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Prevalence of post stroke fatigue among stroke survivors in rehabilitation at physiotherapy facilities in Nigeria

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Abstract

Poststroke fatigue (PSF) is a debilitating but often neglected consequence of stroke. This cross-sectional study evaluated the prevalence of PSF among one hundred stroke survivors receiving physiotherapy in North-east Nigeria. Demographic and clinical data were obtained while PSF was assessed with the 9-item Fatigue Severity Scale. Descriptive and Chi-square statistics were used to respectively summarize the data, and explore the differences in prevalence of PSF among the age and gender sub-groups. The majority of the participants were males (66%). Mean age and mean post-stroke duration was 55.3 (SD 13.9 years) and 12.6 months (SD 19.3 months) respectively. Eighty-two (82%) participants were found to have PSF. Prevalence of PSF did not significantly differ based on the age (P= 0.42) and gender (P= 0.63) of the participants. The observed high prevalence of PSF emphasizes the urgent need for increased awareness and detection of PSF as well as effective PSF management.

Keywords: Poststroke fatigue, Prevalence, Nigeria.

INTRODUCTION

Post-stroke fatigue (PSF) is a common stroke sequla that is known to adversely affect several stroke outcomes [1-5]. Evidence exists on the negative effect of PSF on important outcomes such as health-related quality of life [1], and physical [5] and psychological [2] functioning of stroke survivors. Furthermore, PSF is a major and independent cause of disability [5] and it is known to impede the rehabilitation process [6]. In spite of the debilitating effects of PSF, there appears to be insufficient information on its frequency especially when compared to more obvious and visible stroke consequences such as motor impairments, and functional activity limitations.

While some information on the prevalence of PSF is available from developed countries with reports of rates as high as 70-77% [4, 7-8], there is an evident dearth of data from low-resource and developing countries such as Nigeria. Information on the prevalence of PSF is however required to highlight the gravity of the PSF problem which would subsequently alert all stakeholders in stroke care to the problem with a view of effectively addressing it. This is particularly important as PSF can affect the success or otherwise of stroke rehabilitation [7]. This study therefore examined the prevalence of PSF among stroke survivors undergoing rehabilitation at physiotherapy outpatient facilities in Nigeria. With physiotherapy being the mainstay of stroke rehabilitation in Nigeria as a result of the shortage of other rehabilitation professionals, stroke survivors undergoing physiotherapy are presumably recipients of almost all that stroke rehabilitative care presently entails in the country.

MATERIALS AND METHODS

Study design: A cross-sectional design was utilized.

Participants: One hundred stroke survivors undergoing rehabilitation at physiotherapy outpatient facilities at two government-owned hospitals in North-East Nigeria participated in the study. Inclusion criteria were being aged 18 years and above and ability to communicate verbally to enable the administration of the study instruments. Individuals with fatigue inducing co-morbidities such as cancers and rheumatoid arthritis were excluded from the study.

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Instruments:

Data Form

Demographic and clinical data were obtained from the participants and hospital clinical notes, and documented using specially designed data forms. Details of the data obtained from participants are presented elsewhere [1].

Fatigue Severity Scale (FSS)

The nine-item FSS [9] was used to assess PSF among the participants. The items evaluate how fatigue affects respondents' engagement in specific activities and severity of affectation is rated on a 7-point Likert scale that ranges from 1 (strongly disagree) to 7 (strongly agree). The total score on the scale is the arithmetic mean of the total score obtained from the nine items. Total score ranges from 1 to 7 and a score of ≥4 represented the presence of fatigue as has been previously established [9]. The FSS has a high internal consistency and is the most commonly used scale for assessment of PSF [8].

Procedure

Ethical approval for the study was obtained from the relevant institutional review committee. All data were obtained by the second author (AA) through face-to-face interviews over a period of three months in 2013.

Statistical analyses

Frequencies and percentages were computed to present the prevalence of PSF. In addition to frequencies and percentages, mean and standard deviation were used to summarize demographic and clinical data.

Chi-square statistic was used to examine differences in the prevalence of PSF differed based on the participants' gender and age at an alpha level of 0.05.

RESULTS

The majority of the stroke survivors that participated in the study were males (66%). Mean (SD) age and mean (SD) post-stroke duration was 55.3 (SD 13.9 years) and 12.6 months (SD 19.3 months) respectively (Table 1).

Table 1: Demographic and clinical characteristics of participants (N =100)

Characteristic	Value
Gender	
Male	f (66) % (66)
Female	f (34) % (34)
Age (years)	
Mean (SD)	55.3 (13.9)
Range	18-85
Poststroke duration (months)	
Mean (SD)	12.6 (19.3)
Range	0.5-144

Eighty-two (82%) participants were found to have PSF. Prevalence of PSF did not however significantly differ based on the age (P= 0.90) and gender (P=0.63) of the participants Table 2.

Table 2: Chi-square statistics to assess age- and gender-specific differences in the prevalence of PSF (N = 100)

Characteristic	Fatigue f (%)	No Fatigue f (%)	χ^2	P-value
Age (years)			**0.2**	**0.90**
< 65	58 (81.7)	13 (18.3)		
≥ 65	24 (82.8)	5 (17.2)		
Gender			**0.23**	**0.63**
Male	55 (83.3)	11 (16.7)		
Female	27 (79.4)	7 (20.6)		

DISCUSSION

Poststroke fatigue prevalence rate of 82% reported in this study is undoubtedly higher than all previous prevalence rates available in the literature [3-4], [7-8]. Although, the diverse instruments used to assess PSF in existing studies have been identified as likely being responsible for variations in prevalence rates across studies [8], the high rate observed in this present study appears to be unprecedented. Although the reasons for the discrepantly high prevalence rate of PSF in this study is not known despite the fact that the participants were recipients of physical rehabilitation, this high rate is disconcerting and signifies the need for urgent and necessary actions. Such actions should include routine screening for and assessment of PSF, adequate research focus to identify effective PSF mitigating strategies and interventions, educating rehabilitation professionals, informal stroke caregivers, stroke survivors and all other stakeholders on the problem of PSF. The need for education and increased awareness among rehabilitation professionals is pertinent due to the observed neglect of PSF in stroke rehabilitation efforts [7] while family caregivers of stroke survivors would also need to be enlightened on the disability that can result from PSF even in the absence of visible physical disability. For the stroke survivor, adequate information on PSF may provide reassurance and assist them in adopting appropriate coping strategies. There is also the need for more studies on the epidemiology of PSF especially longitudinal and case-control studies that will provide insight into the trajectory and temporal patterns and risk factors of PSF.

Based on the sub-group analyses of the prevalence of PSF, no statistically significant age- and gender-based difference was observed. While most studies reported similar findings [3], few others have reported differences in the prevalence of PSF between male and female stroke survivors, and stroke survivors of different age [3]. More females have been reported to experience PSF compared to male stroke survivors [6-7, 10]. Similarly, some studies showed that a higher proportion of older stroke survivors experienced PSF [6, 10]. The lack of age- and gender-related differences in this study however implies that PSF should be adequately spotlighted and effectively addressed irrespective of a stroke survivor's age or gender.

Limitations of the study

The small size of the sample in this study may affect external validity of findings. The cross-sectional design of the study also constitutes a

limitation in terms of its inability to elucidate the temporal patterns of the occurrence of PSF.

CONCLUSION

PSF was found to affect a substantial majority of stroke survivors in this study irrespective of their age and gender. The fact that the participants were recipients of physiotherapy has several implications for successful stroke rehabilitation. Awareness, education, and intervention strategies are therefore urgently needed to effectively address the enormity of the problem which PSF represents, especially in our setting.

Conflict of interest: The authors declare that no conflict of interest and no fund.

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