

CHAPTER IV:

RESULTS

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The purpose of this study was to assess physical therapy management for ligamentous ankle injuries among athletes. 45 sports clubs were selected randomly in Cairo city. 250 athletes and 20 therapists did participate in this study from the different clubs.

Questionnaires were designed to collect appropriate information concerning history of trauma, medical management and physical therapy management.

The analysis for questionnaire No. 1 for Athletes showed that:

Only 171 athletes were treated by physical therapy modalities, many of them were treated by more than one method of treatment, and there were 6 athletes didn't receive any methods of treatment (Table 1)

Table 1
Methods of treatment for ankle sprain for 250 athletes

Method of treatment	Number of athletes	Percent
Cast	26	10.4%
Medication	92	36.8%
Surgery	3	1.2%
Physiotherapy	171	68.4%
Bandage	122	48.8%

415

The table presents that physical therapy treatment were the most common used method.

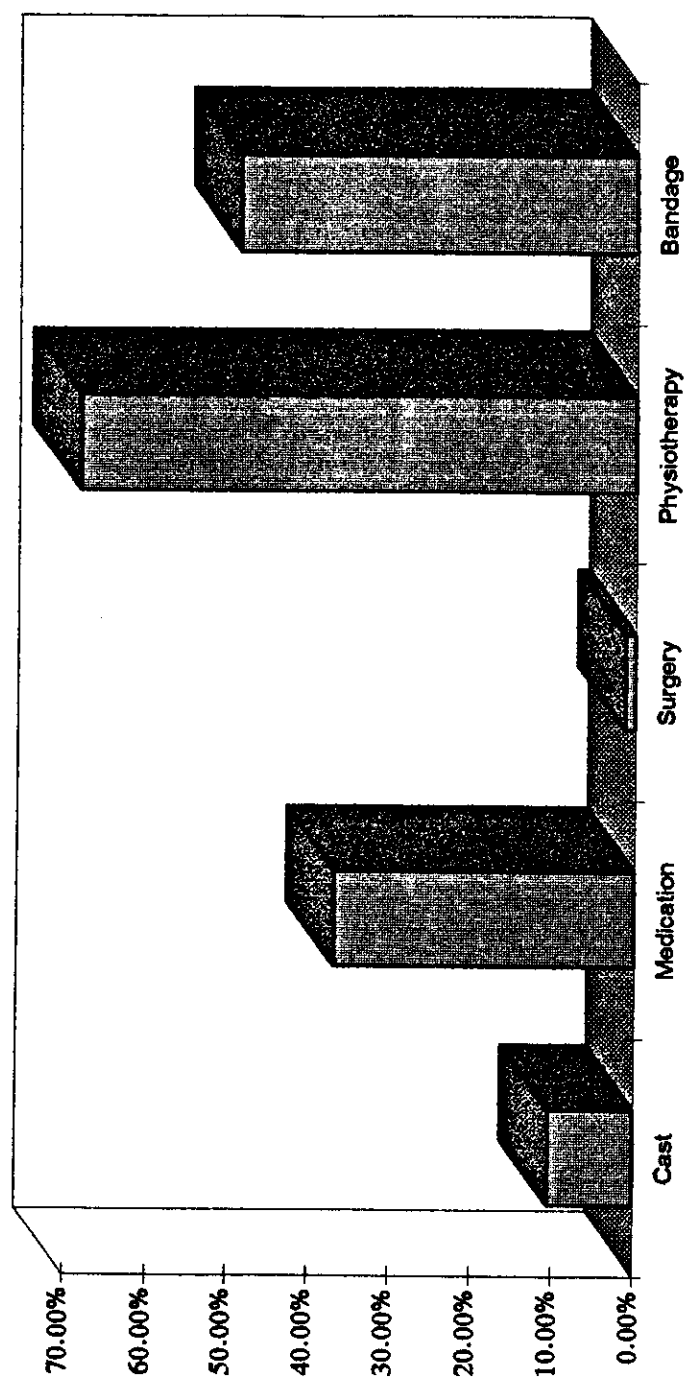


Fig. 1 Methods of Treatment Used for 250 Athletes having Ankle Sprain

Also, the analysis for the questionnaire for the athletes who were received physical therapy services should

First aids:

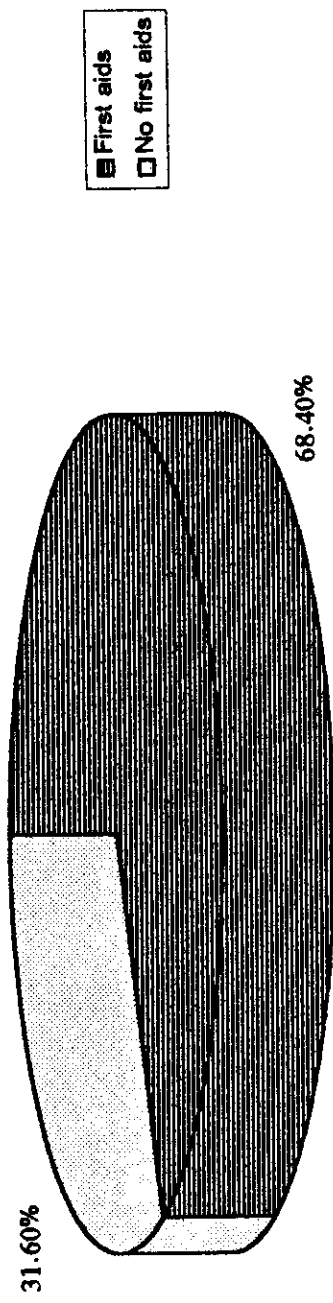
only 117 athletes treated by first aids modalities on the ^{spot} spot of injury where 54 athletes didn't use first aids.

About the persons who delivered first aids on the sport of injury, it has been found that the trainers, and athletes were delivered first aids more than physical therapist and physicians (Table 2).

Table 2

Persons who delivered first aids on the spot of injury

	Number of athletes	Percent
Trainer	39	33.3%
Athletes	36	30.8%
Massager	13	11.1%
Physician	13	11.1%
Physical therapist	16	13.7%



**Fig. 2 Percentage of the Athletes Who Used First aids and Had Physical Therapy Management
(n= 171)**

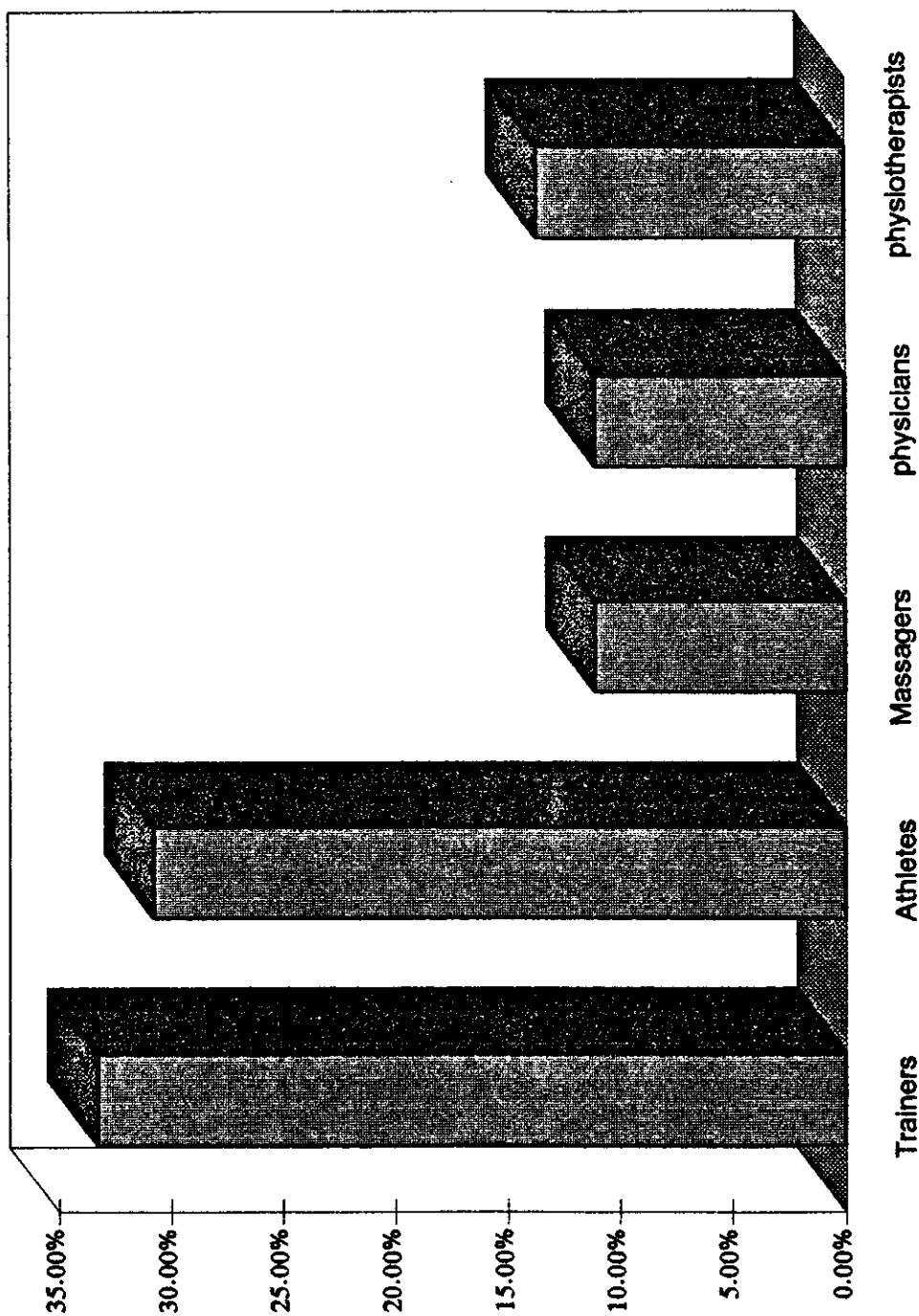


Fig. 3 Persons delivered first aids on the spot of Injury

Physical Therapy Management

1- Modalities

The majority of the athletes were treated by LASER and Ultrasound. On the other hand, mobilization, paraffin and wobble board were used only with less number of the athletes (Table 3).

Table 3

Physical therapy modalities that has been used

Modalities	Number of athletes	Percent
LASER	112	65.5%
Short wave	14	8.2%
Ultrasound	110	64.3%
Infra red	19	11.1%
TENS	18	10.5%
F.M.S	18	10.5%
Paraffin wax bath	7	4%
Wobble board	13	7.6%
Mobilization	5	2.9%
Therapeutic exercises	48	28%

*Mixed
mobilization*

2/20/20

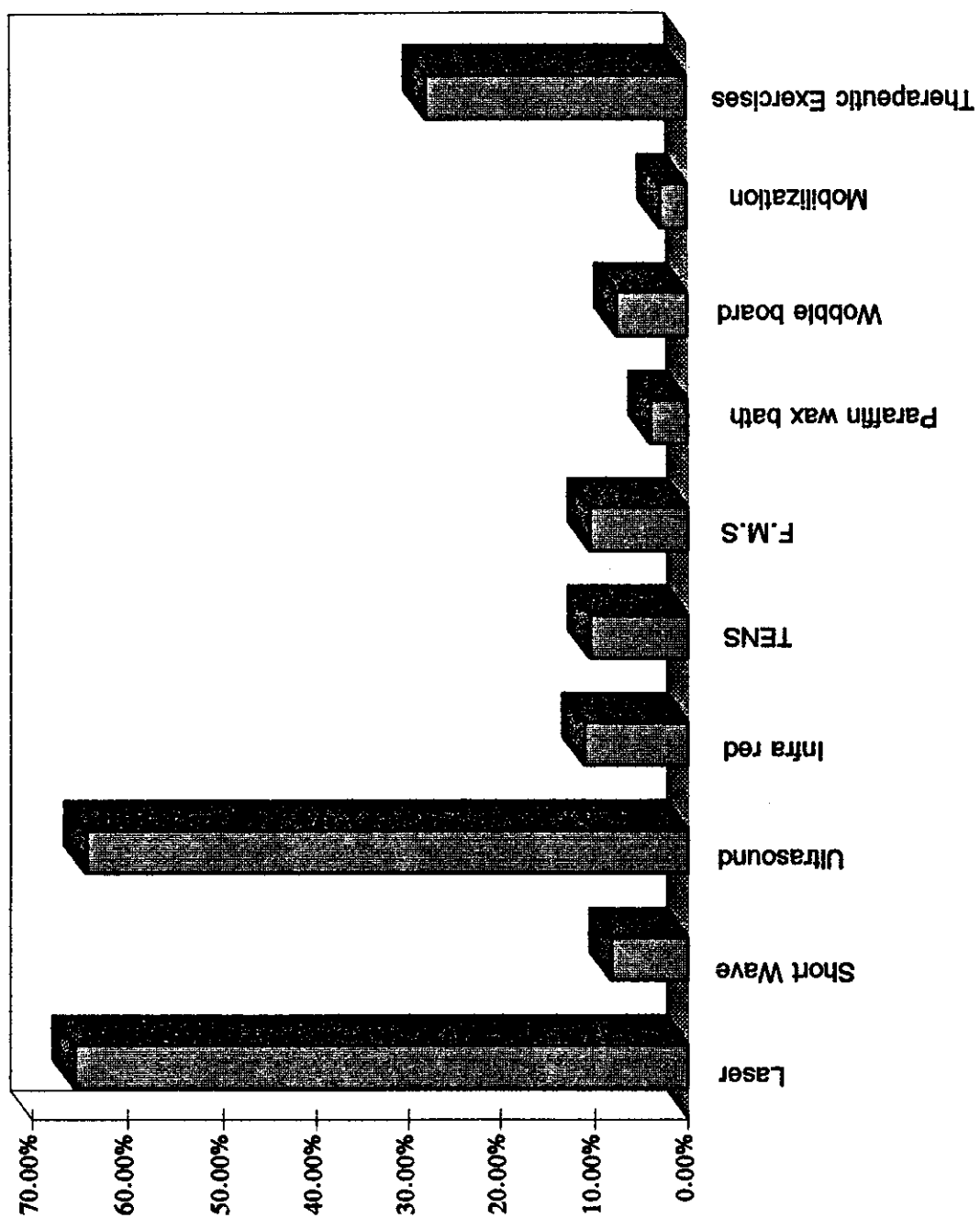


Fig.4 Physical Therapy Modalities That had been used for the 171 athletes

Also there were many athletes treated by more than one physical therapy modalities and others treated only by one modalities (Table 4).

Table 4

Athletes were received physical therapy modalities

Number of modalities	Number of athletes	Percent
Athletes were used (received) one modality.	60	35.1%
Athletes were used (received) two modality.	52	30.4%
Athletes were used (received) three modality.	44	25.7%
Athletes were used (received) four modality.	13	7.6%
Athletes were used (received) five modality.	2	1.2%

2- Persons who delivered the physical therapy management

The majority of the athletes were treated under supervision of Physical Therapist (Table 5).

Table 5

Persons who delivered physical therapy management

Persons incharge	Number of athletes	Percent
Physical therapists	106	62%
Physician	63	36.8%
Physical educator	2	1.2%

total no

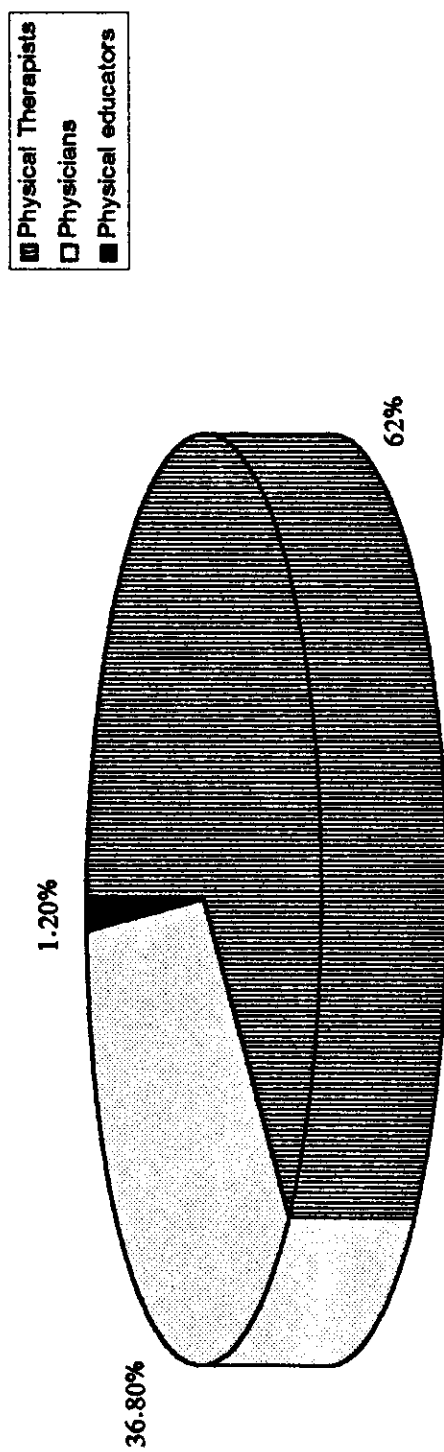


Fig. 5 Persons who Delivered Physical Therapy Management

Ankle support:

A- Before injury

There were 72 athletes (42.1%) used ankle supports where as 99 athletes were not used ankle support (57.9%).

B- After recovery

There were 112 athletes used ankle support where as 59 athletes were not used ankle support (34.5%)

تدريب Strengthening exercise for fast ankle muscles after physical therapy treatment.

There were 90 athletes (52.6%) were applied strengthening exercises where 81 athletes (47.4) were not applied strengthening

Playing before full recovery:

There were 61 athletes (35.7%) played with their games before full recovery where as 110 athletes (64.3%) were not played with their games before recovery.

criteria
return to play
Full recovery

Athletes' complaints

Recurrent instability are the most common complaint affect on the athletes where as decrease mobility are less common (Table 6).

Table 6

Athletes' complaints after treatment

Complaints	Number of athletes	Percent
Recurrent instability	<u>111</u>	44.4%
Pain	30	12%
Oedema (lat. side)	23	9.2%
Decrease mobility	14	5.6%
Nothing	27	10.8%

Patient's attendance to the Physical Therapy clinics

The majority of the athletes were gone to the physical therapy clinic after one week from the injury (Table 7).

Table 7

Patient attendance for Physio Therapy clinics

Time	Number of athletes	Percent
1st day	30	17.5%
2nd day	18	10.5%
3rd day	23	13.5%
After one week	<u>75</u>	43.9%
After two week	10	5.8%
After one month	8	4.7%
After three month	7	4.1%

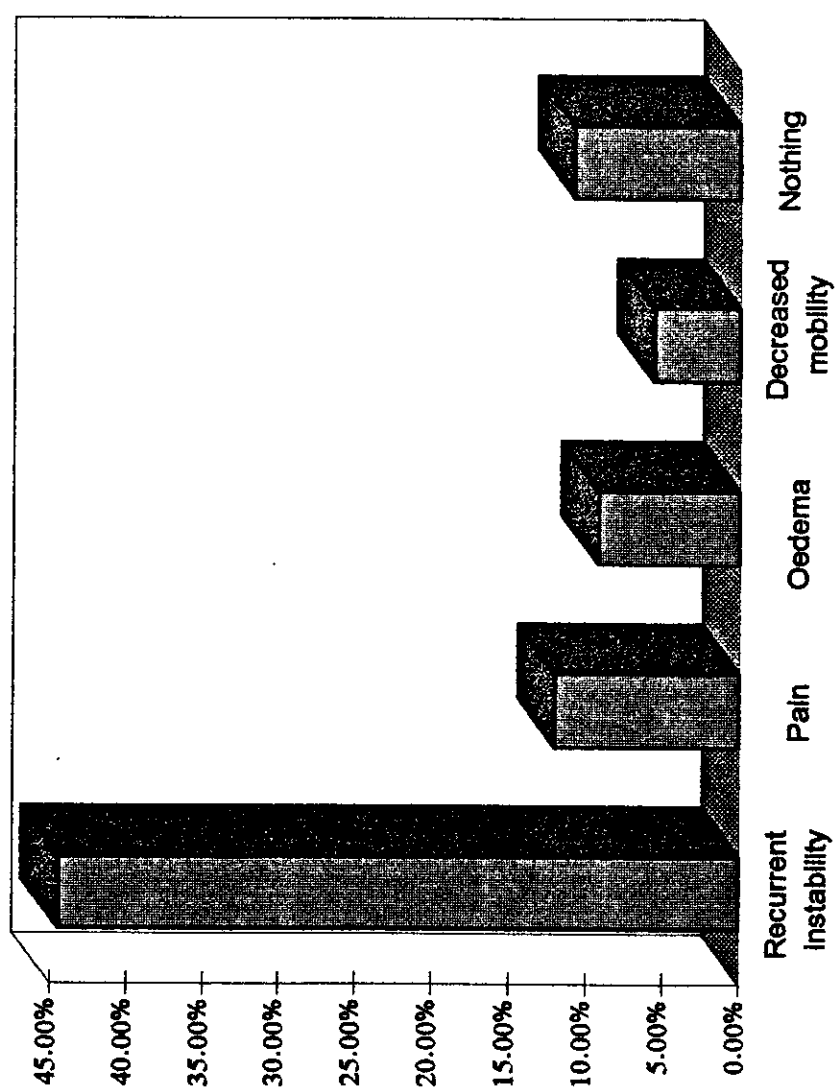


Fig. 6 Athletes' Complaints

Also the analysis for questionnaire No. 2 for the Therapists showed that only 13 first class sports clubs contain Physical Therapy clinics on the other hand, there is no physical therapy services under any name in the rest of the clubs (32 clubs)

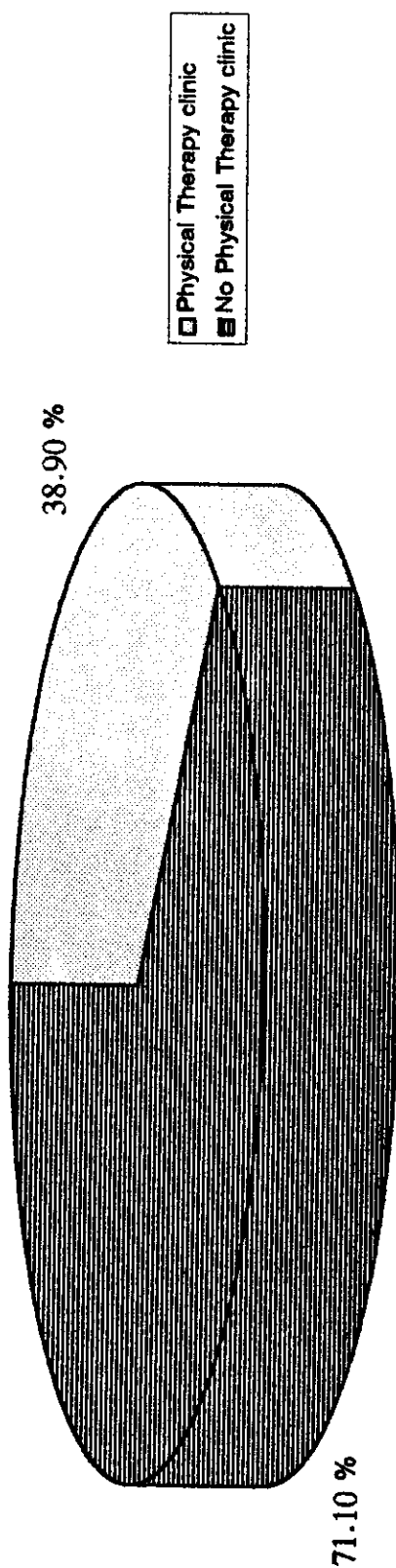
Assessment of tools and equipment:

It has been found that only one physical therapy clinic contains all modern apparatus (equipment and tools) and the rest of the clinics contain some of physical therapy tools and equipment (Table 8).

Table 8
Equipment and Tools

percent to table
/

Equipment and Tools	Number of club	Percent
Short wave	10	76.9%
Ultra sound	13	100%
Infra red	13	100%
Interferinial	9	69.2%
T.E.N.S units	9	29.2%
F.M.S. units	10	76.9%
Laser	4	30.8%
Paraffin wax bath	1	7.7%
Whirl pool	1	7.7%
Gymnasium	11	84.6%
Wobble board	4	30.8%
Iso Kinetic	1	7.7%
Ice packs	13	100%
Hat packs	13	100%



**Fig. 7 Percentage of clubs having physical therapy Clinics
(n= 45)**

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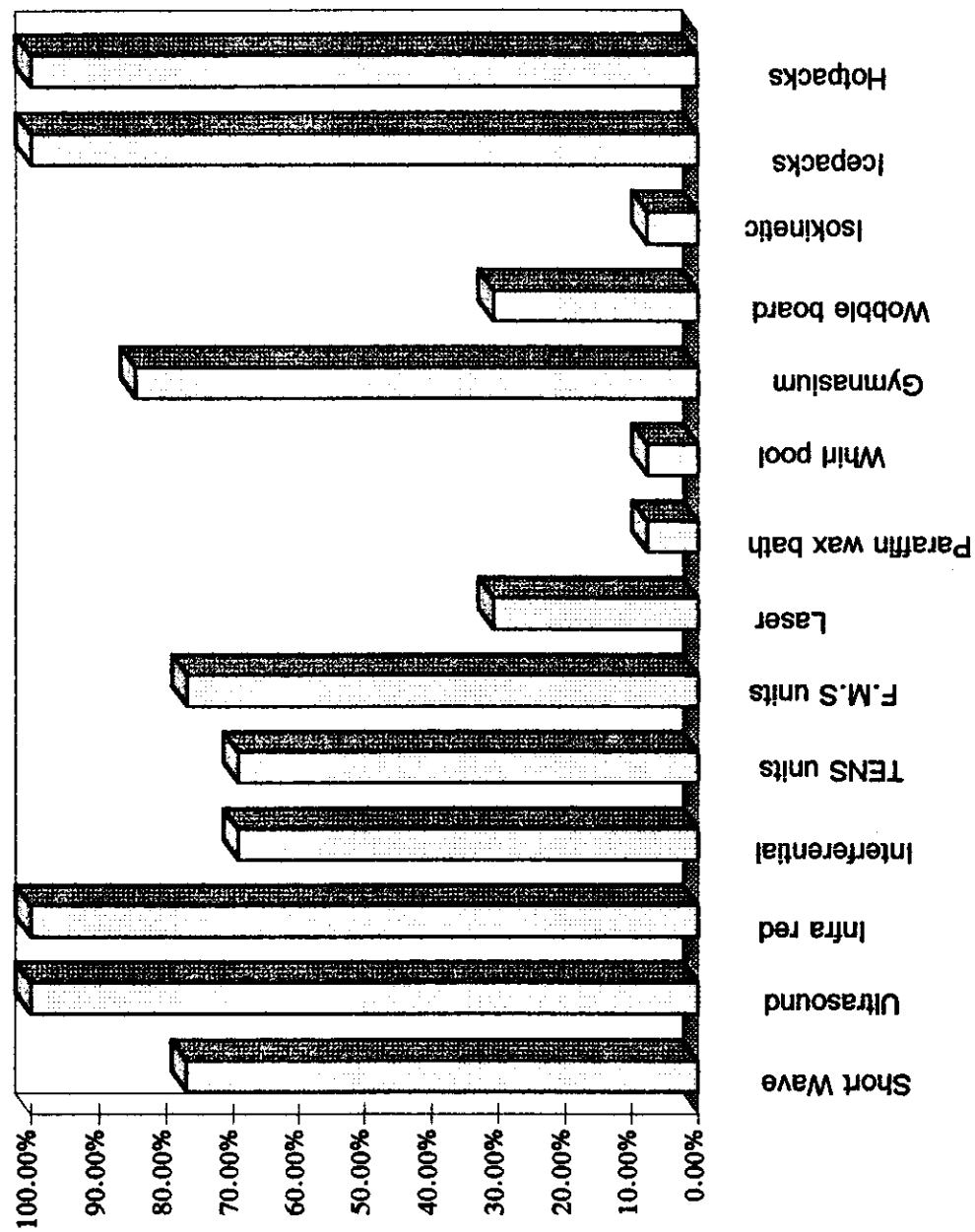


Fig. 8 Percentage of clinics having different Physical Therapy modalities

The analysis of the second parts concerning the persons who delivered physical therapy services on the clinics

Professional degree:

There were 10 qualified Physical Therapist, 6 physicians, and 4 Physical Educators (Table 9).

Table 9

Professional degree

Professional degree	Number of therapist	Percent
Bachelor of physical therapy	9	45%
Master degree of physical therapy	1	5%
Bachelor of physical education	4	20%
General practitioner of medicine	5	25%
Master degree in sports medicine	1	5%

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First aids on the spot of injury

Only three therapist applied first aids on the sport of injury where as 13 therapist some times applied it (Table 10).

Table 10

Therapist used first aids on the spot of injury

Respond	Number of therapist ٤٣	Percent
Yes	3	15%
No	4	20%
Sometimes	13	65%

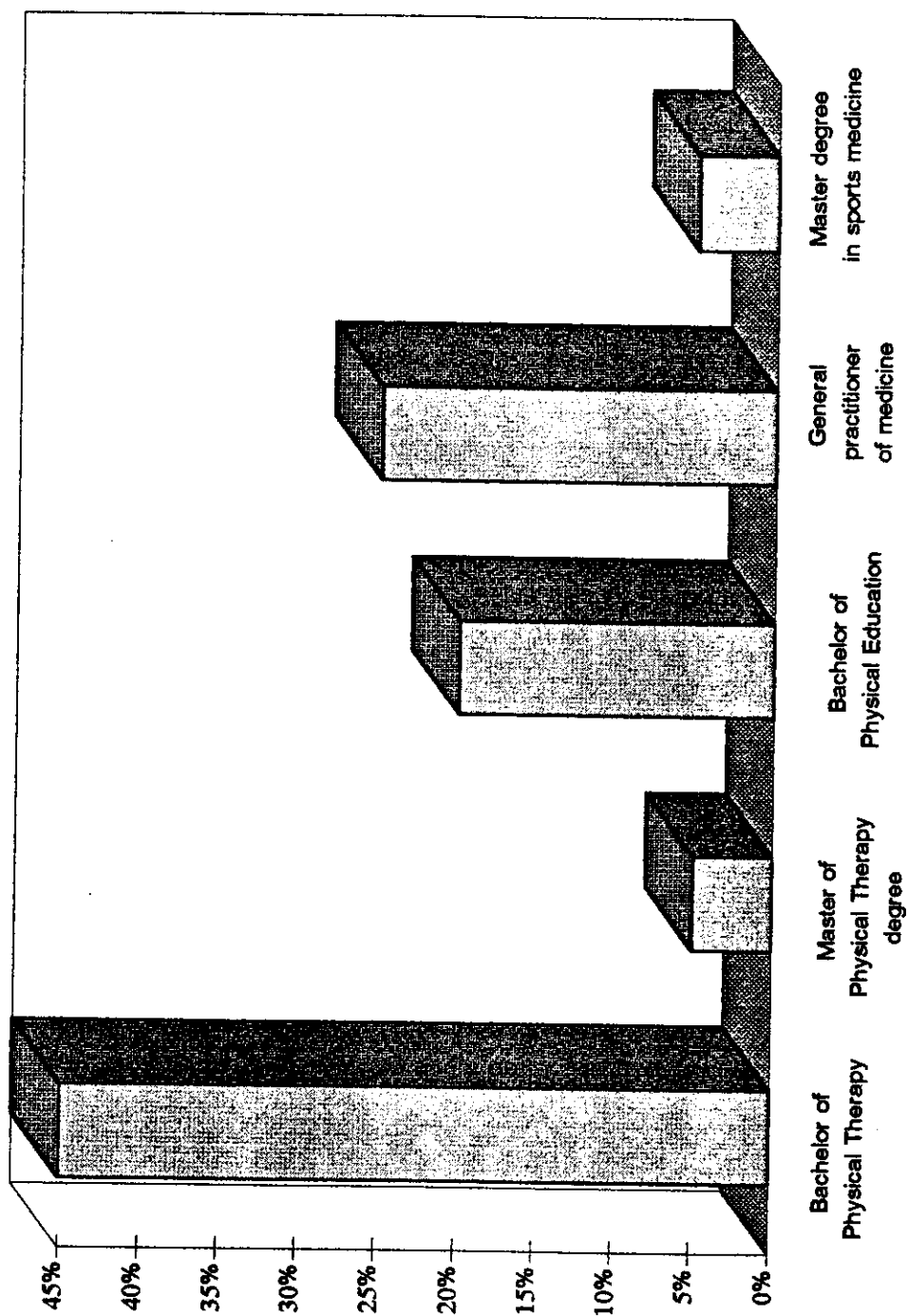


Fig. 9 Professional degree

Modalities of first aids :

There were 5 Therapist used one modality, whereas the rest of the Therapist were used more than one modalities (Table 11).

Table 11
Modalities of first aids

Modalities	Number of therapist	Percents
<i>Rice</i>		
Rest + Ice + compression + elevation	6	30%
Ice + compression bandage	4	20%
Ice only	4	20%
Ice + compression bandage + elevation	5	25%
Elastoplast bandage	1	5%

Rehabilitation for ankle injuries

Treatment protocol: Only three qualified physical therapist applied defined treatment protocol, on the other hand, the rest of therapists didn't used defined treatment protocol (Table 12).

Table 12
Program of rehabilitation

Program	Number of therapist	Percent
Defined treatment protocol	3	15%
Not defined treatment protocol	17	85%

*eg, 5/1/10
Protocol*

Instructions and advices during treatment

Rest from playing and applying application were the most common instruction and advices (Table 13).

Table 13
Instructions and advices during treatment

Instructions and advices	Number of therapist	Percent
Home exercises program	7	35%
Ice application	13	65%
Use crutch	9	45%
Rest from playing	18	90%
Avoid of twisting and rotation of the joint	10	50%

Instructions and advices after full recovery

Using ankle support, and stretching for Tendocalcanus are the most common instruction and advice (Table 14).

Table 14
Instructions and advices after full recovery

Instructions and advices	Number of therapist	Percent
Home care program	7	35%
Strengthening exercise for foot-ankle muscles.	3	15%
Use ankle support.	12	60%
Warm up exercises and cool down exercise.	6	30%
Modification of footwear.	2	10%
Stretch tendocalcanus	9	45%