

**ORIENTAL DANCE AS A HOLISTIC ONCOLOGICAL  
REHABILITATION METHOD**

Doctoral (Ph.D.) thesis

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## **1. INTRODUCTION**

Examination of international and national data shows that malignant tumorous diseases and their mortality rate are truly high. The number of disabled patients due to malignant disorders – despite the strict regulation – is continuously increasing. In several cases, long-term rehabilitation programmes may be preventive in the formation of disability. The possibilities for the rehabilitation of oncological patients are still restricted. This is mostly solved in the course of the hospitalisation, afterwards the majority of patients search rehabilitation services or support according to their own needs and possibilities.

The diagnosis of malignant disorders and the effects/side effects of treatment influence the life quality of the patient. The disease implies radical change in social life – generally towards the lack of perceived social support and isolation. The absence or showing off of the partner increases unfavourable and serious psychic symptoms.

As it is reviewed in professional literature, the possibilities of holistic rehabilitation methods are extensive, and provably productive. It is proved that creative rehabilitation programmes can affect the psychic wellbeing of patients positively, may increase life quality and may decrease depression and anxiety, support coping as well. Movement- and dance therapies and belly dance may increase psychic well-being besides physical well-being and developed capacity, through the reduction of negative symptoms and the strengthening of self-image and womanliness. Belly dance may cause effects such the strengthening of womanliness, rediscovery of inner spirituality, strengthening of the body and reduction of stress. It offers the same advantages as other movements have, however it is not a training kind of activity. This kind of dance not specifies age or body shape. It is important to highlight that it is not like ballroom dance, accordingly a pair is not required – singles may find their joy in belly dance.

The aim of Daisy Belly Dance Club is to give social support to the members besides the physical and psychical rehabilitation of women with malignant disorders. The name of the club may have a suggestive force. The word “daisy” as a metaphor of womanliness and beauty strengthens the nature of the occasions, and plays an important role in the development of positive effects. It may give an opportunity to perceive an archetypical role, to strengthen the neglected women part inside the members.

Several dimension of art therapy can be realised in the course of the occasions, such as music therapy, movement therapy, dance therapy, and belly dance. Combination of physical movement and art activity with social support may improve satisfaction with life significantly.

## **2. AIMS AND HYPOTHESES**

The *aim of this examination* was to explore those rehabilitation methods with holistic approach which can be applied in the field of oncology, and support the recovery of patients. A further aim was to prove that oriental dance is capable to rehabilitate woman oncology patients. AS exploration and proving were both aims of my examination, combination of qualitative and quantitative methods seemed to be adequate in a longitudinal study which may show the alteration of lifestyle, social support and satisfaction with life in case of the examined patients.

### *Hypotheses:*

1. I suppose that life quality and health-related well-being is higher in the rehabilitation group than in the control group. Furthermore, I suppose that the degree of change between the two measurements is higher in the rehabilitation group.
2. I suppose that the level of social support is higher in the rehabilitation group than in the control group. Furthermore, I suppose that the degree of change between the two measurements is higher in the rehabilitation group.
3. I suppose that general psychic well-being and satisfaction with life is higher in the rehabilitation group than in the control group. Furthermore, I suppose that the degree of change between the two measurements is higher in the rehabilitation group.

## **3. SAMPLE AND METHODS**

The rehabilitation group consisted of the members of the Daisy Belly Dance Club, while in the control group patients from the National Institute of Oncology were involved. Random sampling technique was applied; the members of the sample were women patient with malignant tumours. The first sampling period of the longitudinal examination was made between 2008 and 2010 in the rehabilitation and control groups, and then follow-up took

place in both groups one year after the first examination. The analysis only include the data of those participants (n=114), who returned their test batteries both times completely filled.

Three internationally validated questionnaires and one self-prepared questionnaire were applied in the course of the examination. Quality of life was assessed by the EORTC-QLQ-C30, the cancer-specific questionnaire applied in national and international researches. The 30 items of the questionnaire cover the overall physical and psychological well-being, the association between pain and disability, the social integration, and current domestic and financial situation. The questionnaire on perceived social support was the F-SoZu-questionnaire. It's shortened – 14 item-long – version measures perceived or anticipated social support with regards to emotional and practical support, social integration and social strains. Satisfaction with life was measured with a subscale of Campbell's questionnaire on global satisfaction with life. Self-prepared questionnaire was applied to complete the above mentioned ones with other questions focusing on women and deals with indicators not covered by the other questionnaires.

Statistical analysis was performed with Windows SPSS 20.0 software package. Descriptive statistics, two-sample t-test, Chi-square test and variance analysis were completed. The level of significance was determined at  $p < 0,05$ . Independent t-test and Pearson's Chi-square test was applied to test the matches. Scale confidence was tested with item-total correlation and Kolmogorov-Smirnov normality test. Cronbach  $\alpha$  value was considered to be eligible between 0,6 and 0,9. Confidence of scales with non-interval variables – similarity to normal distribution – was tested with Chi-square test.

Only the rehabilitation group members (Daisy Belly Dance Club) were involved to the qualitative part of the research. This method was applied to confirm the presumable positive results of the quantitative research as well as the mode of action of the rehabilitation method was planned to be measured. Members of the group presented three short (maximum one A4 page) „self-experience” essays („Experience of the first belly dance occasion”; „Experience of the best belly dance occasion”; „Experience of the Jubilee night”) for content analysis. After coding the so called „Boolean operators" were used for the support of analysis, which showed the incidence and overlap. Content analysis was performed by Atlas.ti program.

#### 4. RESULTS

Based on the answers given to *the localisation and stadium of the disease* significant differences were not found during the first measurement, however the sample can be said statistically homogene.

Socioeconomic examinations showed that the sample cannot be considered homogene concerning educational status, working time and marital status, however significant difference can be seen between the two groups. Characteristics of *educational status* showed that half of both group members have final exams, however, the other half of the rehabilitation group have higher educational status(43.6%), while in the control group the rate of lower educational status is higher. The prevalence of marital status among belly dancers and controls was 55% and 73%, respectively; 38% of belly dancers were divorced. According to work time, it can be seen that the majority of belly dancers were employed full-time (47% as opposed to only 39% of the control group) and the rate of unemployment was lower among them (27% in belly dance, while 53% in control group). The second measurement showed more significant difference in working time. The number of non-workers increased 29,09% from 27,27%, while in the control group this rate was reduced to 47,46% from 52,54%. During that one year period more control group members reported about occasional or part-time jobs.

#### **Results for the quality of life**

EORTC-QLQ-C30 scores were significantly lower in the rehabilitation, than in the control group, indicating that they had fewer physical symptoms and this difference was present in the second measurement as well. Results showed that the difference is significant in case of both measurements ( $p < 0,05$ ). Comparing the two measurements significant change was  $p < 0,01$  in the rehabilitation group and  $p < 0,05$  in case of the control group. Rate of the change in physical well-being is not significantly different between the two groups. Based on the literature it may be attributed to natural recovery.

The international standard questionnaire was complemented with own questions in order to examine the conformation of certain complaints, and to strengthen the efficiency of our method applied in the club. At the first measurement *arm oedema* did not show significant difference, as opposed to the follow-up where the significance level was  $p < 0,05$ . Positive changes within the rehabilitation group showed significant difference between the two

measurements ( $p < 0,05$ ), while in the control group negative changes were significant ( $p < 0,01$ ). Difference between the first measurement and the follow-up was significant ( $p < 0,05$ ) in the rehabilitation group regarding mobility impairment, where the change was positive. Within the control group the change was significantly negative ( $p < 0,05$ ) between the two measurements. Comparing the groups significant difference cannot be seen in the first measurement, while in the follow-up the difference was significant at  $p < 0,01$  level. Examination of the consumption of *analgesics* showed similar results. Based on the first measurement the level of change within both groups was significant between the two measurements ( $p < 0,05$ ). Difference between the groups was  $p < 0,05$  in the first measurement;  $p < 0,01$  at the follow up. More members took painkillers regularly in the control group. Regarding medications taken regularly for psychological status improvement we found that at first the difference between the groups was significant ( $p < 0,05$ ), while this level was  $p < 0,01$  at the follow-up. Changes within the groups was significant in case of the control group, ( $p < 0,01$ ), so that more members needed sedatives. The predominance of the *rehabilitation* process in the healthcare system was examined. In relation to the advices concerning the administration of medicaments 77,96% of the patients answered positively, while the percent of positive answers regarding the necessity of treatments was 91,94%; and 52,51% related to the information about the expectable outcome of the disease. Questions about nutrition, physical rehabilitation, sexuality and psychological guidance were omitted in the course of the information giving process.

### **Results for social support**

Both measurement showed higher social support in the rehabilitation group (65,22), variation is less and the percentage of the social support in the rehabilitation group was more increased at the follow up (67,55), as opposed to the control group where the level of social support is decreased from 57,41 to 53,88. Members of the rehabilitation group had a significant positive change ( $p < 0,01$ ), while social support of the control group reduced significantly. Considering that based on the research results of the applied international questionnaires social support is the most dominant factor, we found it important to examine other social aspects. Distribution of the answers given by the two groups was tested by Chi-square test. The difference between the two groups was significant in most cases ( $p < 0,05$ ). Examination of the recovery supporting rate of partnership did not show significant difference. Significant change was

observed in the perception of the importance of belonging to a group. During the second examination we measured  $p < 0,01$  significance level between the groups. Rehabilitation group members found it really important to be a group member, while in the control group the importance of a membership was reduced to a minimum or totally lapsed.

### **Results for satisfaction with life**

Campbell's life satisfaction study showed that rehabilitation group score at the first and second measurement is higher than the control group score - the difference between the groups in each measurement is significant. The rehabilitation group is increased from 57,36 to 59,55 between the first and second measurement, while the control group decreased from 48,42 to 45,05. Differences between the two measurements in the rehabilitation group do not change significantly, but moved towards a positive direction, while in the values of the control group the decrease was significant ( $p < 0.01$ ).

Campbell questionnaire was completed with questions with a focus on women to measure the satisfaction of women. Concerning self-image the first measurement did not show significant difference but at the follow-up significant difference ( $p < 0,01$ ) was found in the rehabilitation group regarding the question about the satisfaction of their shapes. We examined what women think about their shapes. Significant difference ( $p < 0.01$ ) was detected between the control group and the rehabilitation in the results of the first survey. The rehabilitation group is more interested in what the outside world thinks of their shapes (43.64%) and only 10.91% is totally uninterested in the opinions of others. The control group was completely different, only 22.03% dealt more with the opinion of others, and 32.20% not at all. During the second measurement significant ( $p < 0.01$ ) difference between the two groups was found in how important they think the way others judge her – the opinion of outside world is still more important to the members of the rehabilitation team. Degree of change related to the importance of the perception of shape by others is significantly ( $p < 0.01$ ) different between the two groups. Liking of dance and music is more emphasised in the life of women, in this case these were also measured. In both cases there were no significant differences from the results obtained in the first survey, however at the second survey significance difference ( $p < 0.01$ ) was detected between the rehabilitation and the control group. These two factors became more important in the daily lives of the rehabilitation group. Change with in the two groups between the measurements showed  $p < .01$  significant level. Dressing also plays an important

role in the life of women, at the club I noticed that it changes over a period of time. Concerning the question about the importance of dressing and fashion in their lives, the second measurement,  $p < 0.01$  significance level was detected, and within each group changes were  $p < 0.01$ . The importance of these was increased in the rehabilitation group while it became unimportant in the control group. The result of experienced sexual aura did not show significant difference, however after the one year period the results showed  $p < 0,01$  significance level. More than the half of the rehabilitation group felt their own sexual aura good (47%), perfect (35%), and the first category was completely omitted (0%) opposed to the 21,82% at the first survey. The highest part of the control group (42%) assessed themselves at level '1' in this question. In the first survey only 10,17% perceived themselves at level '5', at the follow up this percentage reduced to zero. Change within the group between the two measurements was significant ( $p < 0,01$ ). The answers about the satisfaction with life and self-report about happiness showed that the rehabilitation group was more satisfied than the control group.

### **Qualitative results of the examination**

Contents were encoded according to different categories: *timeline*, (eg. time period before the Club, experiences during belly dance), *affinity* (positive, negative, or double mood), and *content* (disease, social experience, recovery, etc). According to this, hundred percent of the texts was encoded.

Experiences were narrative spontaneously. It was important to determine 'concrete belly dance lesson/experience' wherefore many of the members reported about the conversations before or after the lessons. In their consideration these activities are inherent parts of the rehabilitation group. Time period following dance and its consequences are unambiguously positive. Texts about experiences contain rich emotional descriptions opposite to the preceding period where emotions are slightly mentioned. This indicator is confirmed with the positive change regarding satisfaction with life.

Disease was often mentioned, mostly with a negative overtone. A shift could be observed afterwards, when the disease reach a positive frame, as a result of the „Daisy experience“. It may cause the fact that disease can hardly be found in experience descriptions after dance. Results of the above mentioned researches showed improvement in the quality of life.



Thankful sentences showed the long-term effect of dance experience, as well as the reports about physical and psychological recovery.

*Social nature of experience* seems to be the most important effective factor of the rehabilitation group. Social support before or besides the rehabilitation group was not mentioned by the members on any level. It results a significant contrast of the group, with their most determined factor, the idol-function, and the special form of social support, mostly written in the descriptions of performances, the „social attention”.

It was important to examine to what the experiencer statements in respect of her, which may be a kind of self-suggestion. During the first lesson of belly dance strongly negative nature self-suggestions piled up with positive suggestions sent by peers. It may results in the description of automatic self-messages, because patients were faced with the challenge to accept their earlier self-image and continue the strengthening self-suggestion or to accept the message of the group.

The importance of emphasising womanliness plays a significant role in the rehabilitation effect of the group. The members are forced to be womanish, to meet their woman identity by movements and clothing. Before belly dance only a few words (mainly negative) had been told about the topic of womanliness, however during belly dance occasions womanliness is strongly emphasised on a positive way. As an effect, this positive emphasis remains. Social stereotypes about belly dance is that erotica is the main focus. However, members of the group never mentioned any negative feelings regarding this statement. It may raise from the fact that in the course of the occasions the experience of „*woman self*” is emphasised instead of eroticism.

However participation at the occasions is stressful during the experience, it may cause distress in short-term and sense of success in long-term. Before the period of belly dancing efforts, challenge are not really mentioned, however a lesson is a great challenge for many of the members. These experiences have been largely positive, though sometimes it is assessed as ambiguous or negative experiences. This may be due to the failure of the movement in the first times, or negative self-esteem resulting from the comparison with others. Once again, however, after dance, in long-term the members record these challenges as a positive experience

The contextual characteristics of the belly dance occasions are often mentioned by the group members - the music, clothes, and other accessories - all of which contribute to the uniqueness of the experience, and are not conventional. These accessories are the tools of womanliness, everyone can experience and strengthen their women identities through them - which cannot be reached in their real life or have not come to their mind or did not dare to use them. This was the highest change: while before belly dance is not much about the makeup, clothes, music, as the result of the experience colours, feminine accessories gained importance outside the lessons. The codes and their analysis showed that in addition to other social support mechanisms, such as the effect of self-suggestion, femininity, experiencing the power, experiencing positive and necessary accessories to dance all contribute to the improvement of quality of life and life satisfaction. In the course of the content analysis, we found a novel result which was not expected, that belly dance means physical and mental challenges, and contribute to a positive effect. This result parallels the theory with the flow experiences.

## **5. DISCUSSION**

The diagnosis of cancer brought unique changes into the life of women registered to the belly dance group. Considering the results of our research, the trauma of the disease caused a kind of positive change in the life of the patients in the examined group. They changed their lifestyle, their aspect of life, and despite their age and social role, they chose a non-common rehabilitation method, which promises companions in this disease, besides physical and psychological well-being, as a safe and secure background in this hard period of their life.

Results of the validated questionnaires proved my hypothesis concerning the quality of life, as health related quality of life was significantly better in the rehabilitation group. It has to be mentioned, that no significant difference was found between the two groups. I suppose that results may be modulated by the time elapsed since the diagnosis as a factor. A large percentage of the members of the rehabilitation group was diagnosed 2-3 years before the first measurement, while members of the control group were diagnosed an average of less than six months at the time of the first measurement. In my opinion, after the first shock radical changes in the natural healing and adaptation occur in those who have recently suffered the trauma of diagnosis. However, the rapid improvement is reducing after the first year, and even reversal can be experienced. Treatment of the disease at this point is an outstanding role in the rehabilitation groups. Therefore, I find it an important achievement that the rehabilitation

group had also showed a significant change, despite the fact that they have been battling the disease for a long time. Summarizing the results of the rehabilitation group I considered it founded that creative rehabilitation program scan have a positive impact on psychological well-being of patients, increase the quality of life, reduce depression and anxiety, and may help coping. The applied dance – as a therapy – may support the improvement of the indicators of life quality, and subjective self-image and body-image changed positively. At the members of the rehabilitation group the complaints about arm oedema and disability were reduced, though physical movement therapy seemed to be effective in the belly dance program. Accordingly I suppose that the reduction of analgesics consumption is the conclusion of that fact. Examining the psychological dimensions of life quality, it seemed to be proven that dance increases energy, reduces fatigue and improves mood as well as art therapy is able to reduce the level of depression. Psychological status was improved in the rehabilitation group. Results of the qualitative researches in the rehabilitation group confirmed the above mentioned statements and my expectation about the positive effects of the applied method. Responders confirmed this theory with their answers.

Diagnosis of a tumour causes a radical change in *social life* – generally towards isolation. It may cause depressive symptoms. Awareness of the disease, the lack of knowledge, treatments and environmental effects, changes in the possible human support may all have a negative impact on emotional- and psychological lives. In such cases, it is good to go to a peer group, with no stigma and taboo issues. The patients have similar problems which concern not only the disease but also in other areas of life. The community of rehabilitation groups helps the exchange of information in the field of spiritual and social movements in support besides comfortable and relaxing moving. As a result of the examination I assess that club members based on their own subjective opinions the physical status and psychological well-being was improved and community means support for them. Our results clearly show that the nature of social support group has significantly positive effect on social support perceived by group members. This positive effect is reliably and continuously growing over time. In contrast, the social support of the control group is reduced as it can be read in literatures - this type of rehabilitation program can provide an answer to this isolation. In my opinion, this perceived social support origins from the holistic nature of the intervention, support of the group members is very diverse. The positive effects of social environment occur mostly in situations where mutual assistance is available - therefore self-help groups of patients are extremely effective. Stigmatism, negative marker cannot be occurred among peers in a similar situation,

furthermore, information about the disease and advices can be exchanged. Social support increases identity experience, positive self-evaluation and control, anxiety can be reduced. Researches dealing with art therapy show that group work has a positive effect on the dimension of social support. Content analysis confirmed the efficiency of the method and the group. In the course of the analysis direct and indirect social effects could be demonstrated, and two other aspects. The role of peers as idols and social support are factors that may have a significant influence on the group. It was unambiguously proven that in the course of such rehabilitation experience self-suggestion and peer suggestion has an important role. Belly dance as a rehabilitation method seemed to be adequate in the dimension of social support.

Results of the Campbell questionnaire showed that satisfaction of the rehabilitation group is significantly higher than the control group, in both the first measurement and the follow-up. Combination of movement and art with social support may increase health-related well-being and experienced social support, as well as global satisfaction with life may become significantly higher. Average life quality of the rehabilitation group was significantly higher in case of both measurements. Satisfaction with life in the control group showed a significantly negative trend, while the members of the rehabilitation group reported significant development in life quality and satisfaction with life. The background of the difference may be the reliable social support – the analysis of this will be our further research topic. Results of self-prepared questionnaires showed that self-image, self-confidence and the concept of life, lifestyle, and the experience of happiness changed significantly towards positive in the rehabilitation group. Analysing verbal answers we found that art therapy supported the acceptance and processing of negative feelings and strengthened self-limits.

## **6. NEW OBSERVATIONS, RECOMMENDATIONS**

Analyses presented in the dissertation include several new results and practical exploitation possibilities shortly summarised below:

1. The status of national oncological rehabilitation is summarised, the significance and necessity is indicated.
2. Holistic therapeutic methods which can be applied successfully in oncology rehabilitation are explored.
3. Physical and psychological effects of belly dance was described and elaborated as a rehabilitation programme.
4. Positive effect of my elaborated method is proved to be positive on the physical and psychological life quality of patients.
5. It was proved that the rehabilitation method is appropriate in the dimension of social support, as social experience, psychical support, and idol.
6. It was proved that on the whole patients are more satisfied with their lives by this method.
7. New results were found in the course of the analysis, which may give opportunity to further researches (flow-experience; examination of woman-identity).

### **Recommendations:**

1. Research of the rehabilitation frames of oncological patients is proved to be a beneficial research field. It would be rewarding to examine different areas of oncology service in order to process special rehabilitation programmes and protocols.
2. A rehabilitation network would be required to support secure rehabilitation possibilities for patients.
3. Provably effective therapies which are not commonly applied in oncology have to be utilized.
4. Continuative training for rehabilitation professionals have to be organised.
5. A rehabilitation professional in each oncology department would be required.