ORIGINAL ARTICLE

Identification of Barriers in the Reintegration of Pakistan Military Amputees at the Workplace: A Cross Sectional Study

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ABSTRACT:

Objective: : To identify barriers in the reintegration of Pakistan military amputees at their workplace and to suggest remedial measures.

Methodology:A cross-sectional questionnaire-based study was planned and hospital ethics committee approval was obtained. Two part survey was constructed consisting of demographics and questions about the possible barriers at the workplace. Fifty eight military amputees (20-60 years, with disability class A and B due to major amputation of a limb) were approached and requested to fill in the questionnaire after explaining the rationale and possible benefits of the study. Response rate was 100 %.

Results: All patients were males. Most of the patients had trans-tibial amputation (41). Majority were matriculate and earned between Rs. 20,000- 40,000 (53.4%). All patients were provided with latest modular prosthesis of Ottobock (Germany) and Ossur (USA), free of cost with life time maintenance and replacement by Armed Forces Institute of Rehabilitation Medicine (AFIRM). Majority of the patients could ambulate independently, were confident after provision of prosthesis and were spared by their units for timely follow-up. Major barriers included lack of accessible washrooms in the unit, too much time off-work and lack of confidence even after provision of prosthesis.

Conclusion: Amputee rehabilitation can lead to successful and complete community re-integration. Pakistan Army is providing comprehensive amputee rehabilitation services to those who sustain a limb loss. However, certain barriers can hinder the rehabilitation process and it is important to identify and remove these barriers for better functional outcomes in amputees.

Keywords: Amputation, Pakistan, Military medicine, Barriers, Re-integration

INTRODUCTION:

Amputation is the intentional surgical removal of a limb or body part.[1] It is one of the oldest surgical procedures known to mankind.[2] Pakistan is a front line ally in the global war against terrorism since 2002.[3] More than 6600 security personnel have sacrificed their lives while many more have sustained long term permanent disabilities.[4] The most common major disability sustained in this war against terror is lower limb amputation.[5] Amputee rehabilitation for the War Wounded personals (WWP) in the West started after the world war II,[6] and lead to development of comprehensive programs for the military amputees which deliver a coordinated and advanced rehabilitation services and prosthesis.[7,8] In Pakistan WWP are evacuated to base hospitals (Combined Military Hospital [CMH]) for definitive treatment. Amputees and WWP with major long-term disabilities are then transferred to AFIRM Rawalpindi for rehabilitation services and provision for prosthesis.[2]

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All amputees are assessed on arrival by a multidisciplinary rehabilitation team lead by a physiatrist (Rehabilitation Medicine Physician) and a comprehensive amputee rehabilitation plan is devised with the aim of regaining maximum independence. This includes the recommended steps like preparation of residual limb, identification and management of complications arising from the amputation, exercise plan, psychological counseling, occupational therapy, provision of mobility aids, fabrication of modular prosthesis and gait training.[9] Multidisciplinary teams have better outcomes for prosthetic rehabilitation[10], and a physiatrist is better suited to direct and coordinate the overall care of the suited amputee.[11]

As per the 2012 GHQ policy of retention of WWP in active service, all amputees are given vocational training (a process which aims to equip them with knowledge, know-how, skills and/or competences required in particular occupations ranging from 6 weeks to 3 months)[12] during rehabilitation, according to their disability, physical capacity, education and interest in the field with an aim to make them productive and useful member of the society. Most of them during their stay at AFIRM learn to lead a modified independent life. However, they face several physical and environmental barriers in their workplace when they return to their units. This may restrict and confine them to their homes thus making rehabilitation process ineffective. Therefore, current study was done with an aim to identify barriers in the reintegration of Pakistan military amputees at their workplace and to suggest remedial measures.

METHODOLOGY:

A cross sectional questionnaire based study was planned. Study approval was obtained from Hospital

Ethics Committee of AFIRM, Rawalpindi. AFIRM is a tertiary care military rehabilitation institute, largest of its kind in the country providing multidisciplinary rehabilitation services under physiatrist (rehabilitation medicine specialist) supervision.[13] It is a military institute with 100 bed indoor, setup primarily providing services to the military personnel. Civilians can also avail services by paying the treatment charges.

STUDY QUESTIONNAIRE:

A two-part questionnaire was constructed. First part was demographic information. The second part consisted of questions about the experience and satisfaction of the amputees with the rehabilitation services being provided and the barriers they had faced in the unit and community. In the end, space was provided to describe their experience of living in the unit and community after the amputation. The questionnaire was translated into Urdu language for the Junior commissioned officers (JCOs) and other ranks while the officers filled the English questionnaire.

Fifty-eight amputees fulfilling the inclusion criteria were approached and requested to fill in the questionnaire after explaining the rationale and possible benefits of the study. These included male amputees between 20-40 years, with disability class A and B due to major amputation of a limb. Non-traumatic amputations due to vascular and oncological diseases were excluded as they have a different outcome and ongoing medical needs. We used convenient sampling technique and approached the amputees reporting to the outpatient department of AFIRM as well as those admitted in AFIRM and officers ward of CMH Rawalpindi. There was no officer with amputation admitted in CMH during the study period. Therefore, we approached the amputee officers undergoing various courses at Military College of Signals, Rawalpindi. All participants gave verbal informed consent to participate in the study.

Data was checked for omissions, errors and discrepancies. It was entered in Microsoft excel and analysis was by SPSS V.19. Descriptive statistics were calculated for variables like age, level and site of amputation and answers to individual questions.

RESULTS:

There were fifty-eight amputees enrolled with a response rate of 100%. Some patients did not answer all questions and their responses were excluded from the final analysis. All patients were males. Most of the patients had trans-tibial amputation (41) followed by trans-femoral (11) and upper limb amputation (6). Most were matriculate and earned between Rs. 20,000- 40,000 per month.(53.4%). Demographics of the patients are summarized in Table-1. All patients were provided with latest modular prosthesis of Ottobock (Germany) and Ossur (USA), free of cost with life time maintenance and replacement by AFIRM.

Majority of the patients could ambulate independently, were confident after provision of prosthesis and were spared by their units for timely follow-up. The detailed responses to the barriers in reintegration are described in Table-2.

Table: 1
Basic Demographics

Gender		
•	Males	58 (100%)
•	Females	0 (0%)
Age groups (years)		
•	21-30	44 (75.9%)
•	31-40	10 (17.3%)
•	41-50	4 (6.8 %)
Educational status		
•	Matriculate	35 (60.3 %)
•	High School/ FA/ FSc	14 (24.1%)
•	Graduates	09 (15.5 %)
Level of amputations		
•	Trans-femoral	21 (36.2 %)
•	Trans-tibial	32 (55.2 %)
•	Trans-radial	5 (8.6 %)
Side of amputation		
•	Right	26 (44.7%)
•	Left	28 (48.8%)
•	Bilateral	04 (6.5%)
Socioeconomic status (Salary per month in Rs)		
•	10,000 -20,000	8 (13.8 %)
•	20,000- 40,000	31 (53.4 %)
•	> 40,000	19 (32.8%)
Marital status		
•	Married	33 (56.9 %)
•	Single	25 (43.1 %)
Time since discharge and provision of prosthesis		
•	Less than 1 year	14 (24.1%)
•	1-2 years	05 (8.6%)
•	2-3 years	12 (20.7%)
•	More than 3 years	21 (36.2%)
•	Did not answer	06 (10.3%)

Table-2
Barriers faced by the study respondants

Is your unit accessible/ compatible with your disability?	
• Yes	35
• No	23
Do you have disable friendly washrooms in your unit?	
• Yes	27
• No	24
• Did not answer	07
What is your mobility status?	
• Can walk independently	50
• Can walk with gait aids	05
• Cannot walk	03
Do you feel confident after provision of prosthesis?	
• Yes	30
• No	17
• Did not answer	11
What is the attitude of your unit towards your placement?	
• The unit wants me to stay back in unit	39
• The unit wants me to stay at home on long leaves	02
• It is my decision to stay in the unit or remain on leaves at home	10
• Did not answer	07
Are you spared by the unit for timely follow-up?	
• Yes	47
• No	5
• Did not answer	6
How much leave have you availed after provision of prosthesis?	
• 1-3 months	14
• 4-6 months	15
• 7-9 months	11
• More than 12 months	14
• Did not answer	4

DISCUSSION:

This is the first attempt to objectively document the barriers being faced by WWP with a major amputation in Pakistan military. This is important for a number of reasons. First, amputation is a permanent lifelong disability with no cure available in the current medical practice. Although a comprehensive multidisciplinary rehabilitation allows enhanced mobility but barriers can limit the participation of the amputee in the society and workplace.[14,15] Identification of these barriers can help address these issues and improve the community reintegration of these individuals. More civilians than military personals have lost their lives and suffered from permanent injuries in the last fifteen years as a consequence of participation of Pakistan as a front line ally in the global war against terrorism. There is no central trauma registry or national level plan to collect data on these terrorism-related injuries. The rehabilitation services for civilian amputees in Pakistan are limited and they do not get the comprehensive amputee rehabilitation services as the military veterans. There are only few public centers providing prosthetic rehabilitation services (located in Karachi, Rawalpindi and Peshawar) to the public. Many of the civilians have to go to the prosthetic service providers in the private sector.

Recent advances in the medical care in the battle field, personal protection gear and improved evacuation chain have led to a reduced mortality associated with war wounds.[16,17] At the same time it has resulted in an increased number of survivors with major disabilities like amputations. These amputees can have psychological issues with readjustment in the society and community and this needs to be addressed with multifaceted interventions.[18,19] Apart from the

psychological problems, amputees can have a number of other issues as well. These include skin problems like wounds, abscess, blisters, acroangiodermatitis, allergic contact dermatitis, bullous diseases, epidermal hyperplasia, hyperhidrosis, infections, malignancies and ulcerations.[20,21] Amputees have a higher incidence of different forms of chronic pain like phantom pain, residual limb pain, and back pain.[22,23] Amputees are more prone to develop fear of fall and are at high risk of falls when they start ambulating with the prosthesis.[24,25] This data has been reported mostly from amputees in the West and the developed countries of the world. There is no comprehensive data base established in Pakistan to study amputees and their problems.

All amputees in this study were males as currently only males are employed in infantry and other fighting arms which are performing services in the conflict zones in Pakistan. Majority (75.9%) of the amputees in this cohort were in their 20s. The major barriers identified by the amputees included lack of accessibility, lack of disabled friendly washrooms, and too much time off-work. The negative attitudes faced by some amputees in the unit were reflective of the general negative attitudes prevalent in our society regarding (Persons with disability) PWDs[3] and should not be considered a discriminatory attitude towards these WWP. Similarly the lack of disabled friendly washrooms is a common issue all around the country where barring few newly constructed mega-malls, it is impossible to find a disabled friendly public washroom. More than half of the respondents reported that the unit had either modified or constructed new washrooms keeping in view their disability. Some patients (17/58) were still not confident even after provision of prosthesis. The possible reasons could be reactive depression associated with a major limb loss, fear of rejection by the society and the negative perceptions about amputees in the society.

Other problems identified by the amputees were lack of written instructions and manuals at the time of discharge and lack of structural modifications in unit to make them more accessible.

There are some limitations of the study which warrant mentioning. The study sample was restricted to military veterans which have an excellent support system for amputee rehabilitation and provision of prosthesis. Therefore the results cannot be generalized to other amputees living in the public with lack of access to quality amputee rehabilitation services. We did not correlate the levels of amputations with the barriers faced and the impact of these barriers on the quality of life and well-being of the amputees. This should be explored further. We did not explore the impact of these barriers by detailed interviews. This can be a research topic for a future qualitative study. Some of the amputee despite the reassurance about anonymity of the data did not answer some questions indicating that in the military hierarchy people sometimes are reluctant to express themselves. We did not explore further the reasons for not answering certain questions.

RECOMMENDATIONS:

We recommend following measures at different levels to facilitate successful community reintegration of the amputee of the Pakistan Army.

1. There is need to increase the trained manpower at AFIRM to cater for the increasing load of complex disabilities. In addition, the rehabilitation medicine departments in the peripheral class A CMHs particularly those located in the provincial capitals need a major upgrade. This will ensure that amputees and PWDs all around the country can avail quality rehabilitation services near to their units and homes instead of traveling all the way to AFIRM, Rawalpindi.
2. Standard and duration of vocational training at AFIRM should be enhanced. There is need to the develop department of vocational training on scientific grounds and increase the number of vocational courses being offered.
3. Multidisciplinary team approach including physiatrists for management of major disabilities like Spinal cord injury (SCI), amputations and traumatic brain injury (TBI) should be employed right from the start to reduce the length of stay, reduce complications from long-term immobility and facilitate early mobility and rehabilitation.
4. Final disability at discharge should be assessed not only based on medical diagnosis but functional assessment and mobility. Rehabilitation medicine specialists who specialize in disability assessment should do this task as per WHO model of disability.
5. Counseling and education of family members and care givers of all amputees and WWP must be carried out during the indoor stay and at the time of discharge. They should also be provided clear written instructions in Urdu for follow up plan and home-based exercise.
6. Unit administration and unit comrades should be educated to remove any bias towards the WWP with disability. They must pay special attention to facilitate, support and motivate their WWP and consider the amputees as part of their units. Efforts should be made to reintegrate them back into the units by making work environment disabled-friendly, offering sedentary jobs and tasks not requiring strenuous physical work.
7. Young amputees usually have a long life to live. If they are provided comprehensive and timely rehabilitation services it leads to better and complete re-integration and these young amputees can be a useful productive member of the society. The barriers can restrict their community re-integration and need to be identified and removed.

CONCLUSION:

Main barriers identified by the amputees in this study include lack of accessible washrooms, negative attitudes of the unit comrades toward their disability, lack of written instructions at the time of discharge and too much time off work. It is important to identify and

remove these barriers for better functional outcomes in amputees.

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