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Scope of early detection of diabetic neuropathy in nursing

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Abstract

Diabetes mellitus is most diagnosed hereditary condition in worldwide with several microvascular and macrovascular condition. Among those diabetic foot and ulcer is most common one occurring due to diabetic peripheral neuropathy which may become more worsen and can need amputation, with proper screening we can do early detection of diabetic neuropathy. If it practices on regular basis in every hospital as a regular health assessment, it will help in early diagnosis of neuropathy. Nurses can practice this procedure along with health assessment with minimal aids or with easily available instrument in a cost-effective manner. This procedure will help to provide proper foot care and awareness which will reduce diabetic ulcer, diabetic foot storm, amputation, long hospital stay and death.

Keywords: diabetic foot storm, amputation, diabetic ulcer

Introduction

Across the world diabetes mellitus is universally acknowledged as an epidemic which has a growing impact in every country, economy and in every age group. According to 2019 census about 463million people have diabetes mellitus. Diabetes mellitus is a health problem contain group of metabolic disorders that share hyperglycaemia. This metabolic disease may improve lower extremity diseases comprise of foot ulcer, peripheral neuropathy, lower extremity amputation and peripheral arterial disease. Most common complication of diabetes mellitus is diabetic neuropathy.

Diabetic neuropathy

Diabetic neuropathy is peripheral nerve damage due to poorly controlled blood glucose level and it is the most common complication of diabetes. In diabetic neuropathy commonly small-nerve fibre degeneration occurs due to degeneration of nerve function. Diabetic peripheral neuropathy is associated with the increase risk of foot ulcers which can become infectious and gangrenous and ultimately needs above or below knee amputation.

Different screening methods

Diabetic peripheral neuropathy is a condition that leads to diabetic limb loss and needs special attention. There are several screening methods to detect diabetic neuropathy.

Vibratip

This can be tested in 10 site of each foot, device should apply to the foot twice once with vibrating mood and once in non-vibrating mood.

Monofilament

Monofilament can be tested in 10 sites on each foot. In this method patient is asked whether patient can feel the touch or not.

Tuning fork (128 HZ)

In this screening test three sites will be tested with vibration. Sites for test is tip of hallux, medial malleolus and each knee include 6 sites.

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Neurothesiometer

Neurothesiometer will be assessed at the pulp of the great toe and assessment will be done on each foot with vibration perception threshold.

Ipswich Touch Test

Ipswich touch methods include light touch on foot. Each foot involves 3 sites to find out total touches felt by the patient.

Importance of early screening

Most common and severe complication of diabetic patient comprises retinopathy, microvascular disease, nephropathy and neuropathy. Among those condition neuropathy is consider as a major complication which leads to morbidity and poor quality of life. Because of increasing chance of foot ulcer, infection, amputation and it can result in early death.

Common complication of type 2 diabetes mellitus is diabetic peripheral neuropathy with or without pain and it can be identified with easy-to-use method and in cost effective way.

Early detection of diabetic neuropathy in preliminary stage contributes to prevent chronic complication and metabolic control. Timely diagnosis of peripheral neuropathy can reduce the severity of complication which may leads to foot ulcer, infection and may become gangrenous which comprise extremity amputation.

Early identification helps to implement foot care before onset of significant morbidity, reduced the incidence of amputation and ulceration. Now this screening test is recommended in clinical practice guideline to improve preliminary diagnosis and preventive care in all health care level.

Scope in Nursing

Nursing is the back bone of patient care. Nurses are the most important part of health team because nurses are the baseline health worker who is having direct contact with the patient. They can provide safe environment, primary care, primary education, awareness about disease caused complication, can provide information about health policy and health management system.

In hospitalization to recovery most important thing is patient care that creates with the caring environment. Nurses can reduce neuropathy, foot ulcer, infection and amputation by providing

- Diagnostic Environment
- Therapeutic Environment
- Health awareness
- Prevention of illness
- Cost-effectiveness
- Batter Health care
- Research

Diagnostic Environment

Bed side diabetic neuropathy testing tool availability in all hospital will help nurses to include this procedure in regular health assessment, which will help to early diagnosis of diabetic neuropathy and its farther complication.

Therapeutic Environment

After bedside detection of diabetic neuropathy patient can get immediate treatment and preventive care which will help

to reduce foot ulcer and amputation with the help of different therapeutic care before onset of significant complication.

Health awareness

Awareness is important aspects of health care setting special in community health care sector. Primary health care provider can provide awareness about diabetic complication, neuropathy, neuropathy complication, how to avoid foot ulcer and amputation.

Prevention of illness

As we all believe that prevention is better than cure'. Our main intention is baseline prevention of disease complication. Preventive measures include regular assessment, early screening and diagnosis, awareness, patient education.

Cost-effectiveness

Early diagnosis and assessment can help in immediate treatment which will improve quality of living of the patient, low cost treatment procedure and less hospital stay.

Batter Health Care

Need basis care is another important section of health care policy. With the help of different assessment method we can come to know the essential need of the patient which will help to provide better health care and better quality of life.

Research

Different diagnostic procedure may provide early diabetic neuropathy detection. This may provide new era in nursing research sector for patient care, therapeutic procedure, reduce patient suffering and diabetic patient, quality life improvement. This will help to use in evidence base practice.

Conclusion

There is a several scope in nursing for diabetic neuropathy early detection. After diagnosis nurse can provide proper foot care and can teach the family member to provide foot care at home.

They can transfer the knowledge other health care team and it will help to reduce father complication due to diabetes mellitus. Amputation is major complication of diabetic neuropathy which may change person's quality of life and family condition. To avoid this early detection, foot care, awareness is important and that can be done by nurses who is most close or direct health care giver in patient health care.

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