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Awareness of Post-Polio Syndrome in Medical Practitioners in Ahmedabad – A Cross-Sectional Survey Study

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Abstract
Post-polio syndrome (PPS) is a condition that affects polio survivors from an initial acute attack of poliomyelitis virus. It is mainly characterised by new weakening in muscles that were previously affected by the polio infection. The aim of the study was to determine the awareness in medical practitioners regarding post-polio syndrome. A cross sectional survey was conducted in Ahmedabad among 70 practitioners coming across polio survivors. Convenience sampling was used. The medical practitioners were asked to fill a self-administered questionnaire concerning their profile and regarding causes, symptoms, management of PPS. Collected data was analyzed, that gave a brief idea of awareness of PPS among medical practitioners in Ahmedabad. 61% medical practitioners were aware about the term post-polio syndrome. Awareness about clinical features was 54%, about management 48% with only 32% being aware of the role of rehabilitation in PPS.

Keywords: post-polio sequelae, knowledge, doctors

Introduction

Post-polio syndrome is a condition that affects polio survivors from an initial acute attack of poliomyelitis virus. Post-polio syndrome is mainly characterised by new weakening in muscles that were previously affected by the polio infection and in muscles that were seemingly unaffected. In the past few years, many polio survivors have experienced late-onset neuromuscular symptoms and decreased functional abilities [1]. after many years of stable functioning, these patients report new musculoskeletal symptoms like fatigue, pain, new and unusual muscular deficits, in healthy muscles as well as deficient muscles initially affected by the poliovirus. These symptoms have been termed Post Poliomyelitis Syndrome (PPS) [2]. PPS is an exclusion diagnosis. There is no diagnostic test for PPS, and the diagnosis is based on a proper clinical workup where all other possible explanations for the new symptoms are ruled out. The existence of PPS has been questioned, but the late effect of poliomyelitis, or PPS, is generally accepted as a defined clinical entity. The term post-polio syndrome was introduced by Halstead in 1985 to cover medical, orthopaedic and psychological problems possibly or indirectly related to the long-term disability occurring many years after the acute episode. The criteria for PPS were as following: [3]

1. Confirmed history of polio.
2. Partial or fairly complete neurological and functional recovery after the acute episode.
3. Period of at least 15 years with neurological and functional stability
4. Two or more of the following health problems occurring after the stable period: extensive fatigue, muscle and/or joint pain, new weakness in muscles previously affected or unaffected, new muscle atrophy, functional loss, cold intolerance.
5. No other medical explanation found.

Halstead revised these criteria in 1991 and added gradual or abrupt onset of new neurogenic weakness as a necessary criterion for PPS, with or without other co-existing symptoms [4]. Dalakas redefined and narrowed the use of PPS in 1995 with an additional criterion of neurological examination on EMG and/or MRI.[5] India has traditionally been considered one of the toughest places in the world to eradicate polio. A study by Sharma *et al* suggests that pain and fatigue are common problems in subjects with PPS and pain intensity significantly affects the physical and psychological function highlighting the need for effective and accessible treatment options.[6]

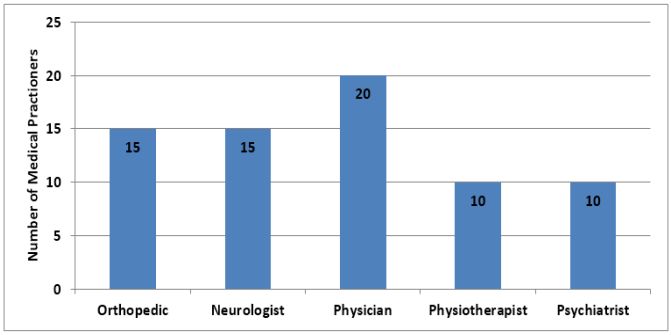
The aim of the study was to determine awareness in medical practitioners regarding post-polio syndrome – its clinical features, diagnosis, treatment aspects.

Materials and Methods

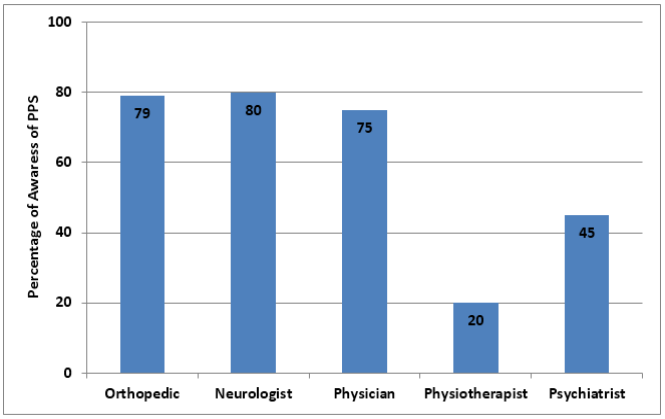
A cross sectional survey was conducted in Ahmedabad from October 2010 to December 2010. Seventy institutional and private practitioners coming across polio survivors, with any amount of years of experience were included by convenience sampling. Twenty physicians, 15 neuro physicians, 15 orthopaedic surgeons, 10 psychiatrists and 10 physiotherapists were included. Doctors in other fields of medical practice were excluded. The medical practitioners were asked to fill a self-administered questionnaire with thirteen close and open ended questions concerning their profile and regarding causes, symptoms, management of PPS. Doctors gave an answer as yes or no. Collected data was analyzed, that gave a brief idea of awareness of PPS among medical practitioners in Ahmedabad. Data was analyzed using SPSS v12.

Results

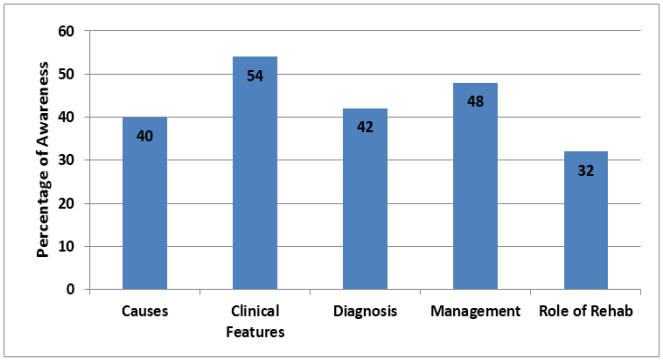
Seventy medical practitioners completed the survey as shown in graph 1. 61% medical practitioners were aware about the term post-polio syndrome. Awareness about clinical features was 54%, 40 % about the cause, 48% practitioners were aware of the management, with only 32% being aware of the role of rehabilitation in PPS. Graph 2 shows the awareness of post-polio syndrome among various medical practitioners and Graph 3 shows the awareness about causes, clinical features, diagnosis, and management of PPS.



Graph 1: Distribution of various medical practitioners included in the survey



Graph 2: Awareness of post-polio syndrome among various medical practitioners



Graph 3: Awareness about causes, clinical features, diagnosis, and management of PPS

Discussion

Above study shows that 61% medical practitioners were aware about the term post-polio syndrome. 48% practitioners were aware of the management with 32% being aware of the role of rehabilitation in PPS. A study conducted by the British polio fellowship in 2008 concluded that 55% of general practitioners are unable to diagnose PPS [7]. An article published by Lincolnshire library of post-polio syndrome discussed that there was a need to educate physiotherapists and medical practitioners regarding PPS [8].

Only 32% practitioners were aware of the role of rehabilitation in PPS. Physiotherapists are quite unaware of the condition and the role of physiotherapy in the management of PPS. The present study found that only 20% of physiotherapists were aware about the condition. India recorded the most cases of polio from 2000 to 2005. India's last case was reported in west Bengal in 2011 [9]. Thus India would have a large number of polio survivors. Sheth MS *et al* found the prevalence of post-polio syndrome in Gujarat has to be 80% among polio survivors [10].

A cross-sectional survey of polio survivors in Gujarat state, India, evaluated 72 subjects with PPS. The majority experienced increased or new symptoms and problems in ADL, muscle pain, joint pain, fatigue, atrophy, and difficulties in walking. Muscle pain was reported by 39%, joint pain by 24%, and37% had both muscle and joint pain. The most common sites of muscular pain were arm, leg and foot musculature, and pain was most in the knee, shoulder and hip joints and joints of lower back and neck. Most of the polio survivors experienced pain since the past 3-5 years, and some complained of pain since 7-10 years. The maximum number had pain during work but got relief by resting, while some had continuous pain. There is a positive correlation between interference in ADL due to pain and intensity of pain [11].

Koopman FS concluded that rehabilitation management is the mainstay of treatment in PPS. [12] Sharma SS *et al*. showed that after 4 weeks of exercise and lifestyle modification, there was improvement in fatigue, functional capacity and physical function in PPS subjects. Lifestyle modification advice followed over a period of 4 weeks led to improvement in fatigue and functional capacity among them. Reduction in fatigue and improvement in functional capacity was significantly more when lifestyle modification advice is given along with exercise. Both exercise and lifestyle modification and lifestyle modification alone had no effect on psychological function. It was thus implicated that administration of a regular exercise programme can be beneficial to clients with post-polio syndrome. It would be appropriate to give those with distinct impairment in functional capacity an exercise programme along with lifestyle modification. Those who cannot follow an exercise programme can be advised lifestyle modification only [13].

Clinical implication there is a need to promote awareness about PPS in Gujarat. Awareness at a national level needs to be evaluated. Appropriate management solutions need to be worked upon. Role of rehabilitation needs to be emphasized.

Conclusion

Awareness of the existence of post-polio syndrome among medical practitioners is 60.8% which is high. Awareness of diagnostic criteria and management of PPS was low.

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Conflict of Interest: None

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