Open Access Photo Essay

POLITEKNIK KESEHATAN KEMENKES PALANGKA RAYA: HEALTH FORUM AND INTERNATIONAL SEMINAR
THE NEW NORMAL : Creating a Pleasant Virtual Communication

A progressive muscle relaxation therapy to reduce stress levels in diabetic patients

Syam'ani*

Department of Nursing, Poltekkes Kemenkes Palangka Raya, Indonesia

***Corresponding author's email:** syam_ani@polkesraya.ac.id
DOI: 10.35898/ghmj-52938

Selection and peer-review under responsibility of the scientific committee and the editorial board of the Annual Health Forum and International Seminar of the Politeknik Kesehatan Kemenkes Palangka Raya

The number of diabetics worldwide is currently estimated to be around 190 million. By 2025, this number is projected to increase to more than 330 million, with the majority of cases being type 2 diabetes. Type 2 diabetes is one of the major public health problems in both developing and developed countries in the Asia Pacific region. Incidence of type 2 diabetes is growing worldwide, possibly due to lifestyle changes, associated with adoption of more western habits such as sedentary, obesity, or an unbalanced diet (Ashari, 2012).

.

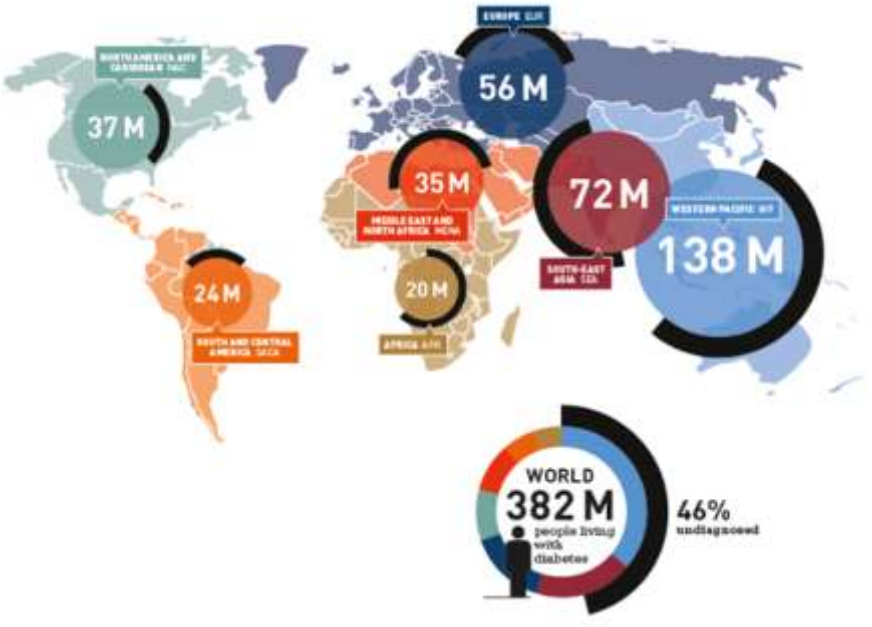

Figure 1. Number of people with Diabetes by IDF Region, 2013.

It cannot be denied that the psychological impact of diabetes mellitus has been felt by sufferers since the doctor's diagnosis. Patients begin to experience psychological disorders including stress on themselves related to treatment and medication that must be undertaken (Tjokroprawiro, 2006). When a person is faced with a stressful situation, the stress response can be in the form of an increase in the hormone adrenaline which can eventually convert glycogen reserves in the liver into glucose. Continuously high blood glucose levels can lead to complications of diabetes. In addition, the factor of the length of time suffering from diabetes is also a factor that can affect the stress level of diabetics.

Figure 2. One of the psychological impacts of diabetes is stress

According to Renata (2008) stress can decrease productivity, pain and mental emotional disturbances. Emotional mental disorder is a condition that indicates the individual is experiencing an emotional change that can develop into a pathological state if it continues.

Figure 2. Head ache, feeling anxious and feeling unhappy is some of symptoms of stress

Symptoms that contribute a lot to mental emotional disorders include frequent headaches, lack of appetite, feeling anxious, feeling unhappy, being unable to do useful things in life, disturbing daily work and finding it difficult to enjoy daily activities, difficulty sleeping, easy fear, trembling hands, disturbed digestion, frequent crying, difficulty making decisions, feeling worthless and easily tired (Sri, 2010). This emotional stress condition requires proper handling so as not to fall into a more severe condition. One of them is through progressive muscle relaxation therapy.

Figure 3. The author (Syam'ani) giving explanation about progressive muscle relaxation to participants

Relaxation is a technique in behavioral therapy to reduce tension and anxiety. This technique can be used by patients without the assistance of a therapist and they can use it to reduce the everyday tension and anxiety experienced at home. Relaxation is a technique that everyone can use to create inner mechanisms in a person by forming a good personality, eliminating various forms of chaotic thoughts due to one's helplessness in controlling one's ego, making it easier for a person to control himself, save the soul and provide health to the body. Progressive muscle relaxation techniques are relaxation techniques that are done by focusing on the contraction and relaxation of the muscles of the body.

Figure 4. Warming up step before the progressive muscle relaxation therapy

Progressive muscle relaxation is one of the easiest and most widely used relaxation techniques. This procedure gets relaxation in the muscles through two steps, namely by applying tension to a muscle group, and stopping the tension then focusing attention on how the muscle relaxes, feels a relaxed sensation, and tension (Setyohardi, 2011). This opinion is also reinforced by the opinion of Jacobson who stated that when anxious, muscles experience tension, a person can reduce anxiety by learning how to relax muscle tension. This progressive muscle relaxation requires physical and mental components (Varvolgi & Darviri, 2011). Relaxation can also reduce subjective tension and affect other physiological processes. Muscle relaxation and deep breath relaxation go along with mental relaxation. Subjective feelings of anxiety can be reduced or eliminated by indirect suggestions or removing and eliminating the autonomic component of those feelings (Resti, 2014).

Figure 5. Demonstration and re-demonstration the steps of progressive muscle relaxation therapy to the participants

The results of this study indicate that after being given progressive muscle relaxation therapy, there was a decrease in the number of diabetics who experienced stress, where before the intervention, there were 25 people with moderate stress (92.6%) and 2 people with severe stress (7,4%), while after the intervention decreased to 9 people (33.3%) had no stress, and 18 people (66.7%) had moderate stress.

Figure 7. The author, the participants and the facilitators feeling relaxed and happy as an indicator that stress levels have decreased

Relaxation can only occur when the mind and body are calm, when the brain's rhythm changes from beta (alert) to alpha (relaxed). This condition causes anxiety to decrease and blood flow to the muscles decreases, otherwise blood flows to the brain and skin, giving a feeling of warmth and calm. Progressive muscle relaxation techniques combined with deep breathing relaxation techniques work to reduce stress by activating the parasympathetic nervous system and stopping the sympathetic nervous system. If the sympathetic system is inhibited, this process will decrease so that the cortisol hormone decreases, this causes a decrease in the process of gluconeogenesis (new glucose formation) which is actually prepared to increase blood glucose levels in stressful situations (as a source of energy to deal with stressful situations).

Figure 8. Measurement of stress levels after therapy

Physiologically relaxation exercises will reverse the effects of anxiety that involve the parasympathetic part of the central nervous system. Relaxation therapy exercises will inhibit the increase in sympathetic nerves, so that the hormone that causes body dysregulation can be reduced in number. The parasympathetic nervous system, which has the opposite function of the sympathetic nerves, will slow down or weaken the work of the internal organs of the body. The result is a decrease in heart rate, breathing rhythm, blood pressure, muscle tension, metabolic rate, and the production of stress-causing hormones. As the levels of stress-causing hormones decrease, the whole body begins to function at a healthier level with more energy for healing, restoration, and rejuvenation.

Figure 9. Evaluation after intervention of progressive muscle relaxation to the diabetics

The combination of progressive muscle relaxation therapy and deep breathing relaxation is one of the stress management systems where the hope is that after doing this exercise the stress experienced by the respondents can decrease. The emotional problems usually experienced by diabetics are stress, sadness, worry about the future, thinking about long-term complications that might arise, feeling afraid to live with DM, feeling discouraged by the treatment program. that must be endured, worried about changes in blood sugar levels and bored with routine maintenance that must be undertaken. This if not followed up immediately will make the stress condition experienced by people with diabetes will get worse.

Based on the results of the research that has been done, it can be concluded that there is an effect of a combination of progressive muscle relaxation therapy and deep breathing on the stress level of diabetics.

Consent

The informants (identifiable) photographed have given their consent for their pictures to be used in the publication of this research.

Conflict of Interest

None.

Acknowledgments

The authors wish to thank Mrs. Tutik (The Group Leader of Prolanis BPJS Kesehatan) and Mr. Sopian (The Leader of Facilitator) for their hospitality and generosity in the implementation of therapy when the authors visited the project site at Prolanis BPJS Kesehatan, Palangka raya City, Central Kalimantan.

References

Ashari, Irwan. (2012). Prevalensi Diabetes Mellitus Tipe 2 dan Aterosklerosis. http://www.dokterirga.com.

Jamaluddin, Muhammad. (2007). Skripsi Penelitian : Strategi Coping Stres Penderita diabetes dengan self monitoring sebagai variable Mediasi, UIN Malang.

Renata Komalasari, SKp, (2008). Buku Ajar Keperawatan Jiwa, EGC,Jakarta

Resti, I. B. (2014). Teknik Relaksasi Otot Progresif untuk Mengurangi Stres pada Penderita Asma. Jurnal Ilmiah Psikologi Terapan.

Setyoadi, Kushariyadi. (2011). Terapi Modalitas Keperawatan pada Klien Psikogeriatrik. Salemba Medika. Jakarta.

Sri Idaiani. (2010) Analisis Gejala Gangguan Mental Emosional Penduduk Indonesia. http://www.indonesia.digitaljurnal.org.

Susilo. (2011). Cara Jitu Mengatasi Diabetes Melitus (Kencing Manis), ANDI, Jakarta.

Tjokroprawiro, A. (2006). Hidup Sehat dan Bahagia Bersama Diabetes Melitus. Gramedia Pustaka Utama, Jakarta

Varvolgi & Darviri. (2011). Stress Management Techniques: Evidence-Based Procedures That Reduce Stress And Promote Health. Health and Science Journal.

Wulandari, P. Y. (2006). Efektivitas Senam Hamil sebagai Pelayanan Pre Natal dalam Menurunkan Kecemasan Menghadapi Persalinan Pertama. Fakultas Psikologi Universitas Airlangga Surabaya

WHO. (2008). Global Prevalence of Diabetes. http://www.who.int/diabetes/facts/en/diabcare0504.pdf.

Cite this article as:
Syam'ani. A progressive muscle relaxation therapy to reduce stress levels in diabetic patients. GHMJ (Global Health Management Journal). 2022; 5(2):121-127. doi:10.35898/GHMJ-52938