

# Individual versus group diabetes education: Assessing the evidence

Muili Lawal and Farouk Lawal

**Diabetes remains a global medical problem. Among other management options, education plays a vital role in reducing the physical, social and economic burdens of the condition. Although awareness can be promoted through many media, providing structured patient education for people with diabetes is a key policy initiative. There are various teaching and learning strategies that can be used in diverse patient education sessions, and these can be delivered individually or through group learning. There is, however, no one-size-fits-all method of delivery. This article aims to present the arguments for and against individual and group education programmes for people with diabetes.**

Numerous studies have identified the benefits of diabetes education in promoting self-care knowledge and coping ability, addressing illness beliefs, and reducing complications and hospitalisations (Deakin et al, 2006; Davies et al, 2008; Rygg et al, 2012; Merakou et al, 2015). International and national guidelines have recommended structured patient education (SPE) programmes for managing diabetes. In the UK, current NICE national guidelines recommend SPE for every adult newly diagnosed with type 1 or type 2 diabetes (NICE, 2015a; 2015b), with annual reinforcement and review owing to the uncertainties surrounding the long-term effects of various education programmes. There is plenty of evidence on the advantages of diabetes education (and various national and international diabetes programmes have been devised), but no unanimity about the best way to deliver it.

## Structured patient education

SPE is an integral component of diabetes management, and people with diabetes and their

carers have a lot to learn in order to improve their self-care ability. Although changing and sustaining change in behaviour is not easy, education offers the opportunity to alter a person's behaviour through various activities that may improve individual knowledge and skills (Shaw, 2015; Anisman, 2016).

SPE for people with diabetes can be defined as an ongoing process of facilitating the knowledge, skills and ability to improve self-care and clinical outcomes (Funnell et al, 2009). This involves delivery of education to an individual or a group of patients on key areas, such as blood glucose control, dietary management and exercise (*Box 1*, overleaf). To limit variations in diabetes education provision in the UK, SPE must follow NICE guidelines and government directives (*Box 2*, overleaf). Examples of SPE that meet NICE guidelines in the UK include Dose Adjustment for Normal Eating (DAFNE), Diabetes Education and Self Management for Ongoing and Newly Diagnosed (DESMOND), Diabetes Education through Adult Learning (DEAL) and the Expert Patient Programme (EPP).

**Citation:** Lawal M, Lawal F (2016) Individual versus group diabetes education: Assessing the evidence. *Journal of Diabetes Nursing* 20: 247–50

## Article points

1. Diagnosis of diabetes may indicate the beginning of a lifelong learning process.
2. Although awareness can be promoted through the media and other means, providing structured diabetes education is a key policy initiative.
3. There are various types and modes of delivery of diabetes education programmes.
4. There is no unanimity about the best way to deliver diabetes education.
5. It is a challenge to establish a best-fit approach to diabetes education.

## Key words

- Diabetes management
- Empowerment
- Individual versus group education
- Structured patient education

## Authors

Muili Lawal is Senior Lecturer in Nursing, University of West London, London; and Farouk Lawal is Health Visitor, East London NHS Foundation Trust, London.

**Box 1. Typical contents of a structured patient education session for diabetes.**

- What is diabetes?
- Types of diabetes.
- Normal blood glucose levels and the implications of abnormal readings.
- Signs and symptoms of diabetes.
- How to treat diabetes.
- Complications of diabetes.
- Home blood glucose testing techniques.
- The role of diet, exercise, weight control and compliance to therapy in managing diabetes.
- The importance of foot care, eye screening and routine checks in preventing complications and enhancing quality of life.
- General issues, such as driving, insurance, travel and sex-related problems.

**Box 2. Characteristics of a structured education programme meeting NICE (2015b) guidance.**

- It is evidenced-based and individualised.
- It has specific learning objectives and supports the patient and carers in developing knowledge, skills, positive attitude and beliefs.
- It has a written curriculum to ensure consistency.
- It is theory-driven and resource-effective.
- It is delivered by trained and certified multidisciplinary healthcare practitioners who are maintaining their competence.
- It is quality assured and audited regularly.

**Economic determinants of mode of delivery**

The rising prevalence of type 2 diabetes, with its great economic implications and limited resources to address it are part of the driving forces for transition to group-based diabetes self-management education (Smaldone et al, 2006). Rickheim et al (2002) state that one of the determinants to deliver diabetes education in the US is the financial constraint imposed by such programmes. Rickheim et al (2002) and Tang et al (2006) state that group education can be cost effective, and provide greater patient satisfaction and slightly higher positive behavioural modifications than individual education. Furthermore, Hodorowicz (2012) argues that in the present highly competitive and financially challenging environment with increasing practitioner’s workloads, a group approach to care has become a reality.

Regardless of the financial debate, Hodorowicz (2012) states that diabetes group medical appointments allow individuals to explore common disease challenges, such as diet and

medications, and may help them to achieve enhanced psychological and health benefits. Similarly, Tang et al (2006) wrote that group education may encourage some learning activities, like social modelling and problem-based learning, when compared to individual education. The US Department of Health and Human Services’ National Diabetes Education Program (NDEP) states that the strategy for empowerment of people with diabetes aims to improve the knowledge, skills and self-care ability of the individual (NDEP, 2009). Therefore, it can be argued that any method of diabetes self-management education that achieves the goal of empowerment is as good as another.

**Group education**

Traditionally, health education has been delivered on a one-to-one basis. Group education has, however, gained momentum for teaching people with certain conditions, including diabetes. Funnell et al (2009) state that diabetes education has evolved from a didactic approach to more empowering models of teaching. “Group” refers to face-to-face interaction between two or more people (Rana and Upton, 2009), while “group dynamics” refers to the process involved in group work, regardless of the nature of the group (Quinn and Hughes, 2007). Therefore, effective diabetes group education means several patients working together harmoniously to achieve the common learning goal of empowerment.

According to Quinn and Hughes (2007), common difficulties in small group and experiential learning require sensitive handling. These problems include speaking over one another, hogging the limelight and unwillingness to participate; practitioners should be alert to these negative signs. Nevertheless, the medium of diabetes group education helps the individual to review and develop their knowledge through interaction. It also improves a person’s confidence and may have some impact on their ability to solve diabetes-related problems (Lawal, 2016).

As with any other teaching technique, group learning requires a teacher who facilitates and directs the learning activities. The facilitator is responsible for guiding the group composition, although diabetes educators have no control over the group selection because it is based on the GP referral list (Lawal, 2016). Another challenge for

the facilitator of group education for diabetes is the diverse nature of the group in terms of age range, cultural differences, linguistic ability and general educational background. Teft (2015) and Shaw (2015) suggested that a patient's background is important in building new knowledge, and that limited literacy and numeracy levels may disadvantage some learners. Whilst group composition is crucial, it is important to consider influencing the group positively by providing adequate information, preparing the learning environment in a conducive manner, encouraging group discussion, giving vulnerable people permission to express their views and empowering them in a friendly way (Lawal, 2016). In this context, sharing experiences, questioning each other and raising personal issues relating to diabetes care within the group can promote empowerment.

### Individual versus group education

Few studies have compared the two methods of education to establish their effectiveness. Four randomised control trials have found an improvement in knowledge, BMI, glycaemic control, weight reduction and self-management skills among the intervention groups that received group education (Gatling, 2003; Adolfson et al, 2007; Davies et al, 2008; Rygg et al, 2012).

Deakin et al (2006), Gucciardi et al (2007) and Merakou et al (2015) found group education to be more effective in improving HbA<sub>1c</sub>, body weight and knowledge of diabetes, and in supporting nutrition adherence when compared to individual education alone. Gatling (2003) suggested that the interactive nature of the group session may enhance the understanding of people with diabetes and contribute to changes in behaviour.

In contrast to some studies indicating differences between the two methods of delivery, others suggest that both group and one-to-one educational methods are effective in improving self-management. A systematic review of two studies comparing individual to group education (Duke et al, 2009) found no significant difference in the effects of either educational method on HbA<sub>1c</sub> levels. Similarly, Norris et al (2002) found no difference in glycaemic control between individual and group education. The randomised studies of Campbell et al (1996) and Rickheim et al (2002) also found

both group and individual diabetes education to be effective. Duke et al (2009) state that although patient education is a key aspect of diabetes care, there are some uncertainties surrounding the effectiveness of different strategies and methods of education. Owing to limited available studies and conflicting results about the best method of delivery, Adolfson et al (2007), Gucciardi (2007) and Duke et al (2009) advocated larger, longitudinal studies on this topic.

Ideally, a well-planned diabetes education session should ensure effective patient learning and, consequently, aid patient knowledge and understanding of diabetes management. Reece and Walker (2007) state that each teaching strategy has its merits and demerits. Whatever the method of education, the target is to achieve better clinical outcomes, such as good glycaemic control and lifestyle modifications. Arguably, patients should be given the option of whether they want to learn in a group or individually. NICE (2015b) suggests that people with diabetes should be offered group education as the preferred option, but alternative individual education should be provided for people who are unable or unwilling to attend group education sessions. It is essential to acknowledge that people with diabetes differ in various ways (Lawal, 2016) and that diabetes educators must respond to these differences.

### Motivation and facilitators to behaviour change

Although there is a correlation between positive self-management behaviours and good health outcomes, translating knowledge into action is often challenging for the learners (Lawal, 2016). Health behaviours are influenced by factors such as individual life experiences and socio-demographic characteristics. In guiding and supporting positive behaviour change, practitioners must consider an individual's motivation, learning capacity, skills, values and support networks, as well as their personal characteristics, such as age, culture and level of education (Rana and Upton, 2009; Lawal, 2016).

The provision of patient-centred care is a key aspect of national and social care policy in the UK (Abley, 2012); this requires professionals to work alongside patients. This entails using

### Page points

1. While the evidence is limited, a small number of studies have found that group patient education is effective in producing improved outcomes.
2. Some studies have concluded that group education is more effective than individual education, although other have found no significant difference.
3. NICE guidelines state that a group education programme should be offered as the preferred option, but that an alternative be provided for a person unable or unwilling to participate in group education.

**“Both group and individual educational programmes must be tailored to meet the learning needs of the individual.”**

effective communication and listening abilities to focus on patients’ health problems, setting realistic goals, respecting their beliefs, involving families in the change process and motivating them to change their behaviour based on their newly acquired knowledge. Enhancing behaviour change requires regular follow-up and feedback to reinforce good behaviour. In addition, promoting patients’ confidence, encouraging them to join local diabetes networks, offering incentives to learn new behaviour and recognising successful behaviour are also positive contributors to behaviour change (Lawal, 2016).

### Conclusion

The inability of an individual to manage diabetes may lead to the development of complications and frequent hospitalisation, and thereby affect quality of life. While education has been found to be effective in managing the complex and changing healthcare needs of people with diabetes, the dearth of substantial studies comparing the methods of educational delivery is a limiting factor. However, there is no indication that group education offers any significant disadvantage in comparison to individual education sessions, and several diabetes services in the UK and the US now incorporate group education sessions as part of their comprehensive diabetes management programmes. The limited available studies do indicate that group sessions lead to positive clinical outcomes and that they could be a cost-effective way of delivering educational programmes for people with diabetes.

In conclusion, this article does not argue in favour of any method of delivery, but that both group and individual educational programmes must be tailored to meet the learning needs of the individual. ■

Abley C (2012) Responding to vulnerability in old age: patient-centred care. *Nurs Stand* **27**: 42–6

Adolfson ET, Walker-Engston ML, Smide B, Wikblad K (2007) Patient education in type 2 diabetes: A randomised controlled 1 year follow up study. *Diabetes Res Clin Pract* **76**: 341–50

Anisman H (2016) *Health Psychology*. Sage, Los Angeles, CA, USA

Campbell EM, Redman S, Moffit PS, Sanson-Fisher RW (1996) The relative effectiveness of educational and behavioral instruction programs for patient with NIDDM: a randomized trial. *Diabetes Educ* **22**: 379–86

Davies MJ, Heller S, Skinner TC et al (2008) Effectiveness of the diabetes education and self-management for ongoing and newly diagnosed (DESMOND) programme for people with newly diagnosed type 2 diabetes: cluster randomized controlled trial. *BMJ* **336**: 491–5

Deakin AT, Cade EJ, Williams RD, Greenwood DC (2006) Structured patient education: the diabetes X-PERT Programme makes a difference. *Diabet Med* **23**: 944–54

Duke SAS, Colagiuri S, Colagiuri R (2009) Individual patient education for people with type 2 diabetes mellitus. *Cochrane Database Syst Rev* **1**: CD005268. DOI: 10.1002/14651858.CD005268.pub2

Funnell MM, Brown TL Childs BP et al (2009) National standards for diabetes self-management education. *Diabetes Care* **32**(Suppl 1): S87–94

Gatling W (2003) One-to-one care and education, old hat now? *Diabet Med* **20**: 10–11

Gucciardi E, Demelo M, Lee RN et al (2007) Assessment of two culturally competent diabetes education methods: individual versus individual plus group education in Canadian Portuguese adults with type 2 diabetes. *Ethn Health* **12**: 163–87

Hodorowicz MA (2012) Reimbursement for shared medical appointments incorporating diabetes self-management education/training or diabetes medical nutrition therapy. *Diabetes Spectrum* **25**: 84–90

Lawal M (2016) *Implementation of Diabetes Education Policy: Prospects and Barriers*. Lambert Academic Publishing, Germany

Merakou Y, Knithaki A, Karageorgos G et al (2015) Group patient education: effectiveness of a brief intervention in people with type 2 diabetes mellitus in primary health care in Greece: a clinically controlled trial. *Health Educ Res* **30**: 223–32

National Diabetes Education Program (2009) *Guiding Principles for Diabetes Care: For Health Care Professionals*. US Department of Health & Human Services. Available at: <http://bit.ly/29acH9Z> (accessed 01.07.16)

NICE (2015a) *Type 1 diabetes in adults: diagnosis and management* (NG17). NICE, London. Available at: <https://www.nice.org.uk/guidance/ng17> (accessed 08.07.16)

NICE (2015b) *Type 2 diabetes in adults: management* (NG28). NICE, London. Available at: <https://www.nice.org.uk/guidance/ng28> (accessed 08.07.16)

Norris SL, Lau J, Smith SJ et al (2002) Self-management education for adults with type 2 diabetes: a meta-analysis of the effect on glycaemic control. *Diabetes Care* **25**: 1159–71

Quinn F, Hughes SJ (2007) *Quinn’s Principle and Practice of Nurse Education* (5<sup>th</sup> edition). Cengage Learning, Andover, Hants

Rana D, Upton D (2009) *Psychology for Nurses*. Routledge, Abingdon, Oxon

Reece I, Walker S (2007) *Teaching, Training and Learning: a Practical Guide* (6<sup>th</sup> edition). Business Education Publishers, Sunderland

Rickheim PL, Weaver TW, Flader JL et al (2002) Assessment of group versus individual diabetes education: a randomized study. *Diabetes Care* **25**: 269–74

Rygg LØ, Rise MB, Marit B et al (2012) Efficacy of ongoing group based diabetes self-management education for patients with type 2 diabetes mellitus. A randomised controlled trial. *Patient Educ Couns* **86**: 98–105

Shaw GB (2015) Information, communication and health literacy. In: Marks DF, Murray M, Evans B, Estacio EV (eds). *Health Psychology: Theory, Research and Practice* (4th edition). Sage, London: 275–99

Saldone A, Lin S, Ganda OP et al (2006) Should group education classes be separated by type of diabetes? *Diabetes Care* **29**: 1656–8

Tang TS, Funnell MM, Anderson RM (2006) Group education strategies for diabetes self-management. *Diabetes Spectrum* **19**: 99–105

Teft G (2015) Numeracy skills in people with diabetes. *Diabetes & Primary Care* **17**: 218–20