate care had he been in treatment with a professional mental health worker from the outset.

The VNs were angry and frustrated with the research program. They had been asked by the researchers to undertake therapy with the experimental group patients rather than referring them. Then, at the end of the study, the patient felt better and wouldn't cooperate in the VN's attempt to refer him. The researchers were no longer involved, and the old system did not work. They felt as if they were in a bind and expressed a great deal of anger about this. Suggested of course is the possibility that the nurse would respond quite positively to a long-term consultation group participation program devoted to continuing examination of patients' emotional problems.

Overall Trends

Herein are presented the before/after test results of the combined experimental and control groups.

Insert Figure 1 about here

Figure 1 illustrates the relief experienced by most members of both experimental and control groups one month after their suicide attempts. The Zung Depression scores show a sharp decrease. The SAPF (Suicide Attempt Project Form) lethality measure, which contains many depressive items (correlation
with Zung is \( .44 \)*, also demonstrates a downward trend in pre/post differences.

The Barrier Score is elevated, suggesting that patients are more resourceful and more oriented toward problem-solving a month after the suicide attempt. The Penetration Score, a measure of ego disintegration or body intactness, is sharply down. One month later, patients feel a greater sense of integrity and coherence.

Insert Figure 2 about here

Figure 2 shows combined group trends which provide additional evidence that patients feel better on one-month retesting. For example, the Group Conformity Rating scores increase during the one-month interval. Suicide attempters are more conducive to following social norms after their attempts.

The remaining three score patterns shown in Figure 2 are based on sub-scales of the SAPF. All trends shown are in the direction of greater comfort, e.g., less somatic anxiety, less stress, and greater ability to use help. These indicate lower lethality after the one-month interval.

Overall, the scores reflected in these graphs show that adolescent patients describe themselves as less depressed, more comfortable, and less worried about their physical condition one month following their suicide attempt.

*Significant at .01 level.
Group Differences (VN-Treated Group Vs. Control Group)

Herein are presented the test results which bear on the major hypotheses. The VN-treated group, consisting only of patients who had three or more Visiting Nurse visits, is compared with all 17 control group subjects. This newly derived experimental group also numbered 17. Those seven experimental subjects which were excluded from this analysis were either seen by the VN only twice for the purpose of completing the SAPF questionnaire, or were recipients of psychiatric treatment elsewhere and were not contacted by the VN at all. The control group is natural in that no special efforts were put forth to engage patients in therapy.

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Insert Figure 3 about here

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Figure 3 shows the before/after group differences on the major test variables. Group differences are not statistically significant. The results clearly indicate that the measures of depression, stress, somatic anxiety, and body disintegration in both groups showed sharp relief over the one-month retest period.

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Insert Figure 4 about here

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Figure 4 shows the before/after group differences for the Barrier Score. The control group's Barrier Score rose, indicating a greater degree of self-sufficiency and independent
goal-setting on the part of this group on post-testing. The experimental group's score remained about the same.

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Insert Figure 5 about here

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Figure 5 displays additional differences between the experimental and control groups. Trends rather than statistically significant results are shown.

The Rosenzweig E (extrapunitive) and M (aggression-evaded) scores are reciprocals of each other and are not statistically independent. They show that the control group subjects tended to project more anger than the VN-treated group one month after the suicide attempt.

Need Persistence and Ego Defense are also reciprocal scores. These two graphs show that with the VN-treated group, Need Persistence (i.e., problem-solving orientation) tends to rise over time and Ego Defense (defensiveness) scores go down. A greater willingness of the VN-treated subject to face his problems and explore, at least on a thought level, solutions for them is indicated.

Part IV of the results may be summarized by noting that both VN-treatment and control subjects experienced substantial relief from stress, depression, and somatic anxiety on one-month retesting. The control group became more defensive and projected more of their anger onto the environment. The experimental group subjects' defenses remained low. However they internalized more of their experience and gave greater consideration to problem-solving behavior.
No Treatment Group

For this analysis, the subjects were redistributed and the original control/experimental group distinctions were ignored. Of the total number of subjects in both experimental and control groups, 13 received no therapy at all. The VNs did not see them regularly; service was either not offered or was refused, and subjects did not request other forms of psychiatric therapy. The analysis of our data revealed a number of differences between this no-treatment group, a VN-therapy group, and an other treatment group. This latter group (N=10) was either admitted to a psychiatric ward following the suicide attempt or chose to enter therapy with someone other than the Visiting Nurse.

 Insert Figure 6 about here

Figure 6 contrasts the no-treatment group changes over time with those of the VN-treated group and the other treatment group. The no-treatment group was projecting more anger a month later. Defensiveness rose. Concern about physical condition increased sharply, and need for help also rose.

Thus, no therapy for the adolescent tends to be associated with increased anxiety in several areas of functioning.

DISCUSSION

The reluctance of suicidal patients to seek treatment suggested the need for an alternate means of assisting these
individuals who are in a state of crisis. This project was an attempt to measure the effectiveness of Visiting Nurses in treating adolescent suicide attempters.

The acceptance of the Visiting Nurse as a legitimate therapist with this type of client is a controversial subject. Albert vehemently accentuates the need for extensive theoretical training and personal therapy for anyone preparing to counsel beyond mere information-giving. On the other hand, Patterson invites the reader to critically examine the possibility that psychotherapy is not so much a profession as perhaps a good interpersonal relationship between people. In any case, the researchers utilized the Visiting Nurse staff for practical reasons. They were readily available.

In addition, the value of treating the patient in his home is generally recognized as having several advantages: 1) ability to observe true interactions and roles when the family is in its natural habitat; 2) less chance of resistance to the therapy by absenteeism; 3) a more realistic context for problem-solving; and 4) unit of illness is enlarged to the family rather than the identified patient.

There are several relevant findings regarding the VN-treated group. First, the VNs' ability to reach the majority of patients is impressive (39 of the 41). One could surmise that, aside from the sheer numbers contacted and who readily accepted a relationship with the Visiting Nurse, the makeup of the suicide attempter is that of a home-bound individual who welcomes intervention but who lacks the initiative to
contact the formal psychiatric community. A study of personality changes in client-centered therapy reported by Haimowitz and Haimowitz provides support for the contention that gains can be made by people who are provided with therapy which has not been actively sought.8

The Group Conformity Rating score for the experimental group moved upward, suggesting that the VN-treated subjects became more amenable to expectations and suggestions of others. Haimowitz and Haimowitz8 suggest that an intra-punitive individual is more apt to cooperate in therapy and be dependent on the therapist than one who projects aggression. The authors' results agree with their conclusions. These same attributes probably contributed to the high percentage of subjects willing to participate in this study.

The test score shifts of the VN-treated subjects revealed several interesting results. The emergence of a lower extra-punitive score (E) and a higher aggression-evaded score (M) on the Rosenzweig Picture-Frustration Study by experimental subjects suggest that they internalized more of their anger on post-testing. Perhaps this finding could be interpreted as meaning that the adolescent suicide attempter who becomes involved in a relationship with a Visiting Nurse and makes progress toward re-integration achieves this, at least in part, by increasingly accepting responsibility for himself. The control subjects, on the other hand, proceeded to deal with their anger by projecting it onto the environment. They were unable to see themselves as causal agents in their frustrations and conflicts.
In contrast, the no treatment group is readily identifiable as the only group of subjects which demonstrated a rise in extrapunitiveness (E), and in physical symptoms. Their Group Conformity Rating responses showed the smallest increase on retest. These results suggest that suicide attempters who fail to seek help express more anger towards their environment, and are more anxious about their physical condition over time. These patients were repeatedly offered help, but just as repeatedly refused it. Further research is needed in order to delineate the characteristics of these stubborn, resistive, and despairing individuals.

Figure 6 shows a decrease in the Physical Item dimension of the SAPF for the VN-treated subjects. Here it is suggested that, despite our training, the VN remained most effective in coping with the somatic aspects of the patient's condition. Numerous others have commented upon the high frequency of chronic illness in successful suicides, especially among the older population. The results suggest that the VN is especially effective in dealing with these kinds of problems. Perhaps high lethality patients seen for medical treatment in medical settings should be referred routinely to Visiting Nurses and they, in turn, should be asked to discuss suicide at some time during their visit with the patient. Clues such as this one to imaginative suicide prevention programs should be studied carefully.

The Depression scores, measured by the Zung Self-Rating Depression Scale, indicate that all groups initially were
depressed to a similar degree. The recovery rate was highest for the VN-treated group and lowest for the no-treatment group, though the differences were quite small. Thus, at the end of one month, the no-treatment group was still the most depressed group. Their Extrapunitive scores (Figure 6) rose substantially. These results challenge the time-honored relationship between the expression of hostility and depression. It would appear that in some people at least, subjective anger and depression coexist nicely.

These unanticipated sub-sample findings would seem to extend and verify Motto's research. He concludes that identification of high risk sub-groups and "a modification of traditional methods of psychiatric care" may be required for effective suicide prevention programs.12

Rapoport stresses that a "crisis is self-limiting in a temporal sense."14 This characteristic of a crisis seems to be borne out by the overall results of the combined experimental and control groups. That is, within the interval of one month, there is a decrease in subjective depression, stress, and somatic concern, and an increase in body integrity. More research is needed with briefer pre/post-test intervals so that one can increasingly specify in days and hours the time span of crisis situations.

Fisher and Cleveland predict that Barrier Scores should rise at the conclusion of successful psychotherapy.5 Figure 4 shows that Barrier Scores remained stable for the experimental group, but rose for the control group. If high Barrier Scores
are indicative of self-directive behavior, these results are consistent, even though contrary to Fisher and Cleveland's prediction. The control group did not use the nurse-therapist; they steered themselves and their Barrier Scores increased. The experimental group did depend on the nurse, and their Barrier Scores remained constant. The findings resemble those of Lester wherein he found that a group of suicide attempters tended to have lower Barrier Scores than a matched nonsuicidal group. Is the Barrier Score bi-modal? That is, could those individuals who score at either extreme be most vulnerable and most reactive to stress? Perhaps the highest levels of self-steering behavior are found in individuals whose scores lie in the middle range of the distribution. Our results suggest that further investigation of these hypotheses is warranted.

CONCLUSIONS

1. Adolescent suicide attempters show lowered depression, lowered somatic anxiety, and lowered stress one month after their suicide attempts.

2. Visiting Nurses assigned to follow adolescent suicide attempters in their homes will see a very high proportion of these patients. Relatively few patients will apply for treatment at formal mental health facilities on their own initiative.

3. On one-month retest, the effects of VN counseling are difficult to show and are not statistically significant.
Patients who accept VN treatment seem to handle their anger more appropriately, and appear to be more willing to conform to social norms. Patients who refuse treatment remain angry, and continue to express a high level of concern with physical symptoms.
REFERENCES


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FIGURE 1
PRE- AND POST- TEST MEANS
(ONE MONTH INTERVAL)
COMBINED EXPERIMENTAL AND
CONTROL GROUPS (N=41)
FIGURE 2
PRE- AND POST- TEST MEANS
(ONE MONTH INTERVAL)
COMBINED EXPERIMENTAL AND
CONTROL GROUPS (N=41)
FIGURE 3.
PRE- AND POST- TEST MEANS
(ONE MONTH INTERVAL)

EXPERIMENTAL GROUP (N=17) - - - -
CONTROL GROUP (N=17) — — — —
FIGURE 4

PRE- AND POST- TEST MEANS
(ONE MONTH INTERVAL)

EXPERIMENTAL GROUP (N=17) — — — —
CONTROL GROUP (N=17) ______
FIGURE 5
PRE- AND POST- TEST MEANS
(ONE MONTH INTERVAL)

EXPERIMENTAL GROUP (N=17)  
CONTROL GROUP (N=17)
FIGURE 6
PRE- AND POST- TEST MEANS
(ONE MONTH INTERVAL)

NO TREATMENT GROUP

OTHER TREATMENT GROUP

VN TREATMENT GROUP