



TODAY IT HURTS, TOMORROW IT WORKS:
Complimentary and Alternative Therapy for Failed Back Syndrome

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SUMMARY OF BIODATA

Ganiyu Oluwaleke Sokunbi was born in Mushin LGA of Lagos State by parents who originated from Abeokuta South LGA of Ogun-State. He attended Zion African Church School and Oki Primary School, Iyana-Ipaja, Lagos for his primary school. He bagged a grade of distinction in his first School Leaving Certificate and later proceeded to State High School, Ipaja, Lagos. He completed his secondary school education in the year 1988 and got admission to the University of Lagos to study Physiotherapy in the year 1990 graduated with a First Class BSc. Hons in Physiotherapy in 1995. He then proceeded to the University of Ibadan, Nigeria where he obtained a Master of Science degree in Orthopaedic and Sports Physiotherapy in 2001. He became an International Scholar with the award of Association of Commonwealth Universities Scholarship and Fellowship for his PhD degree at the University of Brighton, UK. He commenced his PhD study in December 2003 which he concluded and obtained his PhD degree in November, 2006.

Ganiyu Oluwaleke-Sokunbi joined the academic staff of the University of Lagos as an Assistant Lecturer in 1998 and rose steadily to the rank of Lecturer I, prior to leaving for the United Kingdom for his PhD study. Upon completion of his PhD study, he returned home to the University of Lagos but for his love for clinical proficiency, he went back to the UK for further training and certification in different skills of Manual Therapy and Traditional Chinese Medicine Acupuncture. He returned to the country and joined The University of Maiduguri (UNIMAID) in the year 2013 as a Senior Lecturer in the Department of Medical Rehabilitation. While he was with UNIMAID, he also served as visiting Senior Lecturer in the Physiotherapy Department of Bayero University, Kano. He was appointed a professor of Physiotherapy by Bayero University which effect from August 2015.

He has served in various administrative and academic capacities within and outside the Department of Physiotherapy within the period he joined Bayero University, Kano. He has been appointed as Acting Head of Department, Chairman, Curriculum Review Committee, Chairman, Education Committee for the Disability Conference, Chairman of the Committee for the Mock NUC Accreditation Panel. At the faculty level, he served as the Chairman of the committee to produce a proposal for the establishment of the Centre for Disability Research. He has been appointed by the National Universities Commission to serve as both as chairman and member of NUC ad-hoc accreditation panel to other universities such as University of Maiduguri, Borno, Obafemi Awolowo University, Ife, Osun State and Bowen University, Iwo, Osun State. He has served as a visiting professor to Physiotherapy Department at the

University of Medical Sciences Ondo, Ondo State and he is currently serving as the external examiner to the Medical Rehabilitation Department, Nnamdi Azikiwe University, Awka, Anambra State. On the clinical front, Professor Sokunbi has a wide range of clinical physiotherapy experience. He has worked in many NHS hospitals in the UK, served as honorary specialist physiotherapist to University of Maiduguri Teaching Hospital and Yobe State University Teaching Hospital.

Professor Sokunbi has published over 50 scientific papers in peer-reviewed scientific local and international journals in all aspects of clinical physiotherapy practice especially in his own chosen area of specialization which is spinal pain, acupuncture and orthopaedic physiotherapy. He has attended a number of seminars, conferences and workshops both locally and abroad including the prestigious World Congress for Physical Therapy in Vancouver, Canada. He has featured in a number of television and radio programmes to enlighten the public about the menace of low back pain and the use of different skills of complementary and alternative therapies.

He has received a number of awards such as Association of Commonwealth Scholarship and Fellowship Award (2003), University of Lagos, Department of Physiotherapy Most Outstanding Lecturer Award (2007), University of Lagos Best Faculty Researcher Award (2008) and Travel Grant Award by the International Scientific Association of Acupuncture and Meridians, Hong Kong (2016) among others.

His Hobbies include listening to local music and comedy, reading biographies and religious books as well as exercising. He is happily married to Ruth Oluwaleke-Sokunbi and the marriage is blessed with a boy, Samson Ayomiposi Oluwaleke-Sokunbi.

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Complimentary and Alternative Therapy for Failed Back Syndrome

*The Vice-Chancellor,
Deputy Vice-Chancellors, The Registrar,
Provost, College of Health Sciences,
Dean, Faculty of Allied Health Sciences and other Deans of Faculties.
Other Principal Officers,
Distinguished Professors and Members of The Senate,
Academic and Non-teaching colleagues,
My most valuable patients from the clinics in the Teaching Hospitals (Kano and Maiduguri), Dear students,
Distinguished Guests, Ladies and Gentlemen.*

I am most delighted to stand before you on this occasion to deliver my inaugural address in recognition of my promotion to the rank of a full professor of physiotherapy in 2015 by this prestigious University - Bayero University, Kano, Kano State, Nigeria.

Today's inaugural lecture is particularly unique because Bayero University Kano is the first University of all the universities in the northern part of the country to appoint a professor of physiotherapy and this lecture is being delivered by my humble self. Also, it is an opportunity for me to tell my academic story and share my path of scholarship.

I am most grateful to Almighty God for life, intellect, wisdom and opportunity to contribute to humanity. I am also grateful to my parents, for their nurturing and training. The greatest of all, my loving wife, for your love, prayers, care, respect and being the bond that holds us together. My friends and colleagues, deserve a special mention in mounding me in academia. My teachers, I hope will remain proud of me after today's lecture as a testimony of the impact they had on me. My students, I will ever remain grateful as one of the porters in your lives. And my patients, I hope my healing hands and the gift of healing will continue to make the difference when and where it mattered most. Vice Chancellor Sir, I sincerely appreciate the opportunity that you have granted me to serve this University.

Introduction

The acronyms CAT stand for Complementary and Alternative Therapy while Failed Back Syndrome (FBS) is a term that is used to describe back pain that starts or persists after spine surgery. However, before I proceed, I will like to describe briefly the menace of low back pain especially in our society, Nigeria. Chronic low back pain (CLBP) is a major health problem, as well as a social and economic burden. The population of people with chronic LBP is accountable for approximately 80% of all healthcare costs in most parts of the world. The prevalence of CLBP increases with age, in individuals aged between 18 and 59 with a point prevalence of up to 80%. This indicates that majority of those in the working class suffer immeasurably from the menace of back disorders. The rather high prevalence among those aged 40 to 80 years implies that even after the working years, LBP could continue to be a menace as the population ages over the coming decades, the number of people with low back pain is likely to increase substantially.

It has been projected that the greatest increase in low back pain prevalence in the next few decades will be in the developing nations. Currently, there is less information on the burden of back pain in Africa and in Nigeria in particular. Less than 10% of studies on the global prevalence of LBP were conducted in developing countries, with less than 5% of these studies conducted in Africa. Akinpelu et al., (2013) in their study in Nigeria reported a 12-month prevalence of 40.7% and a point prevalence of 12.9% prevalence of low back pain among adolescents' students in a Nigerian urban community. Thus, it can be said that back pain is a serious health problem with serious societal and economic consequences including low productivity, lost-time at work, permanent disability etc.

Recent advances undoubtedly have led to the discovery of potent chemotherapy currently in a wide use for pain. However, chronic low back pain could also be notoriously refractory to some conventional drug treatment. These common experiences have limited patients' compliance and the effectiveness of the use of pain medications in the overall management of back pain. This in turn, has made low back pain to be very long-lasting, highly recurrent in nature and very difficult to treat, thus causing long-lasting periods of functional restrictions, anxiety and depression. This development has made many chronic back pain patients to seek surgery and different forms of surgical interventions within and outside the country.

In the last decades, diagnostic tools and surgical techniques have developed dramatically and it has become possible to have patients undergoing surgical intervention in management of back pain usually feel immediately improving in their

symptoms and usually dismissed from the hospital within 24 hours of surgery and return to work within 2–6 weeks. However, having a chronic low back pain is not an automatic indication for spinal surgery, the overall consensus is that surgical intervention is not needed in patients who have their persistent complaints lasting more than 6-12 weeks without serious neurological deficit such as; tingling sensation, weakness in the lower extremity muscles, pain radiation to the extremities and severe decline in functional activities and activities of daily living. The majority of chronic back pain patients do not have diagnostic evidence of pathology that deserves this expensive surgery. In the absence of a strong correlation between the actual clinical presentations and the structural changes, that is, if the clinical pictures is not well matched with the pathological changes in the body, the desire of a desperate LBP patients to have surgery and the eagerness of his surgeon to help out via surgical operation might still be a treatment offer failing to arrive at an ideal outcome. Recent findings have also shown that, compared with conservative therapy, surgical treatment might provide faster relief from back pain symptoms but did not show a benefit over conservative treatment in midterm and long-term follow-up.

The general success rate of any spinal surgery has been put to be between 40-60%. In situations where success is recorded, it is possible that 4 out of 10 patients who have undergone spinal surgery for back pain are likely to express dissatisfaction with the outcome after one year, 1 out 4 patients will likely continue to experience their pain after surgery, 1 out of 10 are likely to have the back problem moved to adjacent segments of the spine away from the site of the surgery and 15% are likely to experience failed back syndrome in which their pain might have gotten worse than prior to surgery. Thus individuals with failed back syndrome are specific group of chronic back pain sufferers whose pain persists despite their having undergone anatomically successful lumbosacral spine surgery.

The search for back surgery and repeat of back surgery interventions sequel to dissatisfactory outcome of the first surgery is responsible for a huge medical tourism out of our country with a huge financial consequences on regular basis. The surgical treatments they obtained outside the country, in some cases, have been very successful while in some other cases, these patients have different stories to tell. Some, in a desperate move to get their back resolved, had fallen into wrong hands of individuals who will just open their back and close it up again without carrying out the required operations. Some have suffered failed back syndrome, ended up confined to the wheelchair and remained totally dependent for life. Many others have had to return to the theatre table within and outside the country for the second and perhaps,

the third surgical operations while others, who could not afford repeat operations have had to live with the menace of their back disorder for the rest of their lives.

A survey of 24,000 patients who underwent spinal surgery in Washington State showed that 19% required another re-operation for FBS. The UK prevalence of FBS is 5,800 per 100,000 costing approximately £2 billion a year. At the moment, it is difficult to provide an accurate estimate of the prevalence of FBS in Nigeria. Considering a population of over 170 million people, with LBP prevalence of 12.9 to 40.7%, we would expect to see similar or higher figures in terms of prevalence and the cost implications of FBS in Nigeria.

The important thing to remember is that spine surgery, in itself, serves a certain purpose; it solves a number of problems, but, as with any other tools, it has its own limitations. So, sequelae of the surgery can cause pain, but also at the same time, surgery cannot address all the pain generators. So, besides looking at effectiveness, cost and possible complications of surgery for FBS, we can actually turn our attention and now refocus on the patient and look at the pain generators in that patient in the context of their life and in the context of their overall function. By looking at it like that, we can actually start treating the pain generators and really get to the source of the majority of the pain that is generated after the surgery. More so, the cost, risk and complications associated with surgery therefore, strongly underscore the importance of exploring all opportunities to have conservative, complementary and alternative therapies, which will be beneficial before resorting to having the first surgery and for individuals with failed back syndrome after the first surgery.

As at today, I have been actively involved in the teaching and research in different areas of physiotherapy practice. However, from 2013 onward, the integral part of my research and clinical practice has been focused on management of chronic low back pain and failed back syndrome as well as the use of complementary and alternative therapy in the management of different types of spinal pain and musculoskeletal disorders in different parts of the body.

Below is the summary of some the recent studies involving the use of different forms of CAT in the management of FBS, back pain and other conditions and their findings as published in some peer-reviewed scientific journals:

1. Journal of Acupuncture and Meridian Studies

Effects of Acupuncture, Core-stability Exercises, and Treadmill Walking Exercises in Treating a Patient with Postsurgical Lumbar Disc Herniation: A Clinical Case Report

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Abstract The objective of this study is to investigate the effects of acupuncture, core-stability exercises, and treadmill 12-minute walking exercises in treating patients with postsurgical lumbar disc herniation. A 34-year-old woman with a history lumbar disc prolapse who had undergone lumbar disc surgery on two different occasions was treated using acupuncture, core-stability exercises, and treadmill walking exercises three times per week for 12 weeks. The outcome measures used in this study were pain intensity, spinal range of movement, and general health. After 12 weeks of treatment, the patient had made improvement in terms of pain, which was reduced from 9/10 to 1/10. In a similar vein, the patient's general health showed improvement of >100% after 12 weeks of treatment. Pre-treatment scores of spinal flexion and left-side flexion, which measured 20 cm and 12 cm, respectively, increased to 25 cm and 16 cm after 12 weeks of treatment. This study showed that acupuncture, core-stability exercises, and treadmill walking exercises were useful in relieving pain, increasing spinal range of movement, and improving the health of a patient with postsurgical lumbar disc herniation.

KEYWORDS acupuncture; core stability; exercises; lumbar disc herniation; treadmill

2. Nigerian Journal of Medical Rehabilitation

Comparison of the Efficacy of Acupuncture and Conventional Physiotherapy in the Management of Sacroiliac Joint Dysfunction- A Randomised Controlled Trial

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Abstract

Background: The question of what form of non-invasive treatment is most effective for sacroiliac joint (SIJ) dysfunction has not been sufficiently addressed. The quality of evidence regarding the efficacy of a conservative treatment approach is low, and there is no evidence for sustained benefits. **Objectives:** To compare the efficacy of acupuncture and conventional physiotherapy in the management of pain and functional disability in patients with SIJ dysfunction. **Methods:** Forty women with SIJ dysfunction with a mean age of 29.3± 4.3 years participated in the study. Ten participants were randomized into each of three intervention groups (acupuncture (ACT); conventional physiotherapy (CPT); and acupuncture combined with conventional physiotherapy (ACPT)) and a control group (CG) (education and advice). Treatment interventions were provided three times a week for five weeks. The main outcome measures were pain intensity measured with visual analogue scale

(VAS) and functional disability measured with Roland Morris Disability Questionnaire (RMDQ). Assessments were carried out by an independent examiner before and after the intervention and at 3 months follow-up. **Results:** Baseline VAS and RMDQ scores did not show significant differences among the groups. After treatment, the participants in all the intervention groups had reduced pain scores on the VAS scale (ACT= 3.5±0.06, CPT =3.0±0.08 and ACPT=1.2±0.98) and improved function on RMDQ scores (ACT=7.0±1.53, CPT = 6.0±.01, ACPT = 3.0± 0.08) compared to those in the control group, who recorded 7.4±0.08 and 17.5± 4.32 for pain intensity and functional disability, respectively. However, pain reduction and improvement in function was greatest in the ACPT at the end of the 5-week treatment and at 3-month follow-up (VAS=1.0±0.04, RMDQ =2.0± 0.07) compared with the other intervention groups (VAS: ACT= 4.0±0.97, CPT = 3.5±1.00 and RMDQ: ACT=7.0±1.6, CPT=5.0±0.87). There was a significant difference in the pain scores on VAS (F =67.171, P=0.000) and functional disability on RMDQ scores (F=62.467, P=0.000) among the groups after 5 weeks of treatment and at 3-month post-treatment follow-up assessment VAS (F =79.903, P=0.000) and RMDQ (F =75.301, P=0.000), which was not present at the baseline. Conclusion: Findings from this study showed that acupuncture or conventional physiotherapy alone or in combination is more effective than advice and education. The combination of acupuncture and conventional therapy is more effective than both treatments alone.

Key words: Acupuncture, manipulation, stabilization exercises, sacroiliac joint dysfunction

3. ScholReps

Acupuncture and Therapeutic Exercise in the management of Chronic Low-Back pain with Lumbar Spinal Stenosis:

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Abstract:

Background: Lumbar spinal stenosis is a growing concern with clinical features capable of resulting into highly disabling conditions. Most patients choose to opt for conservative care as opposed to seeking surgical solutions. However, it is unclear from the literature which of the conservative treatments when apply singly or in combination might work best. **Aims of the study:** The objective of this study was to investigate the effects of acupuncture, core stability exercise, and single knee to chest stretch and treadmill walk exercises on pain severity, time of first onset of pain (TFS), functional limitation due to pain, and functional mobility in a patient with low back pain with lumbar spinal stenosis. **Methods:** This is a single case report on a 70-year-old patient with clinical features and radiological diagnosis of lumbar spinal stenosis. The main findings from assessments were; lower back and right leg pain, impaired mobility and impaired ability to do functional Activity of Daily Living (ADL) in a weight bearing position due to pain. The patient underwent a treatment regimen comprising manual acupuncture needle stimulation and the therapeutic exercises twice weekly for eight weeks. **Results:** At the end of 8 weeks of intervention, the patient reported complete resolution of back pain and 87.5% reduction in the leg pain. Also, the patient was able to do treadmill walk for the total period of time allowed (10minutes) based on the treadmill walk protocol without experiencing back and/or leg pain. Functional limitation due to back pain was reduced by 62.5%, functional mobility (FM)

improved with FM test scores reduced to 10 seconds from 29 seconds. The patient reported 90% recovery with ADL. **Conclusion:** Findings from this single case study demonstrated the efficacy of acupuncture and therapeutic exercises in the management of lower back pain with spinal stenosis. **Keywords:** Spinal stenosis; Acupuncture; Core stability exercises; Treadmill walk; Single knee to chest stretch

4. *Journal of Dental and Medical Sciences*

The use of alternate side lying manipulation, acupuncture and core stability exercises in the treatment of multiple level disc prolapse.

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Abstract

Aims: The purpose of the study was to investigate the effects of using combined treatment of lumbar spine manipulation, acupuncture and core stability exercises in the management of patients with multiple level disc herniation. **Methods:** Case presentation: The patient was a 33 year old man who was presented with a diffuse right sided lower back pain of gradual onset and of unknown cause. The chief complaint was a lower back pain with radiation to the right lower limb during ambulation. Physical examination revealed reduction in the spinal range of motion in all directions. Spinal stability test was positive; SLR test was positive and Semmes Weinstein monofilament test showed impaired sensation around the right big toe. Oswestry Disability Index was used to measure Pain intensity level. Patient was treated with alternate side lying manipulation, acupuncture and core stability exercises for six weeks. **Results:** At the end of the six week treatment, patient pain was reduced to zero 0 from 7 out of 10. Spinal range of movements increased by more than 65% in all directions and patient reported good compliance with home exercise program.

5. *Journal of Novel Physiotherapies*

Manual Therapy and Acupuncture in the Treatment of Patient with Cervical Spondylosis with Radicular Pain

*Sokunbi OG** Department of Medical Rehabilitation, College of Medical Rehabilitation, University of Maiduguri, Nigeria

Abstract

Backgrounds: Recently, studies have shown that acupuncture combined with manual therapy is effective for the treatment of cervical spondylosis with radicular pain. Both acupuncture and exercise have been reported to have significant effects on reducing pain and improving quality of life among neck pain sufferers. Recent guideline recommends physical therapy (in the form of manipulative therapy and exercise) and acupuncture among other interventions for the management of cervical

radiculopathy. **Aim:** The aim of this study is to present the use of manipulative therapy and exercise therapy alongside acupuncture, in a single case report of a patient with a C6/7 disc prolapse and radiculopathy. **Methods:** A case report following sessions of manipulative therapy and exercise therapy administered thrice weekly over 6 weeks, alongside manipulative therapy for the treatment of a single patient with cervical spondylotic with radicular pain. Outcome measures used was Neck pain and disability (NPAD) scale which measured pain intensity, impact of neck pain on functions, activities of daily living (ADL) and emotion. **Results:** The outcome of treatment showed that NPRS improved from 8/10 from the start of the treatment to 0/10 at the end of six weeks of treatment. Pain intensity and impacts of pain on functions improve by 100% while the impact of pain on ADL and emotion improve by more than 60% at the end of 6 weeks treatment. Patient was to be able to sleep comfortably at night and able to drive without neck pain. **Conclusion:** Combination of manual therapy and acupuncture treatment was beneficial in reducing pain, improving function, ADL in patient with cervical spondylotic with radicular pain in this case study. However, the long term and short term efficacy of using these treatment modalities either singly or in combination with a nonintervention control group is further warranted.

6. *SA Journal of Physiotherapy*

A PILOT STUDY ON USING ACUPUNCTURE AND CORE STABILITY EXERCISES TO TREAT NON-SPECIFIC ACUTE LOW BACK PAIN AMONG INDUSTRIAL WORKERS

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²Occupational Health Advisor, Cummins Engine, Daventry, UK ³Occupational Health Advisor, Cummins Engine, Daventry,

ABSTRACT

OBJECTIVE: To explore the effects of using acupuncture and core stability exercises to treat acute low back pain among industrial workers at an Occupational health department in the UK. **METHODS:** Consecutive samples of patients with acute low back pain, LBP (n=15) of less than 12 weeks duration, who attended the Physiotherapy Department at the Occupational Health Unit during the study were recruited. Subjects were randomly allocated to one of the three groups (using a computer-generated table of randomisation), acupuncture group (ACG), acupuncture and core stability exercise (EACG) and core stability exercise group (CSG). ACG received acupuncture treatment at selected points, for low back pain. CSG received instruction on core stability muscle activation, while the EACG received a combination of acupuncture and core stability exercise treatment. Each group received treatment once weekly for six weeks during the study. Visual analogue scale (VAS), Rolland and Morris Disability Questionnaire (RMDQ), and medication use were completed at baseline, at the end of six-week treatment and at three-months follow up. **RESULTS:** All the groups reported lower VAS and RMDQ scores at the end of the treatment and at three-months follow up. However, significant reduction in pain intensity (P<0.008) and significant reduction in RMDQ scores (improvement in QOL)

were shown in the EACG. the majority of the patients in the EACG were taking fewer medications at the end of the treatment, with further progression to no medication intake at the three-month follow up. **CONCLUSION:** The study demonstrated that combined acupuncture and core stability exercise treatment are effective for pain relief among industrial workers, reduction of back pain, functional disability and pain medication intake in patients suffering from acute low back pain for up to three months post-intervention.

7. Journal of Dental and Medical Sciences

Effectiveness of Acupuncture and Acupuncture-like Transcutaneous Electrical Nerve Stimulation (ACUTENS) in treating primary dysmenorrhea-A randomised controlled trial (RCT)

* **Sokunbi OG** (PhD, Rosemary, L (MSc), Robinson, P (BSc) Senior Lecturer, Department of Medical Rehabilitation College of Medical Sciences University of Maiduguri 2,3Rotherham Community Hospital, UK

Abstract

Objectives: the purpose of this study was to compare the effectiveness of acupuncture and study to acupuncture like transcutaneous electrical nerve stimulation in treating primary dysmenorrhea. **Methods:** Subjects: Eligible women were aged 11–30 years with a diagnosis of primary dysmenorrhea. Twelve subjects each were randomized to control, acupuncture and ACUTENS groups. All subjects completed two pain questionnaires (Pain Rating Index (PRI) of McGill Pain Questionnaire and Visual Analogue Scale) before treatment; immediately post treatment; 30, 60, 120 post-treatment and the next morning upon awakening. The data were treated as means and standard deviation analyzed with one way analysis of variance and Bonferroni post hoc analysis test. **Results:** The mean pretreatment PRI values for the control (29.33+2.8), acupuncture (29.17+2.4), and ACUTENS (29.28 +2.6) groups did not show statistical significant difference ($F = .016, P = 0.985$). However, a decline in the mean PRI values for the acupuncture (14.42+2.49) and ACUTENS (13.83 +3.13) groups were recorded immediately post treatment which were also statistically significant ($F = 87.30, P = 0.00$). The decline in the PRI and VAS scores recorded immediately post treatments were maintained at 30 mins, 60 mins 120 min post treatment and the next day in the acupuncture and ACUTENS groups. Similarly, the mean VAS values immediately post treatment for control (4.75+1.76), acupuncture (1.25+0.62) and ACUTENS (1.33+0.65) showed statistical significant difference ($F = 35.59, P = 0.00$). Post hoc analysis of the difference in PRI and VAS scores, between Acupuncture and ACUTENS groups did not show statistically significant difference at any point of data collection ($P > 0.05$). The overall percentage improvements in PRI scores were 10.41%, 50.23% and 52.26% for the control, acupuncture and ACUTENS groups respectively. Similarly, the overall improvement in VAS scores were 8.89%, 74.58% and 75.56% for the control, acupuncture and ACUTENS groups respectively. **Conclusion:** The outcome of this study showed that acupuncture and low frequency and high intensity TENS/acupuncture like TENS treatment could be effective in treating pain due to primary dysmenorrhea. Findings from this study also showed that pain relief was approximately the same for the acupuncture and the ACUTENS groups over time.

Key words Acupuncture, Acupuncture like Transcutaneous Electrical Nerve stimulation, Dysmenorrhea, Pain, Physiotherapy

8. Journal of Clinical Case Studies

The Effect of Manual Therapy, Postural Correction and ACUTENS in the Management of Thoracic Outlet Syndrome–

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Abstract

Background: Thoracic outlet syndrome (TOS) is a condition that is somewhat controversial and there are no clear-cut clinical guidelines as regards the best way to manage this condition. This case study was designed to evaluate the effect of manual therapy, postural correction and acupuncture like TENS (ACUTENS) in the management of TOS. **Methods:** The subject was a 33 years old male patient with a four month history of sudden onset of severe pain in the neck with radiation into right upper limb. Patient complained of lower neck pain, muscle weakness in the right upper limb and numbness and tingling sensation in his right hand on his first visit. Following a careful subjective assessment and objective assessment including physical examination, a rehabilitation program comprising of postural correction, manual therapy, pectoralis muscle stretching exercises and ACUTENS were carried out three times weekly for six weeks. Neck pain and disability scale (NPADS) was used to assess pain intensity and the impact of the pain on function, Activity of daily living (ADL) and emotion of the patient. **Results:** After 6 weeks of treatment, both pain intensity and the impact of pain on emotion was reduced by 80% and 50% respectively. The impact of pain on function and ADL were reduced by 60% and 70% respectively. Patient also reported remarkable improvement with reduction in numbness and tingling sensation. **Conclusion:** Findings from this case study showed that manual therapy, postural correction, pectoralis muscle stretching exercises and ACUTENS were effective in managing TOS. However, the long term and short term efficacy of using these treatment modalities either singly or in combination and comparison with a non- intervention control group is warranted. **Keywords:** ACUTENS; Manual therapy; Thoracic outlet syndrome; Physiotherapy

9. Journal of Acupuncture and Meridian Studies

Cardiovascular Response to Manual Acupuncture Needle Stimulation among Apparently Healthy Nigerian Adults

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Abstract This study investigated experience with acupuncture needle stimulation of apparently healthy adult Nigerians and the responses of the systolic blood pressure (SBP), diastolic blood pressure, heart rate (HR), and rate pressure products (RPP) to acupuncture at both real acupuncture points relevant to the treatment of cardiovascular disorder and sham acupuncture points not relevant to the treatment of cardiovascular disorder. Seventy-eight participants were randomly placed into three groups: the real acupuncture group (RAG); the sham acupuncture group (SAG); and the control group, with 26 participants per group. Data were collected pre-intervention, 15 minutes into acupuncture stimulation, post-intervention, and 15 minutes after intervention. Changes (post-intervention pre-intervention scores) in the SBP, HR, and RPP were statistically lower in the RAG than in the SAG. Changes in the

DBP showed a significant difference between the SAG and the RAG ($p > 0.05$). Findings from this study showed that among apparently healthy Nigerian adults, acupuncture needle stimulation at acupoints relevant to cardiovascular disorders was more effective than sham intervention in reducing the SBP, HR, and RPP. Participants reported heaviness, numbness, and increasing pain, but no dizziness, fainting and/or life threatening side effects, during and after the acupuncture needle stimulation.

KEYWORDS: acupuncture; blood pressure; heart rate; rate pressure products

10. *Journal of Dental and Medical Sciences*

A Randomized Controlled Trial (Rct) on the Effects of Frequency Of Application Of Spinal Stabilization Exercises On Plasma Serotonin Levels In Participants With Chronic Low Back Pain

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Abstract:

Objectives: The purpose of this study is to investigate the effects of frequency of application of spinal stabilization exercises on plasma levels of serotonin in participants with chronic low back disorders. **Methods:** Eighty four participants (34 males, 50 females) volunteered to take part in this study. Plasma level of serotonin was measured with Enzyme linked Immuno absorbent assay (ELISA) technique. Participants were randomly assigned to one of the exercise groups where they carried out exercise training at different frequencies i.e. once weekly (1wkly), twice weekly (2wkly) and three times a week (3wkly) or the control (no exercise group). Data were collected at baseline, after six weeks of exercise treatment and at 18 week follow up after exercise treatment. **Results:** The result showed that plasma levels of serotonin increases significantly in all the exercises groups after 6 weeks of treatment with the highest increase in the three times a week ($P < 0.05$). Surprisingly, only the three times a week (3wkl) showed significant increase in plasma serotonin level at three months follow up ($P < 0.05$) which was not present in all other exercise groups. **Conclusion:** The result of this study suggested that stabilization exercises carried out three times a week could be associated perhaps be associated with an optimal biochemical and long term therapeutic effects of spinal stabilization exercise via increase in production of plasma serotonin levels.

Key words: Chronic back pain, stabilization exercises, serotonin, RCT

11. Manual Therapy

Experiences of individuals with chronic low back pain during and after their participation in a spinal stabilization exercise programme – A pilot qualitative study

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Abstract

Spinal stabilisation exercises are commonly used in the management of low back pain (LBP). There is limited evidence relating to patients' experiences of their involvement in such programmes. The aim of this study was to explore the experiences of a sample of individuals with chronic LBP who participated in a randomised controlled trial (RCT) investigating the most efficacious dosage and frequency of spinal stabilisation exercises. The qualitative study involved nine participants who took part in focus group discussions. The data were analyzed using thematic content analysis and provided insights into the experiences of the participants. Four themes emerged: Physical dimensions of the LBP experience, emotional and psychological dimensions of the LBP experience and perceived effects of the programme and lastly, the impact of the treatment programme on participants' knowledge, understanding and adherence. In conclusion participants' experiences were not limited to the positive effects of stabilisation exercises on pain, functional disability and quality of life, but also reflected increases in confidence, the formulation of self-help strategies and the ability to exert better control over their LBP. The findings highlight the importance of well-planned associated educational support packages in the treatment of LBP paving the way for future qualitative research.

Keywords: Low back pain Stabilisation exercises Patient-centredness Therapeutic alliance

12. Journal of Alternative, Complementary & Integrative Medicine

Comparison of the Effects of Acupuncture and Acupuncture-Like Transcutaneous Electrical Nerve Stimulation among Adults Nigerian with Osteoarthritis of the Knee

Ganiyu S, Bello UM (2016) Comparison of the Effects of Acupuncture and Acupuncture-Like Transcutaneous Electrical Nerve Stimulation among Adult Nigerian Adult with Osteoarthritis of the Knee. J Altern Complement Integr Med 2: 009.

Abstract

Background: Osteoarthritis of the knee is a major cause of disability among adults with conservative therapies being among the preferred first line of treatment. Acupuncture and Transcutaneous Electrical Nerve Stimulation (TENS) are considered a potentially useful treatment for osteoarthritis; however there is dearth of information on the acceptability and efficacy of acupuncture in Nigeria. **Objectives:** The study was designed to compare the effects of acupuncture and ACUTENS among adult Nigerian with OA of the knee joints. **Methods:** Thirty patients with knee OA were randomized into 2 intervention groups (i.e., acupuncture and ACUTENS) and a control (soft tissue manipulation) group. Patients in the acupuncture and ACUTENS group were also treated with soft tissue manipulation as the control group. Pain intensity, functional mobility and knee Active Range of Movement (AROM) were

measured at pre-intervention, post intervention and 3 months post intervention. **Results:** Patients who received acupuncture showed statistically better improvement in the form higher mean changes \pm Standard Error of Means ($X\Delta\pm SEM$) in pain intensity score of 4.20 ± 0.01 than the ACUTENS group who recorded changes in pain intensity scores of 30 ± 0.30 . The mean changes in the functional mobility scores of 10.60 ± 3.35 and 4.30 ± 1.12 were recorded for the patients in the Acupuncture and ACUTENS group respectively. Also, the mean changes in the Knee active range of movement for the patients in the acupuncture group was 15.5 ± 5.18 while patients who received ACUTENS recorded a mean changes of 5.50 ± 1.38 . Acupuncture and ACUTENS treatment produced significant reduction in pain intensity level post intervention and at follow up assessments ($P<0.05$). Patients who received acupuncture treatment showed significant improvement in functional mobility and knee active range of motion which was not present in the ACUTENS and control groups ($P<0.05$). **Conclusion:** Acupuncture and ACUTENS treatment had significantly better pain relieving effects when compared to soft tissue manipulation in patients with osteoarthritis of the knee. Acupuncture treatment produce better outcome than ACUTENS in terms of pain reduction, knee range of movements and functional mobility in patients with OA of the knee.

Keywords: Acupuncture; Functional mobility; Knee Osteoarthritis; Pain; ACUTENS

13. ScholReps

Physical Activity Pattern and Its Association with Functional Limitation, Physical Health and Mental Wellbeing of Nurses with Low Back Pain

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Abstract:

Background: The prevalence of low back pain among nurses may be comparable in both Africa and western countries but the working and living conditions in both settings might not be comparable. With that in mind, therefore, nurses in Africa, particularly in the North Eastern Nigeria, where the study was conducted, might be differently affected by low back pain (LBP) compared with their counterparts in the western countries. **Aim:** The purpose of this study was to investigate the physical activity (PA) pattern and its association with functional limitation, physical health and mental wellbeing among Nurses with LBP in Maiduguri, North Eastern Nigeria. **Materials and Methods:** Convenient samples of Nurses with LBP participated in this study. International physical activity questionnaire (IPAQ) was used to assess the physical activity, Rolland Morris disability Questionnaire was used to assess functional limitation while Rand 36 questionnaire was used to assess bodily pain, physical health and emotional wellbeing. **Results:** The results of the study showed 94.7% prevalence of LBP among the nurses out of which 94.27% participants had chronic (> 3 months duration) LBP. The mean \pm Standard deviation scores for job related physical activity, house-work related physical activity, transport related physical activity, and recreational related physical activity domains were 8565.78 ± 95.44 , 3158.65 ± 56.07 , 4055.80 ± 62.41 , 2179.82 ± 39.67 respectively. Eighty percent of the participants were active in each of the domains of transport related and job related physical activity while 90% and 100% of the participants were inactive in housework related and recreational related PA domains respectively. Age

group and gender did not show statistical significant difference in the PA scores of the participants ($P > 0.05$). Functional limitation, physical health and mental wellbeing explained 2.5% variance in the total physical activity **Keywords:** Low back pain Physical activity pattern; functional disability; Physical health; Emotional well-being

14. SA Journal of Physiotherapy

EFFECTS OF WORK STATUS OF PATIENTS WITH CHRONIC LOW BACK PAIN ON PHYSICAL AND MENTAL HEALTH AND FUNCTIONAL LIMITATION

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ABSTRACT

BACKGROUND: Concern about the decision of whether or not to continue to work with symptoms of back pain and the impacts of such decision on the general health of patients with low back pain has not been widely investigated. **OBJECTIVES:** The purpose of this study was to investigate the effects of work status of patients with chronic low back pain on physical and mental health and functional limitation

METHODS: 160 participants with chronic low back pain [CLBP] participated in this study. CLBP participants work status was categorised into 3 groups; completely off work, working with restrictions and completely at work. Rand 36 questionnaire was used to assess bodily pain, physical health and mental health. Rolland Morris disability questionnaire was used to assess functional limitation due to low back pain. Analysis of Variance (ANOVA) was used to compare bodily pain, physical health, mental health and functional limitation among the 3 groups. A post hoc analysis [LSD] test was carried out where ANOVA showed significant difference. Level of significance was set at 0.05. **RESULTS:** CLBP patients who are completely off work, working with restrictions and completely at work recorded a mean score of 42.7 ± 14.19 , 92.13 ± 36.6 and 111.13 ± 46.3 respectively for bodily pain. CLBP patients completely off work has a mean functional limitation score of 13.11 ± 5.65 while those completely at work has 6.83 ± 4.40 and those working with restrictions measured 10.92 ± 4.46 . Physical health scores of 197.2 ± 19.59 , 356.7 ± 24.88 and 383.96 ± 85.6 for CLBP patients who are completely off work, working with restrictions and completely at work respectively. ANOVA test showed significant difference in the bodily pain, functional limitation and physical health scores among the three groups ($P < 0.05$). Completely at work and completely off work group recorded mean score of 343.8 ± 85.6 , 328.8 ± 85.5 respectively while the working with restriction group recorded a score 353.0 ± 85.3 for mental health. ANOVA test did not show a statistical significant difference in the mental health scores among the 3 groups ($F=0.661$, $P=0.518$)

CONCLUSION: Findings from this study has shown that CLBP patients who are either completely at work or working with restrictions experienced less bodily pain, reduced functional limitation and better physical health than those who are completely off work

KEY WORDS: BACK PAIN, ERGONOMICS, FUNCTIONAL LIMITATION, MENTAL HEALTH, PHYSICAL HEALTH AND WORK STATUS.

15. Acupuncture & Traditional Medicine Journal

Therapeutic Exercises and Acupuncture in the Management of Back Pain and Erectile Dysfunction in a Kidney Post Transplant Patient - A Case Study

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Abstract Background: Pain, fatigue and general reduction in physical activity have been common complications among kidney transplantation recipients. Medical treatments in the form of analgesics and narcotics currently used to relieve these symptoms are limited in their efficacy and not without side-effects. The facts that these medications has to be taking for a long time coupled with the fear of drug interactions has negative impact on patients compliance and made a lot of patients unwilling to take the option of chemotherapy. **Aims:** This case study aimed to investigate the effects of motor control and moderate aerobic exercises, and acupuncture in the management of a post-transplant patient who was presented with severe back pain, fatigue and sexual dysfunction. **Methods:** A 47-year-old man was presented in the physiotherapy department with complaint of back pain, fatigue and sexual dysfunction. The level of pain intensity and fatigue was assessed with Visual Analogue Scale and Brief Fatigue Inventory respectively. Sexual dysfunction was assessed with International Index of Erectile Function Questionnaire. Acupuncture, moderate aerobic and motor control exercises were carried out twice weekly for 12 weeks. **Results:** Findings of this case study showed remarkable improvements with more than 80%; improvement in sexual function, reduction in the level of pain and fatigue after 12 weeks of treatment. **Conclusion:** The outcome of this study has shown that motor control exercises, moderate aerobic exercises and acupuncture might be considered as complimentary treatment options where a post-transplant patient develop pain, fatigue and sexual dysfunction.

Keywords: Acupuncture; Exercise; Fatigue; Kidney transplant; Pain; Sexual-dysfunction

My first and earliest significant impact in terms of the use of complementary and alternative treatment approach for failed back syndrome was in 2013. A 34-year-old woman, who is a nurse, with a more than 2-year history of lower back and left leg pain was referred for physiotherapy treatment in June 2013. She had previously consulted an orthopaedic surgeon and had been diagnosed as having a disk herniation in the right L4/L5 region based on a computed tomography scan and magnetic resonance imaging results. She had undergone two surgical treatments (decompressive laminectomy), the first in 2012 and the second in 2013, with little or no changes to her symptoms. She was managed using acupuncture, core-stability exercises, and treadmill walking exercises. The outcome of this intervention was very successful; it was reported and published in the *Journal of Acupuncture and Meridian Study* in 2015. Prior to the commencement of her treatment, I checked all the resources at my disposal for the treatment guidelines and published scientific research on the best practice in terms rehabilitation of failed back syndrome but could not find any. Thus, the main motivation to carry out this study and to publish its findings in international scientific journal was necessitated by the fact that it is currently unclear

what constitutes treatment guideline and what should be an ideal routine practice in terms of rehabilitation of patients with Failed Back Syndrome. This singular article has been downloaded more than 100 times (still counting). Thus, the basis and my motivation to focus my research on the use of complementary and alternative therapy for different types of spinal pain partly arose from the positive impacts of this intervention as published in the renowned international *Journal of Acupuncture and Meridian Study* and partly from the positive comments I have received from numerous readers who have come across this paper on the Internet.

I am also very happy to say that the feat of successfully using CAT for managing post-surgical spinal pain (FBS) which started with this patient at the University of Maiduguri Teaching Hospital in 2013, had since been repeated on a handful of our patients at Aminu Kano Teaching Hospital, Kano, after my appointment with Bayero University Kano. I have also trained/still training other physiotherapists via the Physiotherapy Department certificate course programme on the use of these techniques. These trained colleagues particularly those from Gombe and Abuja (FCT) have been giving positive feedback in their experience of using a combination of acupuncture, manipulative therapy and exercises in the management of failed back syndrome. It is in my strong opinion that though Complementary and Alternative Therapy (CAT) might not be a substitute for back surgery, it is a proven and tested alternative and complimentary option for individuals with back pain prior to surgery and for failed back syndrome after the first surgery

COMPLIMENTARY AND ALTERNATIVE THERAPY

Complementary and Alternative Therapy (CAT) refers to an array of healing practices and therapies that exist outside conventional medical and surgical treatments. Common CAT approaches for low back pain include acupuncture, manual therapy, physical activity and exercise therapy, electrical stimulation for pain control and other forms of natural healing. These practices are thought to provide a more natural and holistic approach to healing for a variety of ailments. Many people across the globe find success in treating their lower back pain with alternative techniques. In fact, back pain is the most common reason people say they turn to CAT.

Acupuncture

Acupuncture: A part of traditional Chinese medicine and CAT is useful to treat a variety of painful conditions. It involves the insertion of very thin needles into certain points on the body to help relieve pain and restore normalcy to the functions of different tissues, organs and systems in the body. Acupuncture is an ancient treatment modality that can trace its origins to as far back as 10,000 BC, along the banks of the

Yellow River in China. It involves the insertion of sharpened objects into specific areas of the body to achieve therapeutic effects. According to the theory of Traditional Chinese Medicine, acupuncture modulates the flow of energy (*Qi* and *Xue*) through pathways called the meridians so that the main organs (*Zhongs-Fus*) will re-establish homeostasis as governed by the laws of *Yin and Yang*. The use of TCM acupuncture for pain and other diseases has spread to over 160 countries and regions in the world. The world health organization (WHO) has recommended acupuncture as a therapeutic technique for 43 different kinds of diseases. Acupuncture has been the most popular form of complementary, alternative treatment in modern hospitals and clinics, especially among pain teams and expectedly, will become more accepted as the years roll by.

How Does it Work?

From the Western Medicine Perspective

Acupuncture is effective for treatment of pain and disease and it works through a neuroendocrine response induced by acupuncture stimulation on designated areas of the skin called the acupoints. Modern research findings have shown that acupuncture exerts its work through the following approaches:

- i) Acupuncture sets up a roadblock (pain gating) on pain impulse pathway to block pain signals passing through the gate in spinal cord.
- ii) Acupuncture makes the body to release natural painkillers such as endorphin, enkephalin, endomorphin and dynorphine from body to kill pain.
- iii) Recent studies using functional MRI indicated that specific regions of the brain could be activated during procedures of acupuncture to effect analgesia and restoration of functions to organs and systems in the body.
- iv) Acupuncture can help with correction of disorders within the internal organs (visceral)(neurological, musculoskeletal, urological, gynaecological, dermatological) by eliciting a somato-autonomic neural reflex

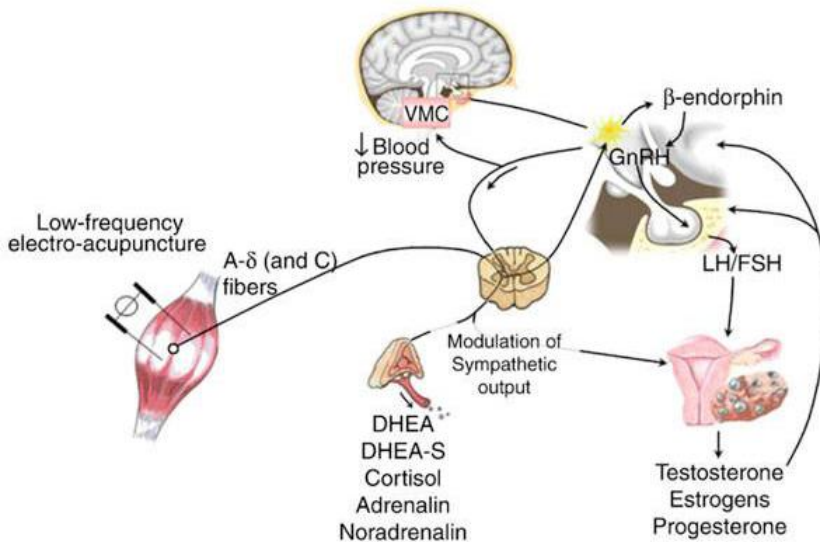


Figure 1: Neuro-endocrine pathway showing how acupuncture works in different parts of the body.

Based on the Theory of TCM Acupuncture

- i) The theory of TCM acupuncture is founded upon meridians and acupuncture points. Meridians are designated routes through which the *Qi* and *Xue* travel and circulate round every part of the body. If we think of these as highways, *Qi* and *Xue* are the cars speeding along them. Each meridian is linked either to a *Zhong*, a *Fu*, or the *Sanjiao*. The five *Zhong* meridians occupy the anterior aspect of the body, while the six *Fu* meridians are located posteriorly. In a healthy person, the *Zhongs-Fus* interact with each other to achieve a state of homeostasis through an intricate balance of *Yin-Yang*.
- ii) All meridians are then linked up with each other in such a way that one meridian will end at the beginning of another, so that *Qi* and *Xue* will advance through every part of the body in a grand cycle. There are 12 major meridians covering the body as the 12 months cover the calendar year.
- iii) Acupuncture points are specific points along the meridians at which manipulation with an acupuncture needle will bring about a regulation of the *Qi* and *Xue* and hence re-establish the inner balance between the *Zhongs/Fus* and

overall dynamic homeostasis. Think of these points as relays or switches in an electrical grid. There are 365 main acupuncture points in the body, just as there are 365 days in a calendar year.

- iv) In the language of Traditional Chinese Medicine (TCM), pain in any part of the body is due to insufficiency or blockage of *Qi* along the meridian, which, in either situation, leads to stagnation of *Xue*. This can be a result of overall deficiency of *Yang* (as in old age and chronic illnesses) or any form of trauma or injury that damages the meridian(s). Acupuncture treatment will be administered with the major aim of rectifying the imbalances of the *Yin/Yang* and *Zhong/Fus*, and whatever pain that presents will be relieved accordingly.

In other words, acupuncture always intends to treat the cause of pain in terms of disturbances in homeostasis, rather than to relieve the pain in that particular area. This philosophy differs fundamentally from the approach of Western medicine, which relies on medications that block the reception or transmission of pain at all levels.

How does it work?

According to traditional Chinese medicinal theory, the human body is kept healthy by the existence of yin and yang, two opposing forces. If yin and yang are balanced, you are healthy.

Everyone has a life force or energy called "Qi" flowing through their body. The uninterrupted flow of Qi helps keep the yin and yang balanced.

Sometimes there are blockages in the flow of Qi in your body and can keep your energy from flowing through accurately, causing unbalance of yin and yang and pain or illness of the body.




Figure 2: *How acupuncture works based on Traditional Chinese Medicine theory*

Opinions have it that Acupuncture treatment combined with other alternative therapy approach offer greater benefits for pain relief than using Acupuncture alone. Thus my

approach to complimentary alternative therapy for back pain, FBS and management of other conditions has been to combine acupuncture with other alternative therapies such as spinal manipulation, soft tissue manipulation exercise therapy and the use of electrotherapy modalities to effect pain relief and healing for patients with back and different musculoskeletal disorders.

Physical Activity and Exercise Therapy

Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure. This includes any motion you do through the day excluding sitting still or lying down. Regardless of what has gone in or out during back surgery. The overall aims of any individual after any back surgical operations is to be able to have the quality of life they would wish despite any restriction imposed on their activities either by impairments from their back pain and/or sequelae of the surgery. An important aspect is this group of patients needs a well-designed programme of routine physical activity to be able to maintain the gain from the surgery and improve their quality of life. A carefully-designed programme of physical activity in individuals with FBS could also have a number of beneficial health implications.

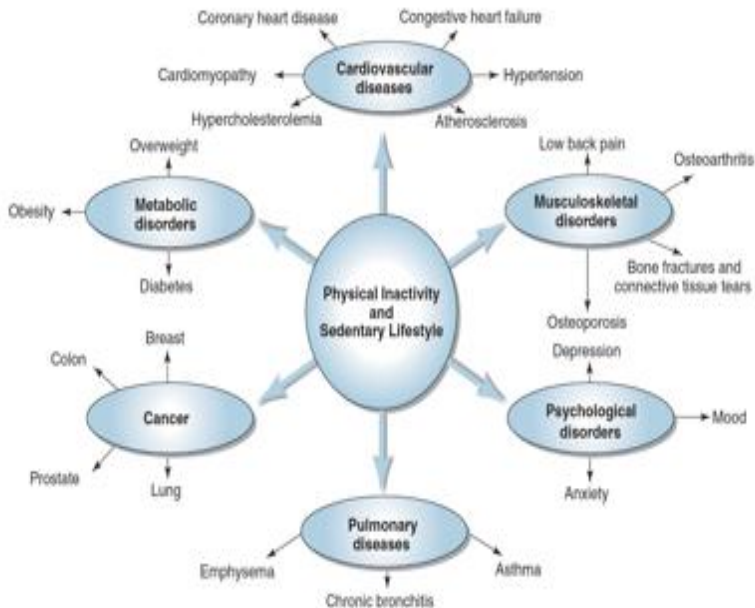


Figure 3: Showing the beneficial effects of physical activity on low back pain and General Health & Quality of Life of individuals with FBS

One of our studies, Sokunbi et al (2017) showed that physical activity, functional limitation, physical and mental well-being are strongly related in individuals with low back pain while another study, Sokunbi and Nahid (2016) showed that CLBP patients who are either completely at work or working with restrictions experienced less bodily pain, reduced functional limitation and better physical health than those who are completely off work.

Exercise is a type of physical activity but not every physical activity is exercise. Exercise is a planned, structured, and repetitive activity for the purpose of improving or maintaining physical fitness. Exercises are the most frequently prescribed treatment for low back disorders. Relieving pain, strengthening the back, increasing back flexibility, and improving functional activities, cardiovascular endurance, and general wellness are the specific goals to which the exercises for low back disorders are typically designed (Sokunbi & Kachalla, 2015).

The deepest abdominal muscle and the main trunk flexor together with other abdominal muscles is Transversus abdominis muscle, it is the stabilizer of the spine. Together with Multifidus muscle, it acts to form the internal corset that stabilizes the spine during movement. These muscles are usually weakened in patients with chronic low back pain, leading to pain and functional disability. Isometric contraction of these muscles brings about decrease in pain intensity, improvement in activities of daily living, and improvement in functional strength and coordination. Rehabilitation of NSCLBP and post-surgical spinal rehabilitation should not solely focus on core muscle strengthening, flexibility, and body mechanics. The effect of aerobic exercise can also have a psychological effect on pain by improving mood and causing an overall feeling of well-being (Sokunbi and Kachalla, 2015). Treadmill exercises in addition, offer greater long-term benefit than specific exercises whose effects are aimed at the lumbar spine; global stability muscles of the spine. The benefits of treadmill exercise training on LBP are: synchronizing effects of global and core stability muscles, Improvement of cardio-respiratory endurance, activate descending pain inhibitory pathways and improvement of mood, this in- turn leads to relieve of pain, limitation of recurrence of LBP (Sokunbi &Kachalla, 2015).

Manipulative Therapy

The general opinion could be that the primary effect of manipulation on the spine is the reduction of disc protrusions. Some of the best results I have had from spinal manipulation have been reported in patients where the diagnosis of sacroiliac syndrome has been made. Over 90% of patients with this diagnosis show improvement in their back pain following manipulation. A great deal of emphasis

should be placed on the analysis of sacroiliac motion and position which should also inform the choice of the manipulative technique. I believe that manipulation is the most effective method of treatment for sacroiliac syndrome. Few of the cases of back pain associated with spondylolisthesis that I have managed were also found to improve through spinal manipulation, core stability and back strengthening exercises.

At this juncture, I will like to present some of the pictures that have appeared in some of our published articles depicting a few of the procedures of manual therapy and acupuncture and other therapy as complimentary alternative therapy in the management of pain from FBS among diverse sub-groups of patients with back pain and in other conditions as well.



Figure 4: *Demonstration on the use of a manipulative therapy in the management of lumbar spine disorders*



Figure 5: *Demonstration on the use of a manipulative therapy in the management of lumbar spine disorders with mutiple level intervertebral disc prolapse*



Figure 6: *Demonstration on the use of a Acupuncture in the management of low back pain with sciatica*



Figure 7: *Demonstration on the use of a acupuncture in the management of low back pain with sciatica*



Figure 8: *Demonstration on the use of the safety of acupuncture in a study to evaluate cardiovascular response to acupuncture needle stimulation among apparently healthy Nigerians*



Figure 9: *Demonstration on the use of a manipulative therapy in the management of cervical spine disorders*



Figure 10: Demonstration on the use of a Acupuncture in the management of knee osteoarthritis

FUTURE PLAN

My future plan as regard clinical usage of CAT is to continue to promote the use of CAT as a cost effective option for back pain with failed back syndrome through the auspices of Bayero University, Kano, through patient management, research, training and knowledge dissemination. I will continue to seek collaborations, cooperation and supports from colleagues, researchers, clinicians, institutions and professional bodies both locally and abroad to develop and advance the practice, training and research in the use of complementary and alternative therapy skills that are within the armamentarium in physiotherapy practice for the management of back pain and failed back syndrome in particular.

APPEAL TO THE UNIVERSITY AUTHORITY

Bayero University, Kano (BUK) was founded with a mission focusing on teaching, research and community service. In line with this mission and considering the

available human resources at the College and particularly at the Faculty of Allied Health Sciences, different faculties outside the College of Health Sciences of this University and partner organizations within and outside the country, it will be worthwhile to have a Centre for the Study of Complementary and Alternative Therapy (CSCAT). This centre will provide an avenue to train students and engage in an in-depth knowledge and research about CAT within the local context to understand the wisdom of nature cures and to explore the innovations of complementary and alternative therapies. The centre could also, among other things, aim at bringing together researchers and other relevant stakeholders in all areas of complementary and alternative therapy to generate new research ideas, foster interdisciplinary collaboration, provide an international forum for the dissemination of original research results and practical development experiences which will concentrate on both education and practices.

CONCLUSION

Failed back surgery syndrome is a term that is used to describe pain that starts or persists after spine surgery. The important thing to remember is that surgery, in itself, serves a certain purpose; it solves a number of problems, but, as with any other tool, it has its own limitations. So, sequelae of the surgery can cause pain, but also at the same time, surgery cannot address all the pain generators. Complementary and alternative therapy for pain persisting after surgery can employ a number of different tools. Now, it can be acupuncture, manipulations, electrical stimulation to control pain and exercises. In the future, it could be other forms of complementary and alternative therapies that will be useful to control the pain.

Complementary and alternative therapy effects on pain control might obviously not be like the effects of surgery that brings immediate, short-term relief; CAT has great practical value as an alternative for chronic persistent pain before and after surgery. Complementary and alternative therapy might hurt at the starts; it might not be a quick-fix like surgery but by using all the tools that are available to us, we can really improve the patient's quality of life by doing two very important things: decreasing the pain and restoring function. That way, patient can be re-integrated back into life and not be limited by pain or by mobility.

Complementary and alternative therapy (CAT) for failed back syndrome - *Today it hurts; Tomorrow it works.*

Thank you all for your time and kind attention.

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