

## ABSTRACT

Lymphatic filariasis (LF) is a leading cause of long-term disability worldwide. Lymphoedematous limbs are more prone to bacterial acute adenolymphangitis (ADL) attacks, which cause acute morbidity and progression of lymphoedema. The Global Programme for the Elimination of Lymphatic Filariasis is targeting the management of disability in affected patients by the Community Home Based Care programme (CHBC) based on limb-care measures suggested by Dreyer *et al*, (2002).

This study was conducted to describe the morbidity management practices, knowledge, disability and impact of filarial lymphoedema in patients in the Colombo district before and after the introduction of a limb-care regime based on the CHBC programme and to ascertain the efficacy of this limb-care regime. The study comprising of three components viz the pre-interventional study, implementation of interventions and the post-interventional study was carried out on lymphoedema patients attending two filariasis clinics in the Colombo district. During the cross-sectional, descriptive, pre-interventional study an interviewer administered questionnaire was administered to 413 patients to ascertain information regarding limb-care practices, acute ADL attacks, knowledge and disability/ impact. The limb was examined and graded. Interventions were implemented by advocating and demonstrating the limb-care measures (foot wear, washing and drying, elevation, exercise, prevention and treatment of entry lesions, bandaging). The post-interventional study, a quasi-experimental pre test-post test study, was carried out one year later. A separate interviewer-administered questionnaire was administered to 163 patients, to determine the efficacy of the implemented limb-care regime.

The mean age of the patients was 51.3 years (SD = 13.6). The majority were female (72 %), married (85 %) and had studied up to grades 6-11 (65%). The right lower limb, left lower limb, right upper limb and left upper limb were affected in 50.8 %, 59.1%,

4.8% and 4.1% respectively. More than one limb was affected in 81 patients. The duration of lymphoedema ranged from 6 weeks to 50 years. The majority of lymphoedema was in the grade II category. Approximately 95 % of patients were on DEC treatment ranging from 10 days to 43 years (mean 2.5 years SD  $\pm$  1.1).

Entry lesion/s were present in 70 % of patients, more commonly in higher grades of lymphoedema ( $p < 0.01$ ). Almost 74 % had experienced at least one ADL attack during the course of the disease. ADL attacks were seen more in females ( $p=0.05$ ), higher grades of lymphoedema ( $p=0.005$ ) and limbs with entry lesions ( $p < 0.001$ ).

Majority of the patients were not practicing limb- care measure in the proper manner.

Walking was the activity affected most (38 %), and this was significantly associated with lower limb lymphoedema ( $p=0.023$ ). Those with higher grades of lymphoedema had more difficulty in standing ( $p=0.008$ ) and using the toilet ( $p= 0.005$ ). The swollen limb affected the work of half of the employed patients and 26 persons reported loss of job.

Higher grades of lymphoedema interfered with the patients' religious activities ( $p=0.005$ ) and attending social gatherings ( $p=0.007$ ). Approximately 25 % and 6 % reported having problems interacting with the community and the family, respectively, while 37 % perceived the swollen limb as a major problem. Approximately 6 % of married persons reported sexual and marital problems due to lymphoedema with 77 % of those with marital problems, reporting sexual problems as well ( $p < 0.001$ ).

Only 15% of the patients had initially attributed their limb swelling to filariasis. The majority knew that filariasis was transmissible and preventable. Most patients did not know that filariasis could cause swelling of breasts in females, scrotal swelling, and dry cough/breathlessness. The majority (60 %) stated filarial lymphoedema could be cured with almost all (97%) of them stating long term DEC treatment as the method of cure.

Knowledge was, in general, associated with level of education ( $p < 0.05$ ) and did not improve significantly when the duration of disease increased more than 1 year.

One year following interventions, the grade II lymphoedema in eleven patients had reduced to grade 1 ( $p=0.012$ ), but no significant change was observed in higher grades of lymphoedema. A reduction was seen in the number of patients with entry lesions ( $p < 0.001$ ) as well as in the total numbers of all types of entry lesions. The number of patients suffering ADL attacks ( $p < 0.001$ ), the number of ADL attacks ( $p < 0.001$ ), the duration and the perceived severity of an attack were all reduced. All limb-care measures and correct home management measures of ADL attacks had also improved. More patients were able to carry out activities without help, with a significant improvement in walking ( $p = 0.009$ ) and standing ( $p < 0.001$ ) and less patients expressed negative feelings regarding their swollen limbs.

Laboratory investigations carried out on all patients pre-interventionally revealed 1.3 % patients positive for filarial antigens by Og4C3 ELISA test. None of the 20 patients who were not on DEC during the preceding one year were positive for microfilariae in night blood. There was no significant association between Erythrocyte Sedimentation rate (ESR), White Blood Cell count or eosinophil count with any variable of lymphoedema.

In conclusion, a one-year limb-care regime based on the CHBC, had a beneficial effect on patients by reducing acute ADL attacks, converting the grades of lymphoedema to lower grades and reducing physical and psychosocial disability. Further follow up of these patients should be done to ascertain the sustainability of this limb-care regime on a longer term. The CHBC programme should be implemented on a formal basis in the Colombo district without delay. Furthermore, psychosocial consequences of lymphoedema should also be targeted.