

Using technology to enhance pre-registration nurse education in diabetes

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In the UK, pre-registration nurse education prepares student nurses for practice following registration with the Nursing and Midwifery Council (NMC). Registration with the NMC enables a nurse to gain employment in their chosen branch of nursing. Here, the authors report a project undertaken as part of the second year of the adult branch of the nursing programme, whereby a videoconferencing unit was used to link a group of student nurses to a clinic room to observe the delivery of a group education session on the initiation of insulin.

A key aspect of nurse education programmes is to ensure that the theory–practice gap, often identified anecdotally both by students and clinicians, is bridged effectively. Bridging this gap is a challenge for educators, who should ensure that educational materials are clinically relevant and demonstrate effective evidence-based practice (Hopton, 1996; Rolfe, 1996; Gallagher, 2004).

With these issues in mind, the authors considered the available technologies to enhance educational outcomes in a diabetes module in their pre-registration nursing education programme. As a result, videoconferencing that linked clinical practice and a classroom was established. The video link allowed the student nurses to observe a group education session on the initiation of insulin.

Videoconferencing provided students with practice experience, linked to specified educational objectives, that could not have been achieved in a standard lecture format or the observation of a small clinic group.

Methods

The videoconference, in association with a lecture and a case study workbook, was designed to achieve four key educational objectives. The objectives were for the student nurses to consider the:

- Role of the nurse in diabetes management.
- Relationship between the nurse, people with diabetes and their carers.
- Efficacy of group education as a process.
- Importance of user and carer involvement.

Prior to the videoconference session, student nurses were encouraged to complete

Article points

1. Nurse education programmes should aim to bridge the theory–practice gap.
2. A videoconferencing unit was used to allow a student nurse group to observe a group education session on the initiation of insulin.
3. This method was found to capture a true picture of care delivery within a clinical setting, without external influences on patient behaviour or response.

Key words

- Diabetes management
- Nurse education
- Pre-registration nursing
- Technology

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Page points

1. On the day of the videoconference, a 1-hour lecture was given to the student nurses
2. Four people with diabetes and one person who was the carer of a person with diabetes were approached by the DSN leading the education session and agreed to participate in the videoconference.
3. A followed-up letter and information sheet were sent explaining the process and explaining that, if they did not wish to be involved, they could participate in another group education session.
4. During the group education session, the camera and microphone were switched off in the classroom, allowed the student nurses to observe the session but not be seen or heard by the DSN or participants.

Figure 1. Lecturer and video-conferencing equipment.



a case study workbook. This was a self-directed learning exercise that gave the student nurses an opportunity to look at diabetes holistically, and to consider the impact of management on the individual.

On the day of the videoconference, a 1-hour lecture was given to the 32 participating student nurses (*Figures 1* and *2*). The lecture was a revision of on the nature of diabetes. This comprised pathophysiology, epidemiology, management strategies, complications and user issues. The lecture also developed the work undertaken by the student nurses on the case study workbook.

Procedure for videoconference link to diabetes centre

The necessary permissions from the NHS Trust were gained.

People with diabetes who were participating in the group education session observed by the student nurses were currently attending the diabetes centre and on oral therapy that was no longer achieving good glycaemic control. The need to initiate insulin therapy had been agreed, and the person with diabetes – or a carer – were invited to attend a group education session on the initiation of insulin.

Four people with diabetes and one person who was the carer of a person with diabetes were approached by the DSN leading the education session to discuss the possibility of participating in the videoconference. All five people verbally agreed to participate.

A followed-up letter and information sheet were sent explaining the process and giving

Figure 2. Students engaged in lead lecture prior to videoconference.



the project team members' contact details. The letter explained that, if they did not wish to be involved, they could participate in another group education session.

The four people with diabetes and the carer approached by the DSN agreed to be involved in the student nurse observed session and signed the consent forms. It was explained that they could withdraw from the session at any time and attend another session on the initiation of insulin.

Use of the technology

During the videoconference session, the support provided by the information technology technician was invaluable. A 990MMX videoconferencing unit (Tandberg, Staines) was located in the classroom, and a remote camera in the clinic room in which the group education session was being conducted. IPContact software (Numerex Corp, Atlanta, GA) was used.

During the group education session, the camera and microphone were switched off in the classroom. This allowed the student nurses to observe the session but not be seen or heard by the DSN, people with diabetes and carer. The student nurses were supplied with the same insulin delivery devices as the people participating in the group education session, and were able to practise the techniques being taught by the DSN at the same time as the participants.

At the end of the group education session, the camera and the microphone were switched on in the clinic room, allowing interaction between the two sites.

The student nurses had been asked to identify questions during the group education session that they would like to ask the participants. At the end of the group education session, the student nurses used the videoconferencing unit to ask questions of the group education participants. Some of the questions asked by student nurses that provoked discussion are listed in *Box 1*.

Evaluation

The use of videoconferencing enabled the educational objectives to be met. All student nurses completed evaluations of the session, reporting that the use of videoconferencing had helped them to link theory to practice, and better understand diabetes from the perspective of someone with the condition or their carer.

The people with diabetes and their carers stated that they were pleased to be involved in helping the students to learn. One individual stated “they’ve got to learn”, and what better way to learn than from people with diabetes?

Interestingly, the group education session participant’s response to one student nurse’s question – “How did you feel about being watched by us?” (*Box 1*) – was:

“We had forgotten about the camera during the session and were focusing on what the nurse was discussing with us.”

This surprised some of the student nurses, but emphasised the insight into patient behaviour possible when observing a live group education session in a clinical environment using videoconferencing.

Conclusion

This project exceeded the expectations for the session. The educational objectives – to observe and interact with a patient group while undergoing a therapy change, to consider patient–nurse and carer issues in diabetes management, to assess the efficacy of group education – were all met. Furthermore, the use of this technology allowed many student nurses to observe a group education

Box 1. Questions asked by student nurses following the session.

- When you were first told you had diabetes, how did you feel?
- How do you feel about having to take insulin?
- Do you have any worries about injecting yourself?
- What are your expectations of student nurses with regard to your diabetes management?
- How did you feel about being watched by us [the student nurses]?
- When you were first told you had diabetes?
- How did you feel when you found out you had diabetes?

session on the initiation of insulin. For a large group of student nurses to simultaneously observe such a session without the aid of videoconferencing would be impossible, due to the specialist nature of the work within the diabetes centre and the limited number of practice opportunities.

This method of teaching diabetes management within the pre-registration programme is now undertaken on a regular basis at the authors’ institution. Subsequent cohorts have all reported the utility of this teaching and learning strategy, feeling that it captures a true picture of care delivery within a clinical setting, without external influences on patient behaviour or response. ■

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1. At the end of the group education session, the camera and the microphone were switched on in the clinic room, allowing interaction between the two sites.
2. The student nurses used the videoconferencing unit to ask questions of the group education participants at the end of the session.
3. All of the student nurses reported that the use of videoconferencing had helped them to link theory to practice, and better understand diabetes from the perspective of someone with the condition or their carer.
4. Subsequent cohorts have all reported the utility of this teaching and learning strategy, feeling that it captures a true picture of care delivery within a clinical setting.