Instructional Guidelines for Patients with Pott's Fracture to Improve Physical Activity and Functional Ability

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Abstract

Background: *Pott`s fracture is one of the most common lower limb fractures representing a significant percentage of the trauma workload.* **Aim of the study:** *The study aimed to evaluate the effect of instructional guidelines for patients with pott's fracture to improve physical activity and functional ability.* **Design:** *Quasi–experimental design was utilized.* **Setting:** *The study was accomplished in orthopedic Unit at Mansoura University Emergency & Accident Hospital then patients were followed up at orthopedic outpatient clinics.* **Subjects:** *Purposive sample of 52 patients at orthopedic department selected according to inclusion and exclusion criteria.* **Tools:** *Three tools were used. Assessment interview questionnaire sheet includes demographic and health relevant data, knowledge assessment sheet and Baird and Jackson Scoring System (BJSS).* **Results:** *Showed statistically significant improving of both physical activity and functional ability level after the application of instructional guidelines.* **Conclusion:** *The study concluded that there was an effective effect of instructional guidelines on improving physical activity and functional ability among pott`s fracture patients.* **Recommendation:** *It was recommended that Handout with instructional guidelines should be distributed and be available for every Pott`s fracture patient admitted to orthopedic department, which are supported by the presence of a nutritionist and exercise trainer.*

Keywords: *Functional ability, Instructional guidelines, Physical activity, Pott`s fracture Patients.*

Introduction

Pott's fracture, also well-known as Pott's syndrome and Dupuytren fracture, is an ancient term loosely applied to a variety of bimalleolar ankle fractures **(Hunter, Peltier, and Lund, 2000).** English physician who names Percivall Pott experienced this injury in 1765 and explained his clinical findings in a paper published in 1769 **(Pott, 1769).**

Fractures of the ankle joint are among the most frequent fractures encountered in any accident and emergency department **(Tengberg and Ban, (2018).** A Pott's fracture often happens Jointly with other injuries such as an ankle dislocation, an inversion injury, or other fractures of the foot, ankle, or lower leg that can differ in location, severity, and type including displaced& un-displaced fractures, bi-malleolar fractures, or compound fractures **(Bhoomi physiotherapist, 2020).**

Nonsurgical conservative management complications may involve complex regional pain syndrome, compartment syndrome, dislocation, limited range of motion (ROM), or inner pressure ulceration. Surgical management complications may involve complex regional pain syndrome, compartment syndrome, limited ROM, wound hematoma, impaired wound healing, dislocation, mispositioned screws, inadequate reduction, malunion, malposition, impingement syndrome, or arthrosis **(Testa, et al., 2019).**

The goal of operative management of ankle fractures is to provide painless full range of motion of ankle, union at the fracture site and anatomical restoration of the injured ankle **(Kumar & Gopal, 2019)**.

Although early mobilization was advocated, immobilization within the initial post-operative period has also been supported. immobilization till suture removal in plaster cast followed by mobilization and partial weight reduction was used successfully. Initially, the range of motion was reduced but after removal of the cast, the ankle movement becomes rapidly better. Several different treatment regimens are suggested **(Badgire, 2017).**

There are numerous available outcome measures to assess ankle fractures. Some of them are designed to evaluate function limitation whilst others depend on patient reported outcome measures, that focus on patients reports on their activities of daily living, pain, and other functional outcomes **(Ng, Broughton and Williams, 2018).**

The nurses must guide the patient to best methods to relieve side effect to prevent edema and discomfort planning to help in modifying the environment to improvement security e.g. relieving any movement obstacles in the environment **(Sanghvi et al., 2017).**

Pott's fracture may lead to physical inactivity and subsequent mobility limitation and disability. Regular physical activity and healthy guideline has been associated with better outcomes in the post pott`s fracture period **(Motwani, et al., 2015).**

- **Significance of the study**

Ankle fractures happen at a rate of 174 per 100000 adults per year. For those presenting to healthcare facilities who have a chief complaint of ankle injury in the emergency department, 15% are attributed to ankle fractures. Medicare reports that 8.3 out of every 1000 Medicare recipients experience an

ankle fracture each year **(Barile, et al., 2017).**

In Egypt, it is difficult to get precise pott`s fracture statistics due to lack of an accurate national reporting system. The statistical records of Mansoura University Emergency & Accident Hospital revealed that 4200 different fracture cases, 140 pott`s fracture of them were performed in the year 2018 **(Statistical Records of Mansoura University Emergency & Accident Hospital, 2018).**

Unfortunately, there is no policies protocol and guidelines regarding the using of instructional guidelines to decrease physical inactivity and functional disability. Therefore, the current study was to evaluate the effect of instructional guidelines to improve physical activity and functional ability among pott`s fracture patients.

- **Aim of the study**

To evaluate the effect of instructional guidelines for patients with pott's fracture to improve physical activity and functional ability.

2.1. Research Hypotheses:

H_1- Level of knowledge among patients with pott's fracture will be improved after application of pott's fracture instructional guidelines.

H_2- Physical activity and functional ability among pott's fracture patients will be enhanced after application of pott's fracture instructional guidelines.

- **Subjects and Methods**

3.1. Research Design

Quasi-experimental study design was utilized to carry out this study.

3.2. Setting

This study was accomplished in orthopedic Unit at Mansoura University Emergency & Accident Hospital. Then Patient is followed up at orthopedic outpatient clinics.

3.3. Subjects

A purposive study sample of 52 patients within the previous mentioned setting and met the following criteria:

Inclusion Criteria:

- Aged between 20–60 years old.
- Both sexes.
- Able to communicate.
- Willing to participate in physical exercise.

Exclusion Criteria:

- Unable to give a consent.
- Another type of fracture (pathological fractures).
- Cancer patient especially (bone cancer).

Sample size:

Sample size was calculated by G*Power software for Windows (version 3.1.9.2). According to Statistical Records of Emergency Hospital (Mansoura University), 140 Pott`s fracture were operated in the year 2018. Achieving 81% power to detect a large effect size (d=.8) between the null hypothesis that both group mean scores will be rather the same and the alternative hypothesis that the mean score of group 1 (intervention group) will be better & a significance (alpha) of 0.050 using a 2-sided 2-sample t-test **(Faul, et al., 2009).**

3.4. Tools of Data Collection:

Data were collected by using the following tools:

3.4.1. Tool I: Interview Questionnaire Sheet

This tool was developed by the researcher based on reviewing related literatures to collect demographic characteristics& health relevant data, and was encompassing of two parts:

Part 1: Demographic Data Sheet: This part included age, gender, residence, marital status, level of education, occupational status and work nature.

Part 2: Health relevant data sheet: This branch was used to examine causes of fracture, other health diseases, previous fractures, previous surgery and previous physiotherapy.

3.4.2. Tool II: Knowledge Assessment Sheet

This tool was established by researcher after reviewing the relevant literature to assess patient`s level of knowledge and to identify patients learning needs as before and after requisite for planning and assess the guidelines. It consists of (**eighteen**) multiple choice questions, which was divided into two parts:

Part (1): General knowledge about Pott`s fractures: This part was consisted of six closed ended questions, which included; definition, causes, symptoms, complications, complication prevention and treatment options of Pott`s fractures.

Part (2): knowledge about life style and exercise: This part was consisted of twelve closed ended questions, which included; nutrition for fracture healing, coffee drinking effect, smoking effect, analgesic disadvantages, normal healing duration, the possibility of practicing exercises after surgery, benefits of exercise, types of exercises, what is the duration of the exercises and how many times per day, doing passive or active exercise and reasons for not exercising.

Scoring system: Each question had a group of answer points, each correct answer was given one grade while unknown, incorrect or missed answer was given zero. The total score ranged from 0 to 37. A higher score indicated better Knowledge. **3.4.3.**

Tool III: Baird and Jackson Scoring System (BJSS)

This tool was adopted from **suthar (2015)** to assess the the subjective, objective, and radiographic criteria of the pott`s fracture patients to determine physical activity and functional ability.

This scale consists of seven items as: pain, ankle stability, ability to walk, able to run, able to work, ankle motion & radiology outcome.

Scoring system: Score of pain, stability of ankle and ability to walk was ranged from zero to fifteen. While score of ability to run, ability to work and motion of the ankle was ranged from zero to ten and radiographic result was ranged from fifteen to twenty five. The total score ranged from 0 to 100. Then the total scores were transferred into the following categories:

- Excellent 96–100
- Good 91–95
- Fair 81–90
- Poor 0–80

3.5. Content validity

The proposed tools were tested for content validity by experts in medical-surgical nursing three professors affiliated to Mansoura university to assess the relevance and clearance of each item on 3-points Likert scales. The content validity index per item ranged from 0.8 to 1.0 for both relevance and clarity and accordingly needed modifications were done.

3.6. Pilot study

It was piloted on (6) patients to ascertain the applicability, relevance, & clarity of the developed tools and to estimate the time needed to fill the questionnaire sheet. Those patients were excluded from the study.

3.7. Field Work

Data was collected from the beginning of October 2019 till February 2020 and took five months. Data was collected in three phases that is to say: assessment phase, implementation phase, and evaluation phase:

3.7.1. Assessment phase

The researcher started this period by explaining the purpose of the research, tools components, and the patient's oral instructions were given. The needed time for finalizing the questionnaire was ranged from fifteen-twenty minutes for each patient.

Implementation phase:

Goals and expected outcomes were formulated, accordingly based on the findings of the assessment phase. Furthermore, the researchers developed the instructional guidelines in simple clear Arabic language. In this phase, the selected patients who were recruited by the researcher were interviewed twice throughout the study period.

The first interview was carried out by the researcher for each participant to collect basic data concerning their relevant demographic, health relevant data, and Knowledge Assessment Sheet data. The interview carried out at their departments in the hospital then followed in orthopedic outpatient clinics. It took about fifteen to twenty minutes using tools (I and II). To complete these tools the researcher followed:

The researcher presented guidelines in three session each session takes about 20 to 30 minutes. Before beginning the session, the researcher presented an orientation about the whole guidelines, diverse teaching media were used involved coloring pictures, videos in order to help patient in doing exercises. Simulated booklet supported by diagrams and pictures was given.

Post that, every session was presented with summary of what has been previously explained. Motivating to get best are using by the researcher through the session to enrich patient`s teaching.

The developed guidelines (available upon request from the corresponding author) include the following: chapter I(definition of pott's fracture, signs& symptoms and causes) chapter II(methods of prevention and treatment options) chapter III(health education about diet and exercise) chapter IV(Instructions to avoid the problems that the patient may encounter).

After removing the cast, the researcher asked the patient to describe, pain, ability to work, walking, running, ankle movement and patients were referred to Radiology Department to be investigated for radiographic result and using (**Tool III**) to collect these data.

It is not recommended to start doing any exercises after an X-ray is made and clears radiological union of the bone in order to prevent a second fracture whether the treatment is a surgery or conservative treatment.

The second interview was done a month after the application the guidelines, and the following tools were used (**II and III**) as a posttest.

3.7.2. Evaluation phase

This phase was emphasized for estimating the effect of the intervention to determine whether the aim of the study has been achieved or not, by comparing the pre- and post-implementation of instructional guidelines on improving physical activity and functional ability for patients with pott's fracture.

3.8. Ethical Considerations and Human Rights
3.8.1. Ethical approval
Ethical approval was approved by Research Scientific Ethical Committee (Reg no.196 in july21.2019) at Faculty of Nursing, Mansoura University.

Before conducting the study, official letter was submitted from the faculty of Nursing at Mansoura university to the director of Mansoura University Emergency & Accident Hospital to obtain his approval to conduct the study.

3.8.2. Informed consent
Patients gave informed consent to participate voluntarily in the study, prior to the interview, with a full right to withdraw while ensuring the confidentiality of data and anonymity.

3.9. Statistical analysis

Data were entered and analyzed via IBM-SPSS software (IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.).

Quantitative data were expressed as median and interquartile range (IQR). Z-test was utilized with Bonferroni measure to modify p values when comparing column proportions. Paired-Samples t-test was utilized for normally distributed data and the non-parametric alternative; Wilcoxon's signed Ranks test was used if not.

Correlation Tests used (Spearman's correlation (Coefficient = r_s), Point Biserial correlation (coefficient = r_{pb}), The eta coefficient (coefficient = η). For any of the utilized tests, results were considered to be a statistically significant if p value ≤ 0.050.

- **Results**

Table (1): Comparison between patient's knowledge pre and post guidelines intervention.

Knowledge	Pre-Guidelines	Post Guidelines	Z value	P value
Score (Maximum=37): **Median (IQR):** **Range:**	**9 (8 - 10)** **6 – 13**	**25 (24 - 27)** **20 - 30**	**-6.303**	**<0.001**
Percentage score: **Median (IQR):** **Range:**	**24.3 (21.6 - 27)** **16.2 - 35.1**	**67.6 (64.9 - 73)** **54.1 - 81.1**	**-6.292**	**<0.001**

P value: Wilcoxon Signed Ranks Test Cont,

Table (2): Comparison between patient's physical activity and functional ability by Baird and Jackson Scores pre and post guidelines intervention

Item	Score	Frequency (Percentage)				P value
		Pre Guidelines		Post Guidelines		
Pain:						<0.001
No Pain.	15	0	(0%)	0	(0%)	
Mild Pain with strenuous activity.	12	0	(0%)	6	(11.5%)	
Mild Pain with activities of daily living.	8	6	(11.5%)	30	(57.7%)	
Pain with weight bearing.	4	44	(84.6%)	16	(30.8%)	
Pain at rest.	0	2	(3.8%)	0	(0%)	
Stability of Ankle:						<0.001
No Clinical instability.	15	0	(0%)	7	(13.5%)	
Instability with sports activities.	5	29	(55.8%)	35	(67.3%)	
Instability with activities of daily living ability to walk.	0	23	(44.2%)	10	(19.2%)	
Able to Walk:						<0.001
Able to walk desired distances without limp or pain.	15	0	(0%)	0	(0%)	
Able to walk desired distances with limp or pain.	12	0	(0%)	7	(13.5%)	
Moderately restricted inability to walk.	8	24	(46.2%)	34	(56.4%)	
Able to walk short distance only.	4	24	(46.2%)	11	(21.2%)	
Unable to walk.	0	4	(7.7%)	0	(0%)	

Cont, Table (2): Comparison between patient's physical activity and functional ability by Baird and Jackson Scores pre and post guidelines intervention

Item	Score	Frequency (Percentage)				P value
		Pre Guidelines		Post Guidelines		
Able to Run:						<0.001
Able to run desired distances without Pain.	10	0	(0%)	0	(0%)	
Able to run desired distances with slight Pain.	8	0	(0%)	7	(13.5%)	
Moderate restriction in ability to run with mild pain.	6	24	(46.2%)	34	(65.4%)	
Able to run short distances only.	3	21	(40.4%)	10	(19.2%)	
Unable to run.	0	7	(13.5%)	1	(1.9%)	
Motion of the Ankle:						<0.001
Within 10 degrees of uninjured ankle.	10	0	(0%)	0	(0%)	
Within 15 degrees of uninjured ankle.	7	7	(13.5%)	35	(67.3%)	
Within 20 degrees of uninjured ankle.	4	29	(55.8%)	12	(23.1%)	
<50 degree of uninjured ankle, or dorsiflexion <5 degree.	0	16	(30.8%)	5	(9.6%)	
Radiographic result:						<0.001
Anatomical with intact mortise.	25	0	(0%)	0	(0%)	
Same as with mild reactive changes at joint margins.	15	0	(0%)	0	(0%)	
Measurable narrowing of superior joint space.	10	5	(9.6%)	35	(67.3%)	
Moderate narrowing of superior joint space.	5	31	(59.6%)	12	(23.1%)	
Severe narrowing of superior joint space.	0	16	(30.8%)	5	(9.6%)	
Ability to Work:						<0.001
Able to perform usual occupation without restrictions.	10	0	(0%)	0	(0%)	
Able to perform usual occupation with restrictions in some strenuous activities.	8	0	(0%)	3	(5.8%)	
Able to perform usual occupation with substantial restriction.	6	10	(19.2%)	32	(61.5%)	
Partially disabled.	3	31	(59.6%)	12	(23.1%)	
Unable to work.	0	11	(21.2%)	5	(9.6%)	
Median total score.		27.5	(52.1%)	50	(95.3%)	<0.001

Table (3): Correlation between Baird & Jackson's (BJSS) and Knowledge score pre and post guidelines.

Timing	r_s value	P value
Pre guidelines	0.194	0.168
Post guidelines	0.103	0.468

Table (4): Correlation between demographic data and total Knowledge score

Variable	Total Knowledge score (Pre guidelines)		Total Knowledge score (Post guidelines)	
	Coefficient	P value	Coefficient	P value
Age	0.177	0.210	-0.032	0.825
Sex	0.041	0.771	-0.063	0.655
Residency	-0.165	0.242	0.134	0.345
Living status	0.015	0.917	0.167	0.236
Read & write	-0.123	0.385	-0.063	0.656
Marital status	0.145	0.056	0.042	0.559

*Spearman's correlation (Coefficient = r_s), **Point Biserial correlation (coefficient = r_{pb}),
*** The eta coefficient (coefficient = η).

Table (5) Correlation between demographic data and total Baird & Jackson's (BJSS)

Variable	BJSS (Pre guidelines)		BJSS (Post) (Post guidelines)	
	Coefficient	P value	Coefficient	P value
Age	-0.121	0.395	0.119	0.399
Sex	0.003	0.985	-0.080	0.575
Residency	-0.167	0.237	-0.174	0.216
Living status	0.107	0.450	0.018	0.901
Read & write	0.004	0.979	-0.139	0.324
Marital status	0.072	0.308	0.187	0.018

*Spearman's correlation (Coefficient = r_s), **Point Biserial correlation (coefficient = r_{pb}),
***The eta coefficient (coefficient = η).

Table(1) Illustrated that improvement in knowledge of study sample post guidelines implementation VS pre guidelines implementation where the median total score (and percentage) was 25/37 (67.6%) post guidelines implementation vs. 9/37 (24.3%) pre guidelines implementation.

Table (2) Portrayed that there was an improvement in physical activity and functional ability of studied sample by using Baird and Jackson's Scoring System. There was statistically significant higher score with P value (<0.001) post implementation guidelines vs. pre implementation with median total score was (95.3%) good to excellent result post guidelines vs. (52.1%) poor results pre guidelines.

Regarding to pain, it was improved and decreased post guidelines vs. pre. Concerning to stability of ankle, ability to work, walk &run and motion of ankle were statistically significant improved also post guidelines vs. pre with P value (<0.001).

Table (3): Presented that, there was no statistically significant

correlation between BJSS and knowledge score whether pre or post guidelines.

Table (4) Shows that there was no statistically significant correlation between any of the studied sample demographic data and total Knowledge scores pre and post guidelines implementation.

Table (5): Clears that there was no statistically significant correlation between any of the studied sample demographic data and total BJSS scores (pre intervention). However, marital status post intervention had statistically significant correlation with p value 0.018.

- **Discussion**

Pott`s fractures which is a form of ankle joint Fractures can be treated conservatively or surgically. Nonsurgical conservative treatment option is indicated for un-displaced and stable fractures or when stable reduction has been achieved in displaced fractures. Open reduction is used in case of closed reduction failure, displaced and unstable fractures. Surgery aims to achieve anatomical reduction and stable fixation so that early joint mobilization can begin **(Khare, et al., 2017).**

Post-operative rehabilitation may be an obligatory a part of the entire management concept after orthopedic surgeries. It's distinguished that physiotherapy is understood to possess many benefits in restoring mobility of impaired extremities **(Quadlbauer, et al., 2020).** The nurse becomes a crucial a part of the program **(salem, et al., 2012(.**

In a systematic review, **Bruder et al. (2017)** who concluded that, shorter immobilization combined with earlier mobility has a positive effects on raising the level of participation and activity, reducing of impairment, helping diminish pain, swelling and edema which will affect connective tissue and decreased ROM. Decreasing immobilization enables patients to enhance daily activities, improve quality of life and prolong exercise time.

This study is the first one among its kind during which the effect of instructional guidelines of pott`s fracture is applied for improving physical activity and functional ability of those patient.

Pott`s fracture patients report physical activity and functional ability limitation after surgery which is why they'll improve their acceptance of this procedure.

On studying the patients knowledge about pott`s fracture, the findings of this study showed that the bulk of patients had poor knowledge before instructional guidelines as compared with after intervention of the educational guidelines, the studied patient achieved an honest good score of data where the median total score (and percentage) after intervention vs before intervention.

The positive response to the offered information could also be thanks to the influence of instructions beside the participants adherence with these instructions offered by the researcher. But we all agree for an extended time that giving awareness information and guidance increases the positive culture of the individual and society and limits the spread of diseases and wrong habits.

This result in accordance with **Kalaventhan, et al., (2018)**, in Srilanka who study the knowledge of patients who were treated for fractures with open reduction and internal fixation. This study found poor knowledge and false beliefs so need for education may help to enhance knowledge and reduce patients' false beliefs.

Similarly, various patients suffer from fractures are unaware of significant risk factors throughout a study by **Giangregorio, et al., (2010)** who evaluate osteoporosis knowledge among patients with fractures in Canada.

However, this contradict the results of **Lee, et al., (2014**) who applied his study on Taiwan and reported that despite patient education from hospital nurses, hip fracture patients and their relatives may have additional education. Also, **Kanakalakshmi, Latha and Arumuga, (2019)** who apply a descriptive study in India and mentioned that majority of orthopedic patients obtained B grade knowledge which suggests good knowledge.

In references to functional outcome of studied group by using Baird and Jackson's rating system. it had been determined that there was statistically significant higher score post implementation guidelines vs. pre implementation with median total score was (95.3%) good to excellent result post guidelines vs. (52.1%) a poor result pre guidelines which suggests instructional guidelines had statistically significant positive effect on improving physical activity and functional ability.

These findings are congruent with **Badgire, (2017),** who emphasized that as per the Baird Jackson rating system, eighty three percent cases had good to excellent results, nearly thirteen percent had fair and nearly four percent of the cases had poor results respectively which suggests Good functional outcome are often achieved. **(Vaghela., et al., 2018; Kumar & Gopal, 2019; Kakkar, Mehta, & Sisodia, 2019; Patil, et al., 2020)** goes with an equivalent line of those results.

Regarding to pain, it had been improved and decreased post guidelines vs pre guidelines. Concerning stability of ankle, ability to work, walk, run, motion of ankle and radio graphical result were improved also post guidelines vs. pre.

These results attributed to health instructions that given to patients about importance of practicing exercises throughout the study. Also, frequent observation combined with participation and supervision of proper and effective performance of exercise to make sure improvement of patients.

In contrast the study that examined functional outcome of closed ankle fractures treated by open reduction and internal fixation in India by **Kumar & Gopal, (2019)** showed a big improvement within the subjective assessment of pain, walking, levels of activity, subtalar and ankle joint functions post operatively, even the radiographic assessment was improved. Additionally, **Egol, et al., (2006)** in United states who noted that patients are doing well in general, with most experiencing light or mild pain and minimal restrictions in functional activities. they need a big function improvement.

The scoring system presented during this study correlates significantly with different parameters considered to offer an honest and good assessment of the clinical results after ankle fractures this means clearly the advantages of this detailed and standardized system. This study showed no statistically significant correlation between BJSS and knowledge score whether pre or post intervention. It had been expected that there was a connection between them, but the present result confirmed the lack of a relationship.

The current study emphasized that there was no statistically significant correlation between demographic data

and Knowledge score. However, these results contradict the results of **Kanakalakshmi, Latha and Arumuga, (2019)** who reported that demographic variables, age and education had significant association with level of data at P< 0.05 level. this might be explained within the light of the patients with a better education level, have a better chance to access more knowledge about their health problems but, this is often a scarcity of a relationship.

The present study showed that there was no statistically significant correlation between any of the studied demographic data and total BJSS scores pre intervention. However, marital status post intervention had statistically significant correlation with p value 0.018. This may be because marriage is not related to better health but being in a well-organized or non-faltering marriage is associated with less pain and better functioning.

Within the other way in India a study by **Mohapatra & Raj (2018)** who investigate Functional outcome after surgery of ankle fracture using Baird Jackson score and revealed that a significantly related to older age (p<0.001) and Supination external rotation was also found to be significantly associated (p<0.01) but Gender of the patients wasn't found to be significantly associated.

In addition to **Kumar & Gopal, (2019)** who cleared outcome was better for young and middle-aged patients than the older patients. Also, Younger age, being male and not having diabetes are prognostic of functional recovery **(Egol, et al., 2006(.**

The study showed a statistically significant improvement in physical activity and functional ability post application of instructional guidelines,

which pointed to the hypothesis of the present study was implemented and accepted that, the instructional guidelines had a positive effect among patients with pott's fracture.

- **Conclusion**

The analysis of the data reveals that:

- The instructional guidelines have a highly statistical significance on reducing physical inactivity and functional disability among pott`s fracture patients.
- Showed a statistically significant higher Knowledge score and BJSS score post intervention vs. pre intervention.
- There was no statistically significant correlation between demographic data and both Knowledge score (pre and post) intervention and BJSS score except for marital status post intervention.
- No statistically significant correlation between BJSS and knowledge score whether pre or post.

- **Recommendations**
- Handout with instructional guidelines should be distributed and be available for every Pott`s fracture patient admitted to orthopedic department, which are supported by the presence of a nutritionist and exercise trainer.
- Further educational programs should be recommended and suggested for all health care workers (HCWs) especially newly recruited nurses should attend in-service training program about dealing with orthopedic patients.
- Further studies are needed in order to develop more accurate and realistic strategies for improving physical activity and functional

ability for Pott`s fracture Patients in other hospitals with larger samples.

- **Limitation of study**

Low sample size and short term follow up are the limits of the study.

Acknowledgments

Researchers wish to extend their gratitude and appreciation to everyone who helped with this research.

Conflict of interest

The authors declared there is no conflict of interest

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