Physiological Relaxing Effects of Counselling in HIV Positive Patients

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ABSTRACT

The present study examined the physiological effects of counselling in HIV positive patients. The subjects were assigned randomly to two conditions namely, control (N=50, 25 males and 25 females) and experimental (N=50, 25 males and 25 females). The subjects in the experimental group were exposed to counselling sessions one hour daily for one month. A 2 x 2 between subject’s factorial design involving two gender levels (male and female) and two treatment conditions (no counselling and counselling) with 25 replications was used in the present study. The counselling was found to reduce blood pressure, pulse rate, muscle action potential and enhance alpha EEG scores, thereby, producing its soothing and relaxing effects.

Key Words: HIV Patients, Physiological Relaxing, Counselling.

AIDS as the name holds means, “Acquired Immune Deficiency Syndrome”. A virus that damages the Immune system of the body is called Human Immunodeficiency Virus (HIV). The people with AIDS are susceptible to all sorts of other health problems, the infected individual being vulnerable to many life threatening infections.

People infected with HIV may continue to live a perfectly normal life without showing any physical symptoms. Such a situation is called “HIV Non-Symptomatic’. Once the disease progresses, the person will begin to have AIDS defining illness. Therefore, AIDS is not a single disease; it is a set of diseases which result from the destruction of the body’s defense system. This situation is called ‘HIV Symptomatic’. The term ‘AIDS’ is used when the disease has progressed and the person develops one or more serious infections.

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As the people infected with HIV remain infectious lifelong, so they experience stress, anxiety, depression, distress, helplessness almost throughout life.

According to Roemer, Molina and Borkovec (1997) the most prevalent clinical conditions associated with HIV infection from a mental health perspectives are anxiety syndromes, mood disorders, psychotic disorders and substance use disorder, which are dependent upon individual’s personality and available support systems. Anxiety symptoms in HIV patients include trouble falling asleep, impaired concentration, fatigue and psychomotor agitation and physical symptoms such as dizziness, chest pain, shortness of breath, paresthesias of fingers, toes and lips and panic attacks.

Leiphart (1998) reported that HIV positive patients experience chronic impatience, sustained survival stress, protracted grieving, depression, lack of self-assertiveness, absence of purpose and goals, lack of trusted support, poor coping in the time of crises; physiological issues like inadequate breathing pattern, insufficient fluid intake, poor appetite, sleep disturbances and fluctuations in blood pressure.

Kelly (2003) found physical symptoms such as high blood pressure, breathlessness, fatigue, dizziness, muscle tension and stomach aches and emotional symptoms such as anxiety, anger, loneliness, feeling rejected and behavioural symptoms such as withdrawing from family and crying in HIV positive patients.

According to NACO (2001) HIV/AIDS counselling is a confidential dialogue between a person and a counsellor aimed at enabling the person to cope with stress and make personal decisions related to coping with stress, and personal decisions related to HIV/AIDS. This includes information, education and psychological support which allow the person to make decisions that facilitates coping and preventive behaviour. Counselling here has become a core element in a holistic model of health care in which psychological issues are recognised as integral to patient management.

As emotional consequences of stress, worrying and depression are the most common reactions following AIDS consequently resulting in poor self-efficacy, counselling helps those infected to live full and productive lives by enabling them to ‘take charge’ of their lives and help in decision-making thus, enabling people to remain active in their work and in their education.

Counselling thus aims to develop insight i.e. understanding of the origins and developing of emotional difficulties, developing satisfying relationship, making the person self aware, developing positive attitude towards self, self actualisation or individualisation, enlightenment, finding solution to problems, giving psychological education, acquisition of social or interpersonal skills.
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Counselling also helps to develop cognitive behavioural and systemic changes so as to lead a healthy life (NACO, 2002).

According to Goffman (1986), counselling helps in the removal of social stigma attached to the person with AIDS.

Gonzates, Steinglass and Reiss (1987) suggest that AIDS counselling should be pragmatic problem focused. The therapist here encourages the family of the infected one to focus on the tasks of everyday life so as to put illness in its place.

Larue, Brasseur, Musseault, Demuelemeester, Bonifassi, Bez (1994) used counselling technique to reduce physical symptoms such as pain, cough, shortness of breath, anxiety, palpitations and fluctuations in blood pressure in HIV positive and found it be very effective.

John and Alana (1996) and Leiphart (1998) found that counselling helps HIV patients to improve their quality of life.

Wienhardt et.al., (1999) found that counselling reduced risk behaviour and prevented new infections notably among those testing positive and among discordant couples.

Kelly (2003) found that proper medical services, counselling and psychological help helped to reduce physical symptoms such as blood pressure, pulse etc. and emotional and behavioural symptoms in HIV positive patients.

Not even a single study has been conducted on HIV positive patients so far in Indian context to investigate the physiological effects of counselling using alpha EEG frequency, muscle action potential (EMG), blood pressure (systolic and diastolic) and pulse rate criterion measures on HIV positive patients. The present study was a step in this direction.

METHOD

Sample

Male and female indoor patients in the age range of (21-40 years), diagnosed as HIV positive, on the basis of laboratory tests, served as the subjects who voluntary attended the Intergrated Counselling And Testing Centre, Microbiology Department, Government Medical College, Amritsar.

The sample consisted of 100 subjects (50 in control group; 25 males and 25 females and 50 in experimental group; 25 males and 25 females on the basis of random assignment). The subjects of experimental group used to visit the center for counselling sessions daily in addition to medication prescribed by the physicians.

Tools
The following materials were used for the present study:

1. The alpha EEG Apparatus (Medicaid systems, Chandigarh) for recording alpha EEG brain wave pattern.
2. The EMG Biotrainer Apparatus (Medicaid systems, Chandigarh) to measure muscle action potential.
3. Sphygmomanometer to measure both systolic and diastolic blood pressure.

**Design**

A 2 x 2 factorial design, involving 2 levels of gender (Males and Females) and two levels of counselling treatment (counselling and no counselling) was used to investigate independent and interactive effects of both independent variables on five criterion measures namely (B.P. systolic, B.P. diastolic, Pulse, EEG, EMG). One replication of the design needed 4 (2 x 2) subjects. The design was replicated 25 times.

**Procedure**

Each subject was tested individually for all physiological parameters mentioned above i.e. (Pulse, Blood Pressure, EEG and EMG). The subjects in the counselling group were given counselling sessions daily for one month. Counselling sessions involved working with subjects to understand test results, address psychological reactions to it, promote behaviour changes, to maintain healthy life style, to think positively and to address the need for follow up and care. The pre-treatment testing for all the physiological parameters was done one day before the commencement of counselling sessions, while post-treatment testing was done one day after counselling sessions (which lasted for one month).

The subjects in the control group were simply tested and retesting was done after one month. No counselling was provided to these subjects. The subjects of both the groups were regularly taking the medicines prescribed by the physicians.

**RESULT AND DISCUSSION**

Difference between post-counselling and pre-counselling scores served as criterion score for all the five measures for all the groups. The means and standard deviations for all the difference scores on various criterion measures are shown in Table 1.
Mean and SD’s of Treatment x Gender groups for all the criterion measures (n=25).

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variables Under Study</th>
<th>Males Control Group</th>
<th>Males Counselling Group</th>
<th>Females Control Group</th>
<th>Females Counselling Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B.P. Systolic</td>
<td>2.44 (4.38)</td>
<td>-38.00 (9.13)</td>
<td>0.56 (5.31)</td>
<td>-34.96 (5.41)</td>
</tr>
<tr>
<td>2</td>
<td>B.P. diastolic</td>
<td>2.56 (3.16)</td>
<td>-18.16 (7.39)</td>
<td>0.36 (4.67)</td>
<td>-13.76 (6.65)</td>
</tr>
<tr>
<td>3</td>
<td>Pulse</td>
<td>0.88 (0.93)</td>
<td>-14.92 (5.89)</td>
<td>-0.24 (3.02)</td>
<td>-10.16 (4.08)</td>
</tr>
<tr>
<td>4</td>
<td>EEG-alpha</td>
<td>0.16 (0.47)</td>
<td>4.32 (1.99)</td>
<td>0.04 (0.20)</td>
<td>2.00 (1.04)</td>
</tr>
<tr>
<td>5</td>
<td>EMG</td>
<td>1.12 (1.20)</td>
<td>-9.56 (5.35)</td>
<td>2.56 (2.62)</td>
<td>-8.80 (2.55)</td>
</tr>
</tbody>
</table>

SD’s are given in the parentheses.

The data were then subjected to two-way analysis of variance; the results are reported in Table 2.

**TABLE 2**

Showing The F-Ratios For All The Criterion Measures

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variables Under Study</th>
<th>Variable A Gender</th>
<th>Variable B Counselling</th>
<th>Interaction A XB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B.P. Systolic</td>
<td>0.22</td>
<td>918.4 ***</td>
<td>3.9</td>
</tr>
<tr>
<td>2</td>
<td>B.P. diastolic</td>
<td>0.93</td>
<td>232.1 ***</td>
<td>8.4 **</td>
</tr>
<tr>
<td>3</td>
<td>Pulse</td>
<td>5.4 *</td>
<td>268.5 ***</td>
<td>14.1 **</td>
</tr>
<tr>
<td>4</td>
<td>EEG</td>
<td>26.6 **</td>
<td>167.3 ***</td>
<td>21.7 **</td>
</tr>
<tr>
<td>5</td>
<td>EMG</td>
<td>2.8</td>
<td>278.6 ***</td>
<td>0.27</td>
</tr>
</tbody>
</table>

* .05 ** .01 *** .001

The results reported in Table 2 clearly reveal that the main effect of gender was statistically significant for pulse (F =5.4; p < 0.05) and alpha EEG (F = 26.6; p < 0.01); HIV positive females were found to have greater scores than their male counterparts. The findings are consistent with the findings of Van Servellen et. al, (1998); Morrison et. al (2002) and Barroso, Carlson and Meynell (2003) who also reported more fatigue, anxiety, severe physical symptoms in female patients than male patients (Gijsbers, Huisman and Kolk, 1999).

The results also revealed that the main effects of counselling was significant for B.P systolic (F = 918.4; p < .001); B.P diastolic (F = 232.1 : p <
.001); Pulse (F = 268.5 : p < .001); Alpha EEG (F = 167.3 : p < .001) and EMG (F = 278.6 : p < .001) levels, counselling was found to decrease blood pressure (systolic and diastolic), pulse rate and EMG but increased alpha EEG.

It was evident from the results reported in Table 2 that the interaction gender and counselling treatments was found to be statistically significant for BP diastolic (F = 8.4; p < .01); pulse rate (F = 14.1; p < .01); Alpha EEG (F = 21.7; p < .01) levels. The significance of differences between the means involved in these interactions was analysed by Duncan's multiple range test.

The results of Duncan’s test for B.P diastolic clearly indicated that counselled male patients had significantly lower B.P in comparison to counselled female patients (p < .01 ) and non-counselled male patients of control group (p < .01 ). Moreover, counselled HIV positive female patients had lesser B.P diastolic as compared to non-counselled female patients of control group (p < .01) thereby indicating relaxing effects of counselling.

The results of Duncan’s test for pulse clearly demonstrated that counselled male patients had significantly lower pulse rate than female counselled patients (p < .01) and male patients of control group (p<.01). The counselled female patients were found to have low pulse rate than female patients of control group (p < .01).

The result of Duncan’s test for alpha EEG clearly revealed that counselled HIV positive female patients had higher scores than female control patients (p <.01) . Moreover counselled male patients had more alpha EEG scores in comparison to non-counselled male control patients (p < .01).

The results thus, agree with the findings of Van Servellen et al., (1988); Gijsbers et al., (1999) and Morrison et al., (2002); Barroso, Carlson and Meynell (2003), who also reported that female patients have more anxiety symptoms than males.

As counselling was found to reduce diastolic and systolic B.P scores, pulse rate, EMG scores and increase in alpha EEG scores in both male and female patients. The findings therefore provide support to those reported by Goffman (1986); Gonzates et al., (1987); Larve, Brasseur, Masseault, Demeulemeester, Boniassisi and Bez. (1994); John and Alana (1996); Leiphart (1998); Weinhardt et al., (1999). They also found relaxing and calming effects of counselling in HIV positive patients.
It can be concluded, therefore that counselling proved to be beneficial in providing physiological relaxation to both male and female HIV positive patients.

REFERENCES


