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Sector-1, Kamothe, Navi Mumbai - 410209

| Effect Of 12 Weeks "RAMP" Warm Up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protocol On Functional Fitness In                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Recreational Football Players.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Dr.Ruturaj Shete (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Mr Niraj Rao                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Miss Roma Ravaliya                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Miss Taruna Rupchandani                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Miss Jayati Sampat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 6 Months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 19th October, 2019                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 21st March, 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Project Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Devise a protocol to maximise player's performance by use of effective and efficient warm up and there is paucity of literature on effectiveness and efficiency of RAMP PROTOCOL as a warm up protocol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| To study the effect of RAMP warm-up protocol on flexibility, endurance, agility, strength and power.  To study the effect of conventional warm-up protocol on flexibility, endurance,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| agility, strength and power.  To study the effect of RAMP warm-up protocol versus conventional warm-up protocol on the functional variables.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| The study included 60 recreational football players (age 18-28yrs). Experimental Group -[n=30], Control Group -[n=30] RAMP WARM UP PROTOCOL: RAISE- This phase last for 5 minutes and included jog and ball pass which was done for 3 minutes and 2 minutes respectively. This phase was followed by a rest pause which last for 2 minutes.  ACTIVATE AND MOBILIZE – This phase last for 6 minutes and included leg swings, lunges and squats which were done for 2 minutes each. This phase was also followed by rest pause which last for about 2 minutes.  POTENTIATE – This phase last for 10 minutes which included unilateral and bilateral jumps and reactive agility drills which were done for 6 minutes and 4 minutes respectively. Conventional Warm-up comprised of:  1. Straight Leg March- Swing one leg forward until a slight stretch is felt in the hamstrings. |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|            | lowering your hips so the front knee bends to 90 degrees and the back knee grazes the floor.  5. Power Shuffle- 6. Jogging with Squats- This primarily strengthens the hamstrings, hips, quadriceps, and gluteus.  7. High Knees- Drive the right knee up to meet the right hand, bring the same leg back to the ground immediately bring the left knee coming up to meet the left hand. |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Results    | No significant difference was noted between the groups with respect to age (p=0.15), Height(p=0.72), Weight(p=0.23) and BMI(p=0.24). Significant improvement in all four functional parameters in participants of Group A as well as Group B.  Significant increase in flexibility seen in Sit and Reach Test: Group A {1.93(±1.48), p=0.002} and Group B {1.75(±1.08), p=0.003}.        |
| Conclusion | From the study we can conclude that RAMP Warm-Up Protocol had a better effect on the flexibility, strength and power, agility and endurance of recreational football players in comparison to conventional (dynamic) warm-up protocol.                                                                                                                                                   |

#### Photographs:





Director, MGMSOP

BPT Coordinator



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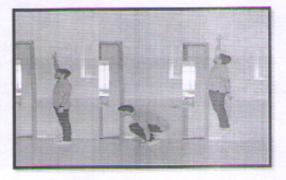
Sector-1, Kamothe, Navi Mumbai - 410209

| Project title       | Effect of 12 Weeks of Zumba Fitness as Warm-Up Protocol for Recreational                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                     | Football Players                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Name of Guide       | Dr Ruturaj Shete (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| Name of candidate/s | Miss Harshika Sapkal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
|                     | Miss Inndrani Sarode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
|                     | Miss Krupa Shah                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|                     | Miss Shreya Shah                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Duration of project | 6 Months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Approval date       | 19 <sup>th</sup> Octrober, 2019                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Submission date     | 21st March, 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|                     | Project Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Purpose             | Devise a protocol to maximise player's performance by use of effective and efficient warm up and there is paucity of literature on effectiveness and efficiency of Zumba Fitness as a warm up protocol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Objectives          | To study the effect of Zumba as a warm-up protocol on flexibility, strength, muscle endurance and aerobic capacity     To study the effect of conventional warm-up.     To study the effect of Zumba as a warm-up protocol v/s conventional warm-up.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Methods             | The study included 60 football players (age 18-28yrs) They were divided into 2 groups:Group A: Zumba Fitness as warm up protocol (30 football players) and Group B: Conventional warm up protocol (30 football players). Exercises were done for 30 minutes 2 times/week for 12 weeks for Group A. Group B performed each exercise which consisted of 2 sets of 20 seconds with a rest interval of 10 seconds between the sets. Zumba comprised of 4 main rhythms:  1) Merengue: It is a faster pace rhythm, about 120 to 160 beat per minute. (marching beat)  2) Salsa: It is a relatively medium or slow paced rhythm, comprising of movements which concentrate on the obliques and help improve co ordination  3) Cumbia- The beat rhythm alternates between hard and soft. A medium paced rhythm which helps to strengthen the core muscles.  4) Reggaeton- This rhythm has a heavy bass drum beat. Helps to strengthen and stretch the muscles of the lower limb.  Conventional Warm-up comprised of:  1. Straight Leg March- Swing one leg forward until a slight stretch is felt in the |  |

|            | hamstrings.  2. Butt Kicks- Butt kickers involve kicking your shins back behind you to touch your buttocks with the bottom of your foot.  3. Carioca- The carioca drill is a cross-stepping movement that propels the body laterally.  4. Reverse Lunge with Twist- It includes placing one foot backward while lowering your hips so the front knee bends to 90 degrees and the back knee grazes the floor.  5. Power Shuffle- step slide  6. Jogging with Squats- This primarily strengthens the hamstrings, hips, quadriceps, and gluteus.  7. High Knees- Drive the right knee up to meet the right hand, bring the same leg back to the ground immediately bring the left knee coming up to meet the left hand. |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Results    | Group A showed a significant increase in Weight, BMI, Sit and Reach test, Vertical Jump Test, T-Test and Hoff Test. Group B showed significant increase in Weight, BMI and Vertical Jump Test. Significant improvement was seen in Weight, BMI, Sit and Reach test, Vertical Jump Test, T- test and Hoff Test in Group A in comparison to Group B.                                                                                                                                                                                                                                                                                                                                                                   |
| Conclusion | From the study we can conclude that Zumba Fitness as a warm-up protocol is more effective than conventional warm-up protocol in terms of BMI, Flexibility, Leg Muscle Power, Muscle Endurance and Agility of the recreational football players.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

#### Photographs:





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**BPT** Coordinator

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#### MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai - 410209

BPT Internship Project Report Summary

Assessment of cardiovascular endurance of stroke patients using Project title

6 Minute Walk Test

Name and signature of Guide Dr. Bela Agarwal (PT) Name and signature of Co-Guide

Name and signature of candidate/s

Dr. Hiranmayee Bagwe (PT) Ms. Aakanksha Pednekar

Ms. Sejal Potnis Ms. Sukruti Pillai

Ms. Priyadarshani Palani

Duration of project Approval date Submission date

6 months 19.10.2019 21.03.2020

Project Summary

1.1 To find out if there is improvement in endurance with reduction in neurological Purpose

impairments like motor activity, gait and balance.

1.2 To find out if there is a need to emphasize on cardiovascular endurance training in

adjunct with neurological rehabilitation of stroke patients.

To assess changes in cardiovascular endurance in young and old stroke patients using six Objectives

minute walk test post routine conventional physiotherapeutic treatment

To assess changes in neurological impairments in young and old stroke patients using

Stroke Rehabilitation Assessment of Movement

(S.T.R.E.A.M), Dynamic Gait Index (DGI) and Berg's Balance Scale (BBS).

To co-relate six minute walk distance with neurological impairments in young and old

stroke patients.

Descriptive study. Convenient sampling. 48 (Young stroke - 13, Old Stroke - 31). Study Methods

duration was 6 weeks. 4 dropouts were noted. Outcomes measures - 6MWT, Stroke Rehabilitation Assessment of Movement (S.T.R.E.A.M), Berg's Balance Scale (BBS),

Dynamic Gait Index (DGI)

Mean for gait in old stroke patients on day 1, after 3rd week and after 6th week were 15.16 Results

± 3.99, 16.87 ± 3.11 and 17.87 ± 3.05 respectively. In case of old stroke patients (n = 31), the total scores for balance, gait, motor activity along with 6-minute walk distance were assessed. Mean for balance in old stroke patients on day 1, after 3rd week and after

 $6^{th}$  week were  $42.86 \pm 7.89$ ,  $45.39 \pm 6.28$  and  $46.50 \pm 6.59$  respectively.

There is improvement in cardiovascular endurance with reduction in neurological Conclusion

impairments such as balance, gait and motor activity of patients with stroke. Equal importance should be given to cardiovascular endurance training along with neurological

rehabilitation in stroke patients

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#### MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai - 410209

#### BPT Internship Project Report Summary

Project title

Musculoskeletal injuries in Hip Hop dancers

Name and signature of Guide Name and signature of Co-Guide Dr. Bela Agarwal (PT) Dr. Hiranmayee Bagwe (PT)

Name and signature of co-Guide Name and signature of candidate/s

Ms. Shreeya Chinchwalkar

Ms. Saloni Doshi Ms. Preksha Kori

Ms. Neha Chaulkar

Ms. Pranita Mahindre

Duration of project Approval date Submission date

6 months 19.04.2020 23.11.2020

#### Project Summary

Purpose

1.1 The purpose of this study was to determine pattern and incidence of injury in hip hop dancers.

1.2 To determine the common musculoskeletal injuries in hip hop dancers.

1.3 To show the injury profile common discomforts of professional hip hop dancers and examine factors that affect the frequency of injuries.

Objectives

2.1 To study prevalence of musculoskeletal injuries and hip hop dancers.

2.2 To determine factors associated with musculoskeletal injuries in hip hop dancers.

Methods

Institutional ethics approval was taken. Self-administered questionnaire was then formulated and validated by experts in the field. Self-administered questionnaire was then converted to electronic form and shared via electronic platforms to various dance academies.

Results

Joints affected majorly were Shoulder joint (19.6%), Elbow joint (8%), Wrist joint (20.5%), Hand and finger (8%), Hip joint (4.5%), Ankle, Foot (44.1%) and Knee (43.2%) joints were the most affected joints. Muscular strain (32%), Sprain (24%) and Fracture (14%) were the common musculoskeletal injuries. Muscular sprain was observed as the most common injury in popping dance style, Muscular strain in locking and street jazz dance style. Krumping dance style showed dislocation affecting the knee joint as most common musculoskeletal injury.

Conclusion

High prevalence of musculoskeletal injuries in hip-hop dancers supports

the need of identification of prophylactic measures to prevent recurrent injuries, early intervention to manage injuries and comprehensive evaluation of physical fitness



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Sector-1, Kamothe, Navi Mumbai - 410209

| Project title       | Effect of low intensity TENS on vastus medialis obliques activation in chronic                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
|                     | osteoarthritis knee for pain, function and strength.                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |
| Name of Guide       | Dr. Mamta Shetty (PT) and Dr. Rucha Pradhan (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |
| Name of candidate/s | Ms. Sidra Shaikh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |
|                     | Ms. Trupti Shetty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |
|                     | Ms. Trishala Singh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
|                     | Ms. Sneha Venkatraman                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |
| Duration of project | 6 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |
| Approval date       | 25th April, 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |
| Submission date     | 10th June, 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|                     | Project Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
| Purpose             | Osteoarthritis is defined as a degenerative, non-inflammatory joint disease characterized by destruction of articular cartilage and formation of osteophytes                                                                                                                                                                                                                                                                                                                                       |  |  |
|                     | at joint surface and margins. <sup>3</sup> To study the effects using low intensity TENS on Vastus Medialis Obliques activation in chronic osteoarthritis knee on pain, function and strength.                                                                                                                                                                                                                                                                                                     |  |  |
| Objectives          | To assess pain using NRS (Numerical Rating Scale).     To assess lower limb strength using 30 second chair stand test.     To assess pain, stiffness and physical function using Modified WOMAC (Western Ontario and McMaster Universities Osteoarthritis Index) outcome measure                                                                                                                                                                                                                   |  |  |
| Methods             | Participants were explained in detail about the purpose of the study, procedure, clinical evaluation, equipments used and benefits of the study in a language best understood by them. A purposive random sample of thirty-eight participants with chronic osteoarthritis knee in the age group of 50-70 years as per the ACR diagnostic criteria were recruited. Participants fulfilling the inclusion criteria were recruited for the study.                                                     |  |  |
| Results             | A total of 38 (19 - interventional group and 19 - conventional group) patients were enrolled for the study. The effect of low intensity TENS on vastus medialis obliques activation in chronic osteoarthritis knee for pain, function and strength were studied. The outcome measures used were Numerical Rating Scale, Bergs Balance Scale, Modified WOMAC scale and 30 Second Chair stand Test. Data obtained was entered using MS-Excel 2010 and statistically analyzed using SPSS 24 Software. |  |  |

Conclusion

Application of Low Intensity TENS on Vastus Medialis Obliques muscle activation along with exercise was reported to be equally effective as compared to conventional exercises for reducing pain, improving strength and function in patient with knee osteoarthritis.

#### Photographs:



Figure 1: C- Clam shells



Figure 2: E- Short arc extension



Figure 3: Straight leg raise



Figure 4: Abduction SLR

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## Grade 'A' Accredited by NAAC MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai - 410209

| Project title       | Health Related Physical Fitness in Children Aged 13-18 Years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Name of Guide       | Dr. Meruna Bose (PT), Dr. Triveni Shetty (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Name of candidate/s | Fatema Kabira, Amreen Khan, Prachi Mansatta., Simran Mansharamani.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Duration of project | 6 Months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| Submission date     | 28th February 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                     | Project Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Purpose             | To establish standard reference values for functional tests in typically developing children in developing countries aged 13-18 years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Objectives          | 1.To evaluate reference values for the lateral step-up test, vertical jump test and forward step up test in typically developing children aged 13-18 years.  2.To evaluate reference values for the 14-step stair climb test and 10 x 5mete shuttle run test in typically developing children aged 13-18 years.  3.To evaluate reference values for the calf raise, chair raise test and sit and reactest in typically developing children aged 13-18 years.  4.To evaluate reference values for 30 m walk test, timed up and go test and time up and go from floor test in typically developing children aged 13-18 years. |  |
| Methods             | The current cross-sectional study aimed at establishing reference values for 12 functional tests. The tests represent different domains of physical fitness in typically developing children in age-group 13-18 years. The tests were divided into 3 subsets which include: Agility (30m walk test, 6min walk test, 10*5 shuttle run test, chair raises, 14 step stair- climb, TUG and TUGF), Flexibility (sit and reach), Power (lateral step test, forward step test, calf raises, vertical jump test).                                                                                                                   |  |

| Results    |                                                                                            | 13-15 yrs                       |                                 | 16-18 yrs            |                        |
|------------|--------------------------------------------------------------------------------------------|---------------------------------|---------------------------------|----------------------|------------------------|
|            | Clinical Tests                                                                             | Boys (Mean and<br>SD)           | Girls (Mean<br>and SD)          | Boys(Mean<br>and SD) | Girls (Mean and<br>SD) |
|            | Lateral step test                                                                          | 30 (5.14)                       | 28(5.5)                         | 24(7.56)             | 24 (5.23)              |
|            | Forward step<br>test                                                                       | 32 (6.05)                       | 28 (5.5)                        | 25 (6.20)            | 24 (4.90)              |
|            | Vertical Jump<br>Test                                                                      | 28(6.84)                        | 25(6.58)                        | 22 (4.85)            | 23 (5.44)              |
|            | 14 step stair<br>climb test                                                                | 7.4 (0.76)                      | 9.9(1.7)                        | 6.9 (1.84)           | 7.3 (1.84)             |
|            | 10 <sup>±</sup> 5 shuttle run<br>test                                                      | 18.9 (2.79)                     | 17.6 (2.43)                     | 23 (5.53)            | 22.9 (6.40)            |
|            | Calf raises                                                                                | 27 (4.96)                       | 28(7.24)                        | 24 (7.87)            | 24 (5.94)              |
|            | Sit and Reach<br>test                                                                      | 3 (0.82)                        | 3 (0.78)                        | 3 (0.59)             | 2 (0.92)               |
|            | 30m walk test                                                                              | 18.8 (2.57)                     | 17.9 (3.39)                     | 17.1 (2.61)          | 18.9 (2.54)            |
|            | 6 min walk test                                                                            | 625(85.95)                      | 602 (82.28)                     | 588(62.35)           | 552 (82.41)            |
|            | TUG test                                                                                   | 5.9 (1.09)                      | 6.0 (0.77)                      | 7.0 (1.83)           | 7.4 (1.46)             |
|            | Chair raises                                                                               | 22 (5.7)                        | 23 (3.46)                       | 17 (3.34)            | 18 (3.42)              |
|            | Time Floor to<br>stand test                                                                | 7.76 (1.76)                     | 7.73(1.53)                      | 8.32(2.44)           | 9.1 (2.64)             |
| Conclusion | The standard referer<br>study Younger gir<br>endurance, agility,<br>physical fitness in to | ls have better<br>anaerobic pov | physical fitne<br>ver and capac | ess in term          | s of muscle stre       |

#### Photographs:



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Sector-1, Kamothe, Navi Mumbai - 410209

| Project title       | Cardiorespiratory field based fitness test in patients with<br>c ardiorespiratory conditions: A literature review                                                                                                                                                                                                                                                                       |  |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Name of Guide       | Dr. Bela Agarwal (PT)                                                                                                                                                                                                                                                                                                                                                                   |  |
| Name of Co-Guide    | Dr. Payal Murkudkar (PT)                                                                                                                                                                                                                                                                                                                                                                |  |
| Name of candidate/s | Kareema Molla                                                                                                                                                                                                                                                                                                                                                                           |  |
|                     | Shubhangi Kumari                                                                                                                                                                                                                                                                                                                                                                        |  |
|                     | Dharmin Vora                                                                                                                                                                                                                                                                                                                                                                            |  |
| Duration of project | 6 months                                                                                                                                                                                                                                                                                                                                                                                |  |
| Submission date     | 14th December, 2020                                                                                                                                                                                                                                                                                                                                                                     |  |
|                     | Project Summary                                                                                                                                                                                                                                                                                                                                                                         |  |
|                     |                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Purpose             | To identify different cardiorespiratory field based fitness test in patients with cardiorespiratory diseases.                                                                                                                                                                                                                                                                           |  |
| Objective           | To find the most commonly used and the most efficiently used cardiorespiratory field based fitness test in patients with different cardiorespiratory conditions based on literature review.                                                                                                                                                                                             |  |
| Methods             | The electronic database PUBMED was screened for Field based fitness test studies in patients with cardiorespiratory conditions where one or more field based fitness test was carried out. The keywords used (in various combinations) were: Field fitness test, physical fitness, cardiorespiratory fitness, exercise testing, six minute walk test and incremental shuttle walk test. |  |

| Results    | In this study total 6 cardiorespiratory field based fitness tests were reviewed i.e. Six Minute Walk Test, Incremental Shuttle Walk Test, Shuttle Walk Test, Six Minute Step Test, 3 Minute Step Test and Modified Shuttle Walk Test.                                                                                                                                                                                                                                                              |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conclusion | As per literature review, six minute walk test and incremental shuttle walk test are the most common and most valid tests found in patients with cardiorespiratory conditions.  Both these tests are safe methods to evaluate patients strongly and independently predicts peak VO2 and %PVO2.  We concluded that 6MWT and ISWT are reliable for subjects with chronic heart failure, COPD, asthma, PCD, cystic fibrosis, bronchiectasis, primary hypertension, interstitial lung disease and CAD. |

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Sector-1, Kamothe, Navi Mumbai - 410209

| Project title       | Effect of eight week Abdominal Core Strength Training on Shoulder Pain and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
|                     | Function in Patients with Rotator Cuff Tendinopathy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
| Name of Guide       | Dr. Mamta Shetty (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Name of candidate/s | Ms. Aditi Laxman                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |
|                     | Ms. Nirali Bhadra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |
|                     | Ms. Vidhi Bhanushali                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |
|                     | Ms. Purvi Bhatnagar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
| Duration of project | 6 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|                     | Project Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
| Purpose             | Rotator cuff tendinopathy is one of the leading causes of pain and disability that leads to significant functional modifications and limitations in physical activities. The focus of this study is to report influence of core muscle strength training has a salutary effect on shoulder pain and function or not.                                                                                                                                                                                                                                                                                                                                        |  |  |
| Objectives          | To assess shoulder pain using Numerical rating scale.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
|                     | 2. To assess shoulder function using SPADI.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
|                     | 3. To assess abdominal core strength using pressure biofeedback.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |
|                     | 4. To study the effect of abdominal core strength training using pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |
|                     | biofeedback pre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
|                     | and post assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |
|                     | <ol><li>To compare effect of eight-week abdominal core muscle strength training and<br/>conventional therapy on shoulder pain and functions.</li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |
| Methods             | 60 patients between the age group of 25-55 years were recruited from MGM Physiotherapy OPD based on inclusion criteria. Participants were randomly divided into 2 groups: group A (Core Rehabilitation group), group B (Conventional group). Group A underwent conventional and core muscle rehabilitation; group B underwent conventional exercises for shoulder joint. The participants were assessed for the following parameters pre and post intervention: Shoulder pain using the Numerical Rating Scale, shoulder range of motion using Universal Goniometer, Shoulder Pain and Disability Index and core muscle strength using pressure biofeedback |  |  |
| Results             | There was significant decrease in pain level seen in both groups (p=0.00). There was a significant increase in core muscle strength in Group A(p=0.00) and on the contrary the results for the same in Group B was not significant(p=0.07) with no increment in strength post intervention. Intra group study revealed significant decrease(p=0.00) in pain and disability score. Inter group study showed no improvement in the SPADI Disability score (p=0.011) post eight weeks.                                                                                                                                                                         |  |  |

Addition of abdominal core muscle strength training in patients with rotator cuff tendinopathy was equally effective as compared to conventional exercises only for improving the shoulder function.

#### Photographs:



Figure 1: Wand Exercise



Figure 2: Codman's Exercise



Figure 3: Self stretching- Levator Scapulae



Figure 4: Self stretching- Latissimus Dorsi

Director, MGMSOP

NAVI MUMBAI SA

**BPT** Coordinator



(Deemed to be University u/s 3 of UGC Act, 1956) Grade 'A' Accredited by NAAC

#### MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai - 410209

#### **BPT Internship Project Report Summary**

| Project title       | Cardiovascular Endurance In Individuals With Osteoarthritis Of Knee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Name of Guide       | Dr. Bela Agarwal (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |
| Name of Co-Guide    | Dr. Payal Murkudkar (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Name of candidate/s | Mayuri Mhatre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |
|                     | Manasi Nandapurkar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
|                     | Tanvi Parab                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|                     | Aditi Patkar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |
| Duration of project | 6 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Approval date       | 24th April, 2019                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |
| Submission date     | 28th February, 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |
| Project Summary     | egen des productions and the second s |  |  |
| Purpose             | To assess cardiovascular endurance in individuals with osteoarthritis of knee using six-minute walk test.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |
| Objectives          | To compare the distance walked in Six Minute Walk Test in individuals with<br>osteoarthritis of knee with age-predicted distance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |
|                     | To correlate 6-minute walk test with questionnaire based (Modified WOMAC scale) and grades of osteoarthritis (Kallgren Lawrence grading scale)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
|                     | To correlate 6-minute walk test with Numerical Rating scale in individuals with OA of knee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |
|                     | To correlate the factors affecting cardiovascular endurance such as mobility, strength, balance, quality of life (QOL)in individuals with OA Knee.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
| Methods             | Determination of Grade of OA using Kellegren -Lawrence Osteoarthritis grading scale.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |
|                     | 6Minute walk test was performed over a 30 meter corridor as per ATS guidelines and 6MWD was obtained.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |

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|                | Severity of pain was assessed on the Numeric Rating Scale                                                                                                                                                                                                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Mobility was assessed using the prone knee bending test.                                                                                                                                                                                                                                                                                                                                  |
| and the second | Balance assessment by Star Excursion and Single leg Stance-test.  Outcome Measures -Modified WOMAC, QOL SF-12, Cohens Stress Scale.                                                                                                                                                                                                                                                       |
| Results        | It was observed that six-minute distance over a period of 6 weeks increased by 39 meters which is considered as clinically significant. A positive co-relation was observed between 6MWT and mobility, muscle endurance and quality of life. A negative co relation was observed between pain, Cohen's scale and WOMAC questionnaire.                                                     |
| Conclusion -   | Cardiovascular endurance affection is present in patients with osteoarthritis of knee. Cardiovascular training should be included along with conventional treatment protocol of OA Knee. Cardiovascular training will help to reduce or delay loss of physical activity, improve the cardiovascular endurance and reduce the risk of non-communicable diseases in the patient population. |



Sit to Stand test

Star Excursion Test

Six-Minute walk test

Director, MGMSOP

BPT Coordinator

Internship Coordinator

NAVI MUMBA



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#### MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai - 410209

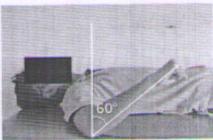
| Project title       | Effect of subscapularis activation in patients with shoulder          |
|---------------------|-----------------------------------------------------------------------|
|                     | impingement on pain, strength and shoulder function                   |
| Name of Guide       | Dr. Pradnya Girdhar (PT)                                              |
| Name of Co-Guide    | Dr. Shrutika Parab (PT)                                               |
| Name of candidate/s | Ankita Ashtaputre                                                     |
|                     | Utkarsh Shinde                                                        |
|                     | Rahul Zalte                                                           |
|                     | Achal Sheth                                                           |
|                     | Sofia Chettiar                                                        |
| Duration of project | 6 Months                                                              |
| Approval date       | 27th February, 2020                                                   |
| Submission date     | 23th June, 2020                                                       |
|                     | Project Summary                                                       |
| Purpose             | In shoulder impingement, subscapularis muscle helps in providing      |
|                     | glenohumeral stability. Due to its compensatory activation, it may    |
|                     | consequently, lead to overuse, repetitive microtrauma, eventually     |
|                     | resulting in pathology of muscle - tendon complex.                    |
|                     | Hence it is important to emphasize on the activation of subscapularis |
|                     | muscle along with the conventional exercises to see the effect in     |
|                     | patients with shoulder impingement on pain, strength and shoulder     |
|                     | function.                                                             |
| Objectives          | Effect of subscapularis activation in patients with shoulder          |
|                     | impingement on strength with isometric dynamometer                    |
|                     | Effect of subscapularis activation in patients with shoulder          |
|                     | impingement on pain and shoulder function with shoulder pain and      |
|                     | disability index (SPADI)                                              |
| Methods             | Total sixty participants were selected on the basis of inclusion and  |
| . Truitous          | exclusion criteria with written informed consent. Participants were   |
|                     | divided into two groups: Group A (Conventional Group) and             |
|                     | Group B (Interventional Group). Evaluation all three parameters for   |
|                     | both the groups was done by shoulder pain and disability index        |
|                     | (SPADI) and strength with isometric dynamometer. Group A were         |
|                     | administered conventional exercises and Group B received              |
|                     | subscapularis activation along with conventional exercises.           |
| Results             | There was significant improvement (by 55.98%) seen in SPADI           |
| Results             | score (in both right and left sided affection) and range of motion    |
|                     | (right internal rotation) (p<0.05)                                    |
|                     | (All methat rotation) (p-0.05)                                        |

Conclusion

Subscapularis activation technique along with the conventional exercises as an adjunct in rehabilitation of shoulder impingement results in reducing pain intensity and thus improve shoulder function

#### Subscapularis activation (supine)





#### Conventional exercises





Director, MGMSOP

BPT Coordinator





(Deemed University u/s 3 of UGC Act, 1956)

## Grade 'A' Accredited by NAAC MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai - 410209

#### **BPT Internship Project Report Summary**

| Project title       | Effect of origami on dexterity and cognitive function in people with Parkinson's disease                                                                                                                                                                                                        |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of Guide       | Dr. Meruna Bose                                                                                                                                                                                                                                                                                 |
| Name of Co-Guide    | Dr. Shrutika Parab (PT)                                                                                                                                                                                                                                                                         |
| Name of candidate/s | Gavin Fernandes                                                                                                                                                                                                                                                                                 |
|                     | Yashika Gandhi                                                                                                                                                                                                                                                                                  |
|                     | Janvi Jain                                                                                                                                                                                                                                                                                      |
|                     | Preksha Jain                                                                                                                                                                                                                                                                                    |
| Duration of project | 6 months                                                                                                                                                                                                                                                                                        |
|                     | Project Summary                                                                                                                                                                                                                                                                                 |
| Purpose             | Effect of origami based art therapy on pinch strength, precision and cognitive function in people with Parkinson's disease and age matched controls.                                                                                                                                            |
| Objectives          | To study and compare the effect of origami therapy and conventional hand exercises on pinch strength in PwP and age matched controls.                                                                                                                                                           |
|                     | <ol> <li>To study and compare the effect of origami therapy and<br/>conventional hand exercises on precision in PwP and age matched<br/>controls.</li> </ol>                                                                                                                                    |
|                     | <ol> <li>To study and compare the effect of origami therapy and<br/>conventional hand exercises on cognition in PwP and age matched<br/>controls.</li> </ol>                                                                                                                                    |
| Methods             | A total of 52 participants were recruited via purposive sampling and were selected in the basis of inclusion and exclusion criteria. They were divided into four groups of 13 each: Parkinson Origami (PO); Age Match Origami (AMO); Parkinson conventional (PC); Age Match Conventional (AMC). |

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| The Origami groups (PO and AMO) were given a detailed instruction and demonstration by investigators on how to perform folds with an origami paper. The number of folds of origami were gradually increased every week to increase complexity and intensity of intervention.  The Conventional exercise groups (PC and AMC) performed 10 different types of conventional hand exercises. Each exercise was performed for 10 repetitions with a hold for 30 seconds each. Rest of 1 minute was provided if required between sessions. All the four groups underwent a protocol for 8 weeks (3 days per week). |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The effects of the intervention were evaluated on the following outcome measures: Nine Hole peg Test (9HPT) for precision, Jamar Pinch Gauge for pinch strength, SCOPA COG for cognitive function and MAM 36 to evaluate hand function. All data was recorded at three data points (baseline, post 4 weeks and post 8 weeks) during the study.                                                                                                                                                                                                                                                               |
| Data obtained was entered & coded in Microsoft Excel (version 2010) and analyzed using Statistical Package for the Social Sciences (SPSS) version 24.0. Shapiro Wilk test was performed to assess the normality of continuous data. Repeated measures ANOVA for intragroup & intergroup was used where level of significance was set at p<0.05.                                                                                                                                                                                                                                                              |
| Result towards analysis between PO and AMO groups The result towards within group analysis indicates that there was a statistically significant difference in scores of SCOPA-COG, MAM-36, 9HPT (left), Jamar Lateral Pinch (left) and Jamar Tripod Pinch (right)(p<0.05). The result towards between group analysis for PO and AMO group indicates that there is a statistically significant difference in outcomes of MAM36, 9 HPT (left), Jamar Lateral Pinch (left and right)(p<0.05).                                                                                                                   |
| Result towards analysis between PO and PC groups The result towards within group analysis indicates that there is a statistically significant difference in outcomes of COPA-COG, MAM36, Jamar Tripod (left) and Lateral Pinch (left) (p<0.05). The result towards between group analysis indicates that there was a statistically significant difference in scores of 9HPT (left) (p<0.05).                                                                                                                                                                                                                 |
| Origami art therapy appears to be useful in improving cognition, hand function, precision and pinch strength in patients with Parkinson's Disease. However, the target population chosen was clinical and limited. There were no follow up tests conducted to check if study related gains were retained within the subjects.                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

Director, MGMSOP

Sector 1, Kamothe, Navi Mumb

BPT Coordinator

Internship Coordinator

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## Grade 'A' Accredited by NAAC MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai - 410209

| Project title                     | Feedback on difficulties faced by students in online examination during COVID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ,                                 | 19 period. Type of study- Feedback analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Name of Guide                     | Dr. Rajani Mullerpatan and Dr. Bela Agarwal (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Name of Co-Guide                  | Dr. Juhi Bharnuke (PT) and Dr. Rucha Pradhan (PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Name and signature of candidate/s | Ms. Srushti Nahar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                   | Ms. Mayanka Pande                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                   | Mr. S Bharathi Raja                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                   | Ms. Rutali Thakur                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                   | Ms. Dhruvi Patel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Duration of project               | 6 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Submission date                   | 14 <sup>th</sup> December 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                   | Project Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Purpose                           | Online examination has become an important and useful tool these days due to the COVID 19 pandemic. Prompt results, ease of conduction, less exam related anxiety are the known advantages of online exams; yet some students prefer offline mode over online especially for evaluation. Hence there was a need to understand the feedback of online conduct of exams among students to be able a) to enhance the evaluation process for online training b) to make online evaluation as robust as offline exams |
| Objectives                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Methods                           | <ul> <li>To understand students' experience of transition from classroom based systems to e-examination systems.</li> <li>To receive their concerns and suggestions for the success of online mode of examination using a feedback form</li> </ul>                                                                                                                                                                                                                                                               |
|                                   | A descriptive study was conducted by the research team with the respective collaborators to gather physiotherapy students' perspective about online examination. The questionnaire was designed with both multiple choice questions and open-end questions using Google form.                                                                                                                                                                                                                                    |
| Results                           | A total of 233 responses were collected from the MGM School of Physiotherapy students who had experienced the traditional paper; pen and paper mode in the past as well as the online mode of exam during COVID-19 pandemic.                                                                                                                                                                                                                                                                                     |
|                                   | 190 (81.5%) students were in favour of the online scoring system while 4 (1.7%) students were against the same and 39 (16.7%) students gave neutral                                                                                                                                                                                                                                                                                                                                                              |

#### Photographs:

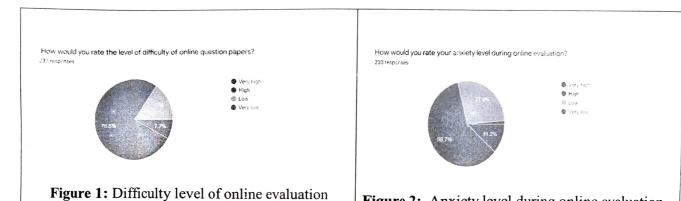


Figure 2: Anxiety level during online evaluation

Director, MGMSOP

BPT Coordinator



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## Grade 'A' Accredited by NAAC MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai – 410209

| Project title       | Body Composition analysis in Bharatnatyam dancers                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of Guide       | Dr. Juhi Bharnuke(PT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Name of candidate/s | Ms. Bhumi Chheda                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Name of Candidate/s | Ms. Rucha Dalvi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                     | Mr. Shreya Deshmukh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                     | Ms. Sakshi Duseja                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                     | Ms. Rama Sai                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                     | Ms. Madhuri Bharati                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Duration of project | 6 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Submission date     | 10 <sup>th</sup> June 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Subillission date   | Project Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Purpose             | Challenging postures and footwork involved in Bharatnatyam dance form is speculated to subject the dancer to high physical and biomechanical demands. Effects of high intensity aerobic training on body composition are already known. There is no literature found emphasizing on the body composition of Bharatanatyam dancers using body composition analyzer (bioelectric impedance).                                                                                                                  |
| Objectives          | <ul> <li>To assess body composition namely body fat, visceral fat, muscle mass, bone mass, body water, basal metabolic rate and metabolic age using Body composition analyzer (TANITA)</li> <li>To measure skin fold thickness using skin fold thickness caliper</li> <li>To measure waist-hip ratio using measuring tape</li> </ul>                                                                                                                                                                        |
| Methods             | A descriptive study was conducted by the research team with the respective collaborators to gather physiotherapy students' perspective about online examination. The questionnaire was designed with both multiple choice questions and open-end questions using Google form.                                                                                                                                                                                                                               |
| Results             | Findings of the present study revealed that mean body fat percentage in Dancers was 28.89% and the mean body fat was 15.99 kg. The finding of mean visceral fat in dancers was 3.23 level. The mean fat free mass for dancers was 37.49 kg. The mean muscle mass percentage among dancers was 66.95% and mean muscle mass of dancers was 35.63 kg. The skeletal muscle mass percentage among dancers was 39.38%. The mean skeletal muscle mass for dancers was 21.68 kg. Bone mass for dancers was 2.14 kg. |
| Conclusion          | From the findings of our study we conclude that Bharatanatyam dancers demonstrate higher skeletal muscle mass, low visceral fat and less metabolic age.                                                                                                                                                                                                                                                                                                                                                     |

Present study provides scientific evidence on how dance exposure has positive impact on body composition and that rhythmic form of physical activity can be promoted through Bharatanatyam dance which can be recommended as an adjunct to strength and endurance training, weight loss as well as aerobic training exercise in place of routine, monotonous physical exercise.

#### Photographs:



**Figure 1:** Measuring kin fold thickness using skin fold thickness cali[per at mid axillary site



**Figure 2:**Participant standing on TANITA body composition analyzer

Director, MGMSOP

**BPT Coordinator** 





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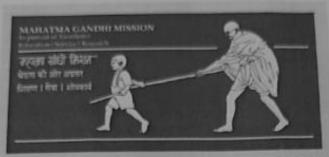
Sector-1, Kamothe, Navi Mumbai – 410209

|                     | 1. Continuing 1 squares with                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project title       | Effect of 8 weeks of backward walking on pain and function in patients with                                                                                                                                                                                                                                                                                                                                                                                                    |
| Project title       | chronic non-specific mechanical low back pain.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Name of Guide       | Dr. Pradnya Girdhar (PT) and Dr. Juhi Bharnuke(PT)                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Name of candidate/s | Mr. Prateek Sontakke                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                     | Ms. Jill Thakkar                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                     | Ms. Khushi Thakkar                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                     | Ms. Simran Thapar                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                     | Ms. Khushi Thakkar                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Duration of project | 6 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Submission date     | 10 <sup>th</sup> June 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Subilitsion date    | Project Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Purpose             | Low back pain is a common disorder involving the muscles, nerves, and bones of the lower back. Pain can vary from a dull, constant ache to a sudder sharp feeling. In most episodes of low back pain, a specific underlying cause is often not identified, thus, calling it non-specific low back pain. Low back pain may be classified by duration as acute (pain lasting less than 6 weeks); sub-acute (lasting for 6-12 weeks) and chronic (lasting for more than 12 weeks) |
|                     | 1. The condition may be further classified by the underlying cause as Mechanical pain; Non- mechanical pain and Referred pain.                                                                                                                                                                                                                                                                                                                                                 |
| Objectives          | <ul> <li>To evaluate the effectiveness of backward walking and conventional therapy on pain in patients with chronic non-specific low back pain using Numerical rating scale.</li> <li>To evaluate the effectiveness of backward walking and conventional therapy on function in patients with chronic non-specific low back pain using Modified Oswestry disability index.</li> </ul>                                                                                         |
| Methods             | It was an exploratory comparative study conducted on 40 patients with chronic non specific low back pain in the age group of 20-40 years using convenient sampling, random allocation technique at MGM hospital, Physiotherapy OPD, Kamothe, Navi Mumbai and residential areas of Mumbai and Navi Mumbai. The study included two groups with 20 patients in each group who were divided using random sampling technique within the group.                                      |
| Results             | Backward walking has lead to a significant reduction in pain (NRS) for most of the participants as it leads to increased neuromuscular control, reduces lumbosacral angle improved pelvic alignment and increased lumbar muscular activation along with increased strength of the core muscles.                                                                                                                                                                                |
| Conclusion          | Backward walking, as an adjunct to traditional conventional exercises for low back pain, has resulted in significant post NRS reduction in most of the patients with chronic non-specific mechanical low back pain. But, clearly                                                                                                                                                                                                                                               |

additional research into the effects of backward walking as a sole exercise for low back pain and its effect on function in individuals with low back pain is further suggested by us.

Director, MGMSOP

BPT Coordinator



### MAHATMA GANDHI MISSION

# "EFFECT OF YOGA ON STATIC AND DYNAMIC SURFACES WITH VISUAL FEEDBACK ON BALANCE IN PATIENTS WITH CHRONIC STROKE – A RANDOMIZED CONTROLLED TRIAL"

## Is Submitted By

Prachi Mhaske

Tejaswini saraf

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### "PREVALANCE OF ROTATOR CUFF TENDINOPATHY IN BADMINTON PLAYERS WITH SHOULDER PAIN DURING COCKING PHASE"

#### Is Submitted By

Sujata Chamle

Pooja Bhosale

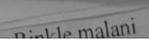
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## "EFFICACY OF SUPERVISED STATIC AND DYNAMIC BALANCE TRAINING IN OBESE SCHOOL CHILDREN: A RANDOMIZED EXPERIMENTAL TRIAL"

Is submitted by

MISS. SHREYA LOHIYA MISS. SEEMIKA KAUR RAMGADIYA

The project is submitted for the partial fulfillment of Bachelor Of Physiotherapy

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MGM SCHOOL OF PHYSIOTHERAPY, AURANGABAD.

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## MAHATMA GANDHI MISSION

"AWARNESS OF EXERCISE DEFICIT DISORDER IN YOUNG ADULT POPULATION AN OBSERVATIONAL STUDY"

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## AWARENESS AMONGST PHYSICAL THERAPIST REGARDING USE OF NORDIC WALKING IN ASPECTS OF REHABILITATION OF CONDITIONS: A CROSS SECTIONAL SURVEY

#### Is Submitted By

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## MAHATMA GANDHI MISSION

"EFFECT OF CASE AND HIP ABDUCTOR MUSCLE STRENGTHENING ON PAIN, STRENGTH A FUNCTIONAL ACTIVITES OF MECHANICAL LOW BACK PAIN PATIENT"

Is Submitted By

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## MAHATMA GANDHI MISSION

"EFFECT OF ISOMETRIC NECK EXERCISES IN IMPROVING CERVICAL RANGE OF MOTION IN PHYSIOTHERAPY STUDENTS. ."

Is Submitted By

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# "IMMEDIATE EFFECT OF MULLIGAN MOBILISATION TO CORRECT KYPHOTIC

## **DEFORMITY IN CERVICAL SPONDYLOSIS PATIENTS"**

Is submitted by

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## "EFFECT OF FOUR WEEKS CORE, HIP ABDUCTOR AND HIP ADDUCTORS STRENGTHENING IN FENCERS WITH FUNCTIONAL ANKLE INSTABILITY"

Is submitted by

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## "PILOT STUDY OF EFFECTIVENESS OF DISTRACTION WITH ACTIVE MOVEMENT IN CERVICAL RADICULOPATHY"

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MISS. ABHILASHA JAIN

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# "EFFECT OF YOGA ON STATIC AND DYNAMIC SURFACES WITH VISUAL FEEDBACK ON BALANCE IN PATIENTS WITH CHRONIC STROKE – A RANDOMIZED CONTROLLED TRIAL"

#### Is Submitted By

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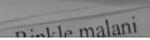
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#### AWARENESS OF SCAPULAR DYSKINESIA IN BOXERS

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#### "PREVALENCE OF NECK PAIN IN FASHION DESIGNING STUDENTS-

(A CROSS SECTIONAL STUDY)"

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#### AWARENESS AMONGST PHYSICAL THERAPIST REGARDING USE OF NORDIC WALKING IN ASPECTS OF REHABILITATION OF CONDITIONS: A CROSS SECTIONAL SURVEY

#### Is Submitted By

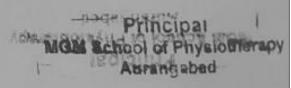
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MAHATMA GANDHI MISSION

"IMMEDIATE EFFECT OF MULLIGAN MOBILIZATION TO CORRECT KYPHOTIC DEFORMITY IN CERVICAL SPONDYLITIS PATIENT."

Is Submitted By

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#### "EFFICACY OF SUPERVISED STATIC AND DYNAMIC BALANCE TRAINING IN OBESE SCHOOL CHILDREN: A RANDOMIZED EXPERIMENTAL TRIAL"

Is submitted by

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#### MAHATMA GANDHI MISSION

"A Self administrative questionnaire on awareness of exercise deficit disorder among young adults-a dichtomatous questionnaire

Is Submitted By

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Anuja shivnikar

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#### MAHATMA GANDHI MISSION

"AWARNESS OF EXERCISE DEFICIT DISORDER IN YOUNG ADULT POPULATION AN OBSERVATIONAL STUDY"

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#### MAHATMA GANDHI MISSION

"EFFECT OF CASE AND HIP ABDUCTOR MUSCLE STRENGTHENING ON PAIN, STRENGTH A FUNCTIONAL ACTIVITES OF MECHANICAL LOW BACK PAIN PATIENT"

Is Submitted By

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#### "COVID-19 PANDEMIC: PSYCHOLOGICAL IMPACT ON GENERAL POPULATION OF MAHARASHTRA"

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#### "IMPACT OF MENTAL, PHYSICAL, SOCIAL AND PROFESSIONAL HEALTH ON WORKING POPULATION: A CROSS SECTIONAL SURVEY"

Is submitted by

MRS. TEJASWINI SARAF MR. NIKHIL DESHMUKH

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#### MAHATMA GANDHI MISSION

Impact of lockdown on physical health and quality of life in adult population

#### Is Submitted By

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Gentanjali puri

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# "6 MINUTE WALK TEST AND 2 MINUTE STEP TEST FOR MEASURING FUNCTIONAL CAPACITY IN HYPERTENSIVE INDIVIDUALS: A CORRELATIONAL STUDY"

Is Submitted By

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"PREVALENCE OF LOWER BACK PAIN IN

OVERWEIGHT INDIVIDUALS"

Is Submitted By

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This is to certify that the work presented in the project entitled

#### "RELATION BETWEENSLEEP QUALITYAND FATIGUEIN PHYSIOTHERAPYSTUDENTS"

Is submitted by

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MS. NIDHI OZA

MS. KSHIPRA SHASTRI

The project is submitted for fulfilment of Internship carried out in

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Guide

Dr. ASHWIN KSHIRSAGAR

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M.P.T [ORTHOPEDIC MANUAL THERAPY]



#### A PROJECT ON

"PACER performance of children aged 10 to 17 years among elementary school children in Indian population: A cross sectional observational study"by

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Ms. Mansi Karwa

Ms.Rupa Zanwar

The project is submitted for the partial fulfilment of Bachelor of Physiotherapy Degree and was carried out under

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Dr. SANIYA WAGHMARE

MPT. (Cardiovascular and Respiratory Sciences)

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#### "PREVALANCE OF SLEEP AND FATIGUE ASSOCIATED WITH MUSCULOSKELETAL DISORDERS IN AUTORICKSHAW DRIVERS IN AURANGABAD"

by

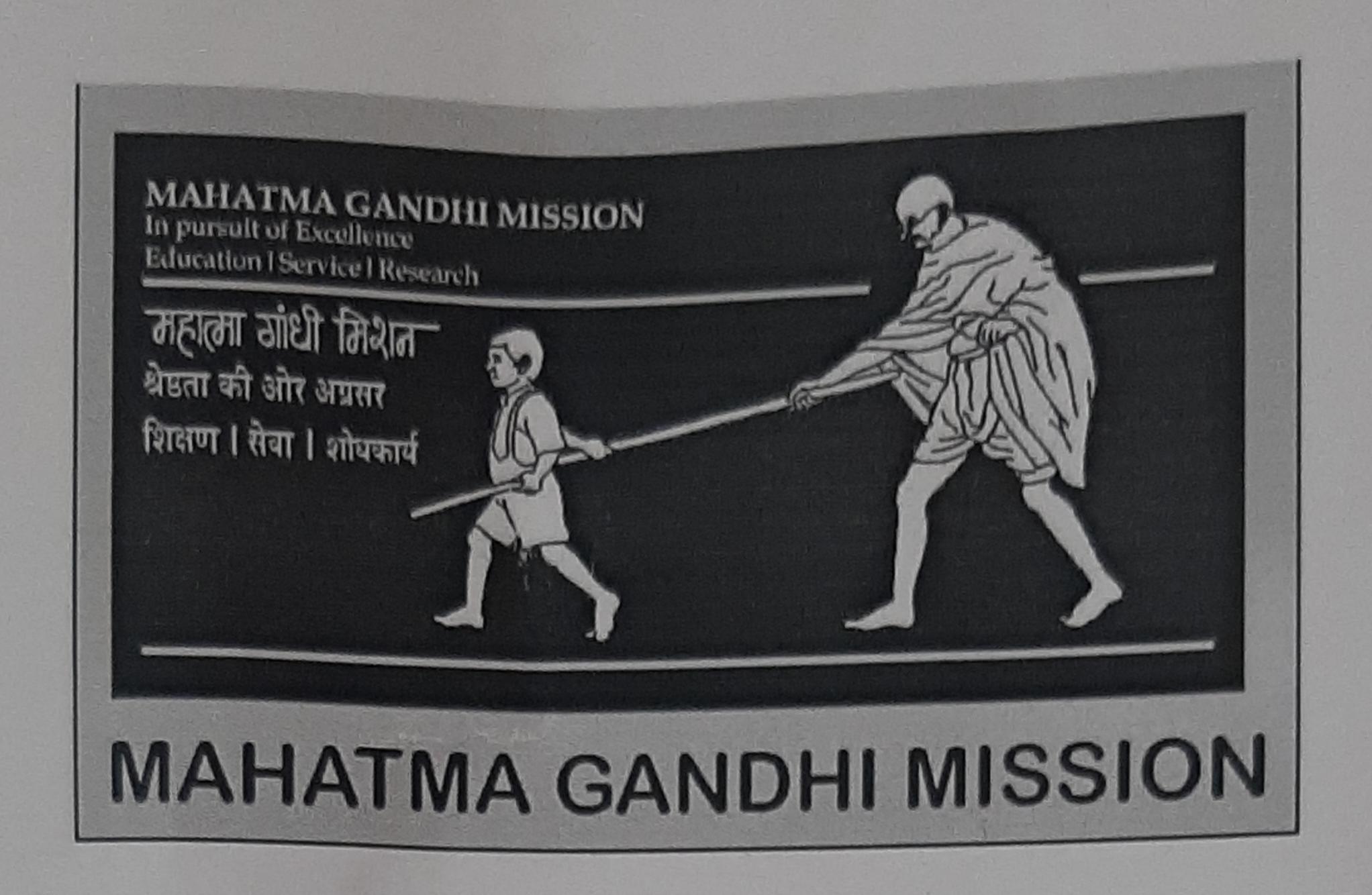
Ms. Mansi Subhedar Ms. Sneha Chhajed Ms. Radhika Kasat

is submitted for the partial fulfillment of final year and was carried out in MGMs School of physiotherapy

DR ASHWIN KSHIRSAGAR

MSPT(sports)

N.P.T. (Musculoskeletal)



<u>Development of Self assessment questionnaire for ankle instability its</u>
<u>validity and reliability - A pilot study.</u>

Is Submitted By

Miss. Sneha Ambhore.

Miss. Anuja Bhalerao.

Miss.Janhvi Dongre.

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# "EFFECTIVENESS OF SQUARE STEPPING EXERSISES TO IMPROVE MOBILITY AND BALANCE IN OLDER ADULTS – A RANDOMIZED CONTROL TRIAL."

Is Submitted By

MS.DIVYA AGRAWAL

MS. EKTA KHARDE

MR. ROHAN THOMBARE

DR. NAWAJ PATHAN

DR. RINKLEMALANI

PRINCIPAL

M.P.T-NEUROPHYSIOTHERAPY

M.P.T [ORTHOPEDIC MANUAL THERAPY]



A PROJECT ON
IMPACT OF PROLONGED COMPUTER USE DURING
COVID-19 PANDEMIC ON NECK PAIN
AND QUALITY OF LIFE BY USING NOOS SCALE
IN MAHARASHTRIAN POPULATION

IS SUBMITTED BY:

Ms. ANSARI SADAF.

Ms. APURVA DEOLANKAR

MS. ALEENA SENEEN.

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M.P.Th.[Neuroscience]

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M.P.T [Orthopedic manual therapy]



# JUXTAPOSE OF CHIN TUCK AND PILATES EXERCISES VERSUS GONG'S MOBILIZATION IN TEXT NECK SYNDROME -PILOT STUDY

Is submitted by

#### KHAN MADIHA

#### RIDA JILANI

The project is submitted for partial fulfillment of BPT we carried out in outpatient department of MGM physiotherapy, Aurangabad.

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#### "MEETING PHYSICAL ACTIVITY GUIDELINES IS ASSOCIATED WITH PHYSICAL FITNESS- A CORRELATION STUDY"

#### **Is Submitted By**

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Ms. Bushra Farooqui

Ms. Nabeela Fatema

Guide:

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**Assistant Professor** 

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Therapy