

Management of Physiotherapy Strain Injury at PHYSIOSET Clinic in Malang, a Case Study

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Abstract—Physiotherapy is the form of health services devoted to the patient to develop, maintaining and restoring motion and using the handling of manually, increase of motion, equipment. Physiotherapy is one way to handle sports injury in a more modern. An injury caused by the sport of one of them is not a strain. Injury strain is damage to a part of a muscle or tendo because of excessive use or excessive stress. The strain of injury it has to get medical attention to the injury was not to be getting worse, with the handling of a comprehensive and management to speed up recovery. Next it takes a discussion on physiotherapy management. Strain injury study was conducted in order to figure out how management physiotherapy injury strain at PHYSIOSET clinic. Research in the clinic physiotherapy PHYSIOSET use tools for the treatment of patients in which electrical tens, ultrasound ball, gym balance set, wobble boards, the ball, cone, marker, the band the gym. Management physiotherapy injury strain at PHYSIOSET clinic is a treatment with, isometric exercise then there is a derivative of isometric exercise that is it the name of his training multirilek same kontrarilek. Then there is also we wear isotonic exercise. As well as strengthening exercise a muscle in the area around who suffered a. The recovery process at the clinic physiotherapy PHYSIOSET doing in four phase and collaboration with coach physical. Of the results above can be concluded that management physiotherapy injury strain at PHYSIOSET clinic accordance with fundamental aspects of physiotherapy in handling and management who comprehensive. Advice on this research should be the researchers next develop more scope this, considering its research it is not yet fully could draw extensively about management injury strain physiotherapy.

Keywords— *physiotherapy, strain injury, Management*

I. INTRODUCTION

Physiotherapy is one way to manage sports in a more modern way and uses the foundations of medical theory. Physiotherapy which is intended to restore the function of motion caused by the defense during sports activities or

daily activities. Physiotherapy is the science or tips for treatment by utilizing the properties of nature such as water, light, electricity sports exercises and manuals. Physiotherapy uses several components of various treatment approaches to improve strength, balance, and speed of body parts that have been injured [1]. Physiotherapy began as a profession in 1894, in response to traditional massage to create professional physical rehabilitation [2].

When doing sports activities if you do not warm up first, it is likely that injury will occur. Injury often occurs during physical activity or sports. Sports injuries are injuries that occur in the muscular and skeletal systems of the human body caused by various types of sports activities. Injury is if it cannot be handled quickly and correctly, it will cause physical disruption and limitations, both in carrying out daily activities and performing various types of sports activities. Therefore, injury management must be carried out with a multidisciplinary team [3]. Injuries caused by sports one of which is a strain injury.

Strain injury is a form of injury in the form of a stretch or tear in the tendon. Muscle strains are muscle damage that occurs in the muscles or tendons (including the meeting point between muscles and tendons) due to the use of muscles that exceeds the capacity limit or excessive stress on the muscles [4].

Compared with traditional medicine, physiotherapy is more reliable because the patient is handled by physiotherapists and physiotherapists supported by modern equipment. Physiotherapy at the PHYSIOSET Clinic treats patients with injuries caused by exercise using modern equipment. One of them is the strain injury physiotherapy at the PHYSIOSET Clinic. Physiotherapy at the PHYSIOSET Clinic in Malang City provides treatment using the foundations of medical theory, physiotherapy theory and is carried out by physiotherapists and specialist doctors. The PHYSIOSET Clinic has complete facilities and infrastructure. The facilities and infrastructure of

physiotherapy services are used to support the process of implementing physiotherapy services [5].

II. METHODS

The data used for this study uses descriptive data. Some descriptions in the study use several research principles to find several research principles and lead to an explanation of the withdrawal of a research conclusion [6]. It was further explained that in this descriptive study there was no treatment of the informants and there was no hypothesis test in this study as in quantitative research. In accordance with the objectives of this study, the approach used is descriptive qualitative with the type of research using survey methods.

The data source used in a qualitative descriptive study of the management of strain injury physiotherapy at the PHYSIOSET Physiotherapy Clinic uses secondary and primary data. Primary data in this study were from observations and interviews while secondary data were obtained through documents provided by informants. The type of data used by researchers in this study is in accordance with the role of researchers as participants, as observation data and interview data.

The location of this research is located in the middle of Malang City, which is located at Ruko Ditas Kavling 28 M.T. Haryono Street No. 09 Dinoyo, Lowokwaru, Malang. The reason researchers chose the PHYSIOSET Clinic as a place of research was because the location was not far from Malang State University which facilitated research and accelerated the research process.

To get a picture of a problem and something being investigated, data analysis is one of the most appropriate steps in a study. To test the validity of the data obtained from research, the data analysis technique used by researchers is the triangulation technique. Triangulation technique is a technique using data validity checking by utilizing other sources outside the data itself, as a comparison of data or for checking the validity of other sources [6].

III. RESULTS

In the strain injury itself there are 2 parts, namely upper extremity and lower extremity. For lower extremities most commonly affected by strain injuries include hamstring strains, quadricep strains. Whereas the upper extremities who are most often affected by strain injuries are bicep and triceps strains. However, the most patients for strain injury physiotherapy at PHYSIOSET Physiotherapy Clinic are mostly from hamstring and quadricep strain injuries. Because the hamstring and quadricep muscles themselves are muscles that are explosive or fast during sports activities. Indeed, at most 2 large muscles that are most often affected by their own strain.

As for tools, there are types of electrical equipment and non-electrical equipment. For electrical devices themselves include electrical tens, ultrasound. Whereas for non-

electrical equipment there are ball gym, balance set, wobble board, ball, cone, marker, gym band, there are several non-electrical devices. For tools that are electrical themselves are used for initial treatment of injuries. While non-electrical equipment itself is used for further treatment. Like the electrical tens itself, it is used to reduce pain, ultrasound to speed up the healing process of the muscle. For non-electrical properties such as gym ball, balance set, wobble board, ball, cone, marker, gym band, it is useful for muscle strengthening exercises.

This form of muscle strengthening training for injured patients is certainly adjusted to the phases. There are 4 phases here, there are phase 1, phase 2, phase 3 and phase 4. What is certain when the patient is injured by the strain goes into phase one, so we reduce the pain first with isometric exercise, then there is a derivative of isometric exercise that he named the exercise *multirilek* and *kontrarilek*. Then besides that we also use isotonic exercise. Then in phase 2, 3 so we lower the motion first, then we maintain the scope of the joint motion first, that's for phase one. Then for the second phase, the pain of the swelling has started to disappear and the scope of joint motion has also begun to increase, meaning that we provide minimal strengthening and minimal flexibility training. Then it goes up to phase 3 onwards so the training increases and the training dose also increases. Whereas for phase 4 the physical trainer is the realm, although in phase 4 the physical trainer is the realm but there is collaboration between the physical trainer and the physiotherapist, but there is already a physical trainer realm in order to prepare the injured strain patient to return to the field. We rarely hold onto phase 4 patients.

So patients who come to PHYSIOSET Physiotherapy Clinic are mostly caused by sports activities. Sports activities in question are body contact sports such as soccer, futsal, basketball etc. But the average type of futsal and basketball sports is due to high intensity especially in the lower extremity area. These sports often experience collisions resulting in injuries. Sports like futsal and basketball must have good muscle readiness so as not to get strain injuries. If the muscles that are not ready are used for the sport, the strain can be injured. athletes often experience hamstring muscle injuries caused by muscle weakness or fatigue in the hamstring muscles.

The PHYSIOSET Clinic has 2 consultants who are in its position at the PHYSIOSET Physiotherapy Clinic as the Chief and Associated Chief. If it's for the Chief, Mr. Dimas, he happens to be studying a Physiotherapy S3 in Thailand, so for a consultation about the patient's injury via chat usually. For the associated Head Chief, Mr. Hendri, he happened to be a physiotherapist at Pasuruan Hospital. So if you want to consult definitely through chat, like that.

The treatment process that we do is first to relieve pain after being injured by a strain. For the tool we use a tool called electrical tens to reduce the pain with a duration of time for ten minutes with a frequency according to the tolerance of the patient. For these muscle problems, we provide muscle strengthening exercises to strengthen the muscles so they do not experience re injury (back injury).

After using an electrical tens tool, we also use an instrument called ultrasound, ultrasound itself is used to accelerate healing of these muscles. Meanwhile, to maintain stability we use kinesiology tape which is to protect the muscles.

Furthermore, for the percentage of success alone that is certainly not up to 100%. Meaning no, maybe all cases for the healing phase or the goal, surely we see it is not 100% cured. Because surely there will be, not a follow-up problem but there are at least a shortcoming, a shortage of what we are targeting, like that. Weaknesses of what we are targeting, means that there are not 100% at most we are 80-90%. So for patients with strain injuries that cannot heal up to 100%, can only recover in the rough 80-90%, and even then it has met the target of the clinic.

IV. DISCUSSION

The PHYSIOSET Clinic was established with the aim of helping to restore the patient's motion function from movement disorders or injuries. Patients who suffer injuries are very limited in their movements to carry out daily activities and sports activities. The PHYSIOSET Clinic has three pillars namely Screening, Examination, and Treatment. In its application the PHYSIOSET Clinic is engaged in sports, namely in the process of mentoring and rehabilitation so that it can restore individual or team skills efficiently.

Patients who suffered injuries immediately came to the clinic to get an assessment from PHYSIOSET Clinic physiotherapist and recorded it on the medical record sheet. On the medical record sheet, the physiotherapist records the patient's personal data and complaints felt by the patient and the patient's injury history. If the patient agrees with the assessment that has been given by the physiotherapist, then the patient will get treatment or action after getting an assessment from the physiotherapist. Furthermore, patients get treatment (treatment) that will be adjusted to the injury suffered by the patient. The action (treatment) includes several things, including treatment measures (curative) after the patient gets first aid, recovery (rehabilitation) to prepare the patient's condition ready to go back down in the field. Few of the injured strain sufferers still experience trauma even though they have recovered from the injury. The experience of trauma may be a stress reaction to events that people consider dangerous or involve loss, threat, or challenge [7].

For patients who come to the PHYSIOSET Clinic this is mostly caused by sports activities. Sports activities in question are body contact sports such as soccer, futsal, basketball etc. But the average type of futsal and basketball sports is due to high intensity especially in the lower extremities area. These sports often experience collisions resulting in injuries. Sports like futsal and basketball must have good muscle readiness so as not to get strain injuries. If the muscles that are not ready are used for the sport, the strain can be injured.

The treatment process is carried out by the PHYSIOSET Clinic by relieving pain after being injured by a strain strain. PHYSIOSET Physiotherapy Clinic when relieving pain after

being exposed to strain injuries by using isometric techniques with the concept of contraction. In this treatment process, PHYSIOSET Clinic physiotherapists use electrical equipment and non-electrical equipment. For electrical devices themselves include electrical tens, ultrasound. Whereas for non-electrical equipment there are ball gym, balance set, wobble board, ball, cone, marker, gym band, there are several non-electrical devices.

After the treatment process is completed, the recovery process is carried out to prepare the patient after the strain injury is ready to return to the field. In this recovery process the PHYSIOSET Clinic physiotherapist uses several phases and collaborates with a physical trainer. The phases are divided into four phases, namely phase one, phase two, phase three and finally phase four. In each phase carried out there is an increase in the dose of exercise given to injured strain patients. In phase one, phase two and phase three, patients after pure strain injury received treatment from a physiotherapist. Whereas in the four phases patients received treatment from a physical trainer but still collaborating with a physiotherapist.

This form of rehabilitation of muscle strengthening exercises for injured patients of this strain certainly adjusts to the phase. Adjusting to the phase, for the first phase patients the goal is to reduce pain, reduce swelling and also increase or maintain the scope of joint motion. As for phase two, those who are definitely still doing the same exercise as phase one, but the training dose is increased. In phase two there has been a minimum of strength training, so there has begun to be a strengthening but at a minimum. For phase three, the patient has begun to do strength training, meaning it is not a minimum strength training anymore. Whereas for phase 4 the physical trainer is the realm, although in phase 4 the physical trainer is the realm but there is collaboration between the physical trainer and the physiotherapist, but there is already a physical trainer realm in order to prepare strain injured patients to return to the field.

V. CONCLUSIONS

Patients who suffer injuries come directly to the clinic to get assessment and treatment until recovering from the injuries they have suffered and get a home program to carry out exercises at home. Physiotherapy management at the PHYSIOSET Clinic does not use in the form of drugs for the treatment process to the recovery process. To treat patients who experience pain and swelling, the PHYSIOSET Clinic only uses a compress technique using ice. The PHYSIOSET Clinic uses tools for handling patients including electrical and nonelectrical devices. For the electrical equipment it self includes electrical tens, ultrasound, while for non-electrical equipment there is a ball gym, balance set, wobble board, ball, cone, marker, band gym.

Strain injury physiotherapy management at the PHYSIOSET Clinic, to reduce this pain can use isometric exercise. Then there is a derivative of isometric exercise that has the name multirilek and contrarilek. Then besides that we

also use isotonic exercise and also stabilization exercises and muscle strengthening exercises around the injured area to strengthen the muscles so they don't get reinjury. After the treatment process is completed, the recovery process is carried out to prepare the patient after the strain injury to be ready to go back down in the field with a note that it is functionally ready. The recovery process at the PHYSIOSET Clinic is carried out with four phases and by involving physical trainers for phase four. In this recovery process, strain injury patients are given treatment or training to be able to recover from their injuries and be ready to get back on the field (return to sport).

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