

Diabetes and hypertension — essential knowledge for DSNs?

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Introduction

It is now recognised that tight control of both blood pressure and blood glucose levels offers the most feasible way of reducing diabetes complications in type 2 diabetes (UKPDS, 1998a,b). This article considers the cases for and against the expansion of the DSN role into hypertension management. The balance of evidence suggests that DSNs could fulfil this expanded role with appropriate knowledge and skills training, e.g. in drug management and blood pressure measurement. Existing skills in patient education would also prove invaluable in the promotion of the non-pharmacological approaches.

The results of the United Kingdom Prospective Diabetes Study (UKPDS, 1998a) clearly demonstrated that the control of blood pressure is of equal importance as the control of blood glucose in the prevention of diabetes complications. Developing knowledge and skills in the management of hypertension is a logical extension of the role of diabetes specialist nurses (DSNs).

The case for DSNs managing hypertension

Patient education

The main role of DSNs is to provide education to people with diabetes, their carers and other healthcare professionals (Kyne-Grzebalski, 1999). The additional education workload of hypertension management should not be ignored.

There is good evidence showing that the non-pharmacological approaches (listed in Table 1) are worthwhile. There is also considerable overlap with existing advice provided for patients with diabetes, e.g. weight loss, exercise and moderation in alcohol intake. Increased awareness and promotion of the non-pharmacological interventions will reap benefits: some patients will not need antihypertensive medication or will require less medication (Fagard, 1995; Appel et al, 1997).

Ramsay et al (1999) recommend that:

‘Effective implementation of these non-pharmacological measures requires

enthusiasm, knowledge, patience, and time spent with patients and their families. It is best undertaken by well trained health professionals — for example, a practice or clinic nurse...’

This may be an example of the medical staff discharging their educational responsibilities. However, medical staff are not trained to provide education. Unfortunately, preregistration nurse education contains limited information on how adults learn, although this is included in the curriculum. Nevertheless, a number of DSNs have undertaken recognised courses on adult learning such as the FETC (Further Education Teaching Certificate). The DSN may therefore be the most effective clinical team member to provide the educational support required by patients with diabetes and co-existing hypertension. Often this may not be feasible because the majority of patients with type 2 diabetes are seen in primary care and may not have access to DSN support.

Absorbing the primary care shift

As more diabetes care is transferred into the community, it will be interesting to note how this impacts on the DSN role. In the author’s experience in Bradford, an additional three (WTE) DSNs were employed to support the development of diabetes in primary care. All these DSNs have their own digital sphygmomanometer, regularly undertake blood pressure readings

ARTICLE POINTS

1 Tight control of blood sugar and blood pressure offers the best opportunity of avoiding macro- and microvascular complications.

2 Non-pharmacological approaches to hypertension management are worthwhile.

3 Most of the non-pharmacological hypertension agenda could be incorporated into the established DSN consultation.

4 DSNs are in a stronger position than doctors to be able to make a difference in the reduction of diabetes complications.

5 The need for education is clear if DSNs are to extend their role.

KEY WORDS

- DSN role
- Hypertension management
- Tight glycaemic control
- Diabetes complications

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Table 1. Non-pharmacological approaches to the management of hypertension.

Intervention	Advice
Regular exercise	30 minutes of exercise five times per week (Fagard, 1995)
Weight reduction (if BMI outside normal range)	Reduce fat intake; increase exercise level (Sever et al, 1993)
Salt restriction	Reduce from an average of 3 to 2 teaspoons per day (Capuccio et al, 1997)
Restricted alcohol intake	Ensure alcohol intake is within national guidelines and spread over the week (McElduff and Dobson, 1997)
Increased intake of fruit and vegetables	Aim for a minimum of five portions per day (McElduff and Dobson, 1997)

and are involved in the management of hypertension to varying degrees.

Interestingly, the UKPDS (1998a) highlights the need for either increased involvement of medical staff or further education of nursing staff to include hypertension management. In practice, both recommendations are probably required in order to meet the needs of the 30% of patients who require three or more agents to control their blood pressure (UKPDS, 1998a).

Non-pharmacological interventions alone can lower blood pressure but often medication will be required too. The combination of tight glycaemic control and tight blood pressure control should provide patients with the best chance of avoiding both macro- and microvascular complications (Mogensen, 1998). However, tight blood pressure control may be easier to achieve than tight glycaemic control, in part due to the large number of pharmaceutical agents available. Although the benefits of controlling blood glucose levels have been demonstrated, achieving a target HbA_{1c} of $\pm 7\%$ is a difficult task. Controlling blood pressure may therefore be more feasible than controlling blood glucose (UKPDS, 1998b).

Nurses in ‘medical’ roles

DSNs have demonstrated that it is possible to integrate traditional medical skills and knowledge with caring, which is the essence of nursing (McKenna, 1993). The DSN

role involves high-level clinical expertise and decision making in relation to patient’s glycaemic control (Cradock and Avery, 1998). Undertaking of traditional medical tasks by DSNs has led to developments in diabetes services and fulfilment of local population needs (Preston and Young, 1995); it has not negated the need for a doctor. The demand for tight control of hypertension is such that it is unlikely to be met without DSN involvement.

There is existing evidence that nurses are better at helping to achieve good blood pressure control than their medical colleagues (Curzio et al, 1990). DSNs are in a strong position to make a greater difference to the reduction of diabetes complications. First, their work has a high level of autonomy. Second, DSNs have an enhanced understanding of each patient’s life. This knowledge has been gained by spending time with, and listening to, each patient and their family. It could be utilised to assist with the patient’s understanding of the importance of taking antihypertensive medication as prescribed and of adhering to non-pharmacological measures.

Some patients display ‘white coat hypertension’, i.e. abnormally elevated blood pressure due to the healthcare environment. Nurses may therefore be able to obtain truer blood pressure readings from patients because they can visit them at home and they have an established relationship with them.

Increased knowledge and skills in the management of hypertension including knowledge of antihypertensive agents and their potential side-effects can only benefit the patient.

The case against DSNs managing hypertension

The management of glycaemic control and hypertension reduces the overall cardiovascular risk; however, other factors, e.g. smoking and dyslipidaemia, impact on this risk (Yudkin and Chaturvedi, 1999). The evidence for reduction of the overall cardiovascular risks is compelling but only the management of blood glucose and hypertension appear to impact on the development of microvascular complications. The management of hypertension is now

seen as a joint priority together with the control of glycaemia, in the management of type 2 diabetes (Mogensen, 1998).

Concerns about the expanded role

In the context of risk factor control, one could ask whether the involvement of DSNs in the management of hypertension would lead to the involvement of DSNs in the management of dyslipidaemia. Are there risks of losing the essential elements of nursing to a medical model? In any event, expansion of the nurse’s role into areas, which are traditionally led by doctors, is likely to lead to criticism of DSNs becoming surrogate doctors (Baumann et al, 1998).

Nurses’ views on the matter were collected at a discussion following a lecture entitled ‘The DSN role in the management of hypertension’, which was given by the author in November 1999 at a meeting of the Northern and Yorkshire Diabetes Development Group in York. A straw poll revealed that most of the nurses present were apprehensive about taking on this additional role. The existing diabetes workload was described by one nurse as ‘already unmanageable’. Factors that may be preventing change were identified as follows:

- Lack of training in this area
- No equipment, i.e. sphygmomanometers
- Lack of time.

Training requirements

The need for education is clear if DSNs are to extend their role into hypertension management. A step-wise approach could be adopted, with nurses first relearning

and increasing their understanding of the development of hypertension and the benefits of the non-pharmacological approaches.

Accurate measurement of blood pressure is an activity that requires a certain standard of knowledge and skill. Many DSNs will not have taken blood pressure measurements for many years and will therefore be out of practice. They may not be aware of the many factors that can influence readings (Table 2). There are also resource implications and issues of quality control in the maintenance and calibration of blood pressure monitoring equipment.

In addition, there are likely to be knowledge gaps regarding the common drugs in use and their side-effect profiles.

Pharmacological management

After learning the core elements of hypertension, some nurses may decide to extend their knowledge into the pharmaceutical management of hypertension, including adjustment of antihypertensive agents. This has specific implications, since the nurse will need the involvement and support of medical colleagues and agreement of the employer.

Many nurses have not had training in pharmacology. This greatly increases the risk of litigation for any who become involved in the pharmaceutical management of hypertension. In addition, in accordance with the Crown 2 Report (DoH, 1999), protocols will be required in order to legalise this process. There are already unresolved issues with the adjustment of hypoglycaemic agents

PAGE POINTS

1 Expansion of the DSN role may lead to criticisms that they are becoming surrogate doctors.

2 Involvement and support of medical colleagues and agreement of the employer are vital for DSNs wishing to undertake pharmaceutical management of hypertension.

3 Many nurses have not had training in pharmacology.

4 Protocols for the adjustment of insulin will be required.

Table 2. Factors influencing blood pressure recordings.

Calibration of measuring device
Exposure to cold temperatures
Stress/anxiety
Full bladder/full bowel
Recent meal (in last 30-60 minutes)
Cuff size
Tight clothing
Unsupported arm
Position of patient
Strenuous activity in last 30-60 minutes



Taking blood pressure measurements is an essential task in the management of hypertension.

PAGE POINTS

1 Management of hypertension is the most feasible way of reducing diabetes complications.

2 The caring role does not need to be sacrificed to the medical model.

3 Most of the non-pharmacological approaches could be incorporated into the established DSN consultation.

and many centres have yet to write protocols in accordance with Crown 2 (Padmore, 1999). If nurses did wish to commence the adjustment of hypertension therapy another set of protocols would clearly need to be written and ratified. However, overuse of protocols could lead to a 'cook book' approach and may not be conducive to the provision of individualised care. Van Wissen et al (1998) found that patients with hypertension have more to gain if the treatment of hypertension is individualised in the context of the patient's life.

Conclusions

A more pragmatic approach is required with less emphasis being placed on who is doing what and more emphasis on what needs to be done for the benefit of the patients.

Lack of time was identified as a factor that may be preventing the involvement of DSNs in hypertension management. However, given the results of UKPDS, there is a clear need for DSNs to work smarter not harder. Management of hypertension is the most feasible way of reducing diabetes complications.

In my opinion, DSNs need to be aware of which of the patients on their case load has hypertension and whether it is managed successfully. The DSN role should include:

- Educating patients on the importance of controlling blood pressure
- Identifying targets and goals
- Endorsing non-pharmacological interventions
- Adjusting antihypertensive medication (if appropriately trained).

Most of the non-pharmacological approaches could be incorporated into the established DSN consultation. Educational materials will need to be developed to assist with the educational process.

The weight of evidence suggests that DSNs should increase their involvement in the management of hypertension. This does have far-reaching implications dependent upon the extent to which the nurse wishes to become involved. The caring role does not need to be sacrificed to the medical model. A holistic individualised approach that includes education on the management of hypertension is likely to reap benefits for the patients.

DSNs wishing to extend their role will need the support of medical colleagues and their employer in addition to formal education in pharmacology. DSNs have been successful in the extended role of blood glucose control. It is to this level of service that DSNs who wish to expand their role should aspire. ■

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