



# Patient education – the forgotten link in managing osteoporosis

**BACKGROUND** Osteoporosis and bone fractures are common, yet osteoporosis is under diagnosed in Australian settings. Osteoporosis can now be reliably diagnosed, and safely and effectively treated, but patient education strategies are under utilised.

**OBJECTIVE** This article discusses the role of education in osteoporosis risk reduction and management.

**DISCUSSION** Osteoporosis education initiatives such as the Osteoporosis Prevention and Self Management Course can increase knowledge, self efficacy and health related behaviours such as calcium intake and exercise over the short to medium term.

Despite the high incidence of bone fractures in the Australian population,<sup>1,2</sup> osteoporosis is under diagnosed in Australian settings.<sup>3</sup> All clinicians bear some responsibility in this matter, however, general practitioners are at the forefront of diagnosis and management. Osteoporosis can now be precisely and accurately diagnosed,<sup>4</sup> and safely and effectively treated.<sup>5</sup> Current Australian guidelines provide algorithms for the management of osteoporosis if bone mineral density is known or the patient has already had a bone fracture.<sup>5</sup> However, management of osteoporosis requires more than diagnosis and treatment. The recent controversies surrounding hormone replacement therapy underscore the need for GPs to make sure their patients are adequately educated about osteoporosis – including available methods for diagnosis and treatment – by discussing real and perceived benefits and risks of treatment and nontreatment. In addition, the shift in recent years toward a patient centred model of health care allows the inclusion of another potentially important factor – educational strategies.

## Why education?

Education is essential for patients with osteoporosis for several reasons. Osteoporosis is clinically silent until fractures occur, while changes in fracture risk don't necessarily make patients 'feel' different physically. Provision of health education can allay anxiety and fear of the future, providing knowledge about the condition, and confidence in making good choices about health related behaviours. In this way, education also maintains patient interest and helps improve patient outcomes.

There is general awareness in the community about osteoporosis (certainly among women) and many are con-



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cerned with preventive measures,<sup>6</sup> but the levels of knowledge and self efficacy are low.<sup>6-8</sup> Many risk factors are modifiable such as calcium intake and physical activity, with educational strategies for preventing or reducing the impact of osteoporosis focussing on these risk factors.<sup>8-11</sup>

### Components of educational strategies

The two main components of educational strategies for osteoporosis prevention are:

- increasing knowledge about osteoporosis, and
- increasing self efficacy.

Several partially or fully validated instruments are available for increasing knowledge about osteoporosis.<sup>12-15</sup>

Only one was designed in the Australian population.<sup>15</sup>

Examples of questions include:

Osteoporosis leads to an increased risk of fractures, and

It is easy to tell whether I am at risk of osteoporosis by my clinical risk factors.<sup>15</sup>

The Osteoporosis Self Efficacy Scale is available to measure self efficacy.<sup>16</sup> It covers three aspects of self efficacy – initiation, maintenance and persistence – and includes questions such as:

If it were recommended that you do any of the following this week, how confident would you be that you could change your exercise habits?<sup>16</sup>

Simply providing information on osteoporosis (such as media awareness campaigns, leaflets or pamphlets) has a role in educating the population about osteoporosis. However, increasing knowledge about osteoporosis by giving basic information is not sufficient to change behaviour.<sup>9,11</sup> Behaviour change requires improvements in self efficacy in addition to better knowledge.<sup>17,18</sup> Therefore, knowledge about osteoporosis is important, but changes in self efficacy are crucial to changing the health related behaviour, which may lead to a reduction in fracture risk.

### Small group based interventions

One approach which incorporates methods for improving self efficacy as well as knowledge about osteoporosis is the Osteoporosis Self Management Course (OPSMC). The OPSMC is a small, group based educational intervention currently conducted in community settings by organisations such as Osteoporosis Australia (*Table 1*).

The format, and educational methods of the OPSMC are based on the internationally successful

**Table 1. Osteoporosis Prevention and Self Management course**

- Developed by Osteoporosis Victoria based on the ASMC by Dr Kate Lorig and colleagues
- A 10 hour program, over 4 consecutive weekly sessions (2 1/2 hours each week)
- A participant's textbook reinforces learning and provides a reference throughout the course
- Target group is adult women and men, and is currently designed for English speaking, literate adults
- Group size 10–16
- Key ingredient is changes in self efficacy

**The educational processes used include:**

- Lectures
- Brainstorming
- Small group work
- Discussion
- Demonstration

**The course content includes:**

- Osteoporosis pathology/bone anatomy
- Bone density measurement
- Self management principles
- Falls prevention
- Risk factors for osteoporosis
- Problem solving
- Exercise
- Posture
- Personal goal setting
- Pain management
- Relaxation
- Working with your doctor
- Nutrition
- Communications skills
- Medications
- Support from others

Source: Osteoporosis SA

Arthritis Self Management Course (ASMC) which was developed and produced by Dr Kate Lorig (Director and Associate Professor, Patient Education Research Centre, Stanford University School of Medicine) and colleagues at Stanford University.<sup>19</sup> Early evaluations of the OPSMC by the Arthritis Foundation of Victoria have found that it achieves a significant increase in preven-

tive behaviours, particularly exercise and calcium intake 6 months after completion of the course.<sup>20</sup> Other Australian research groups have found that women who received the OPSMC have a greater increase in both short and long term osteoporosis knowledge, compared to women receiving an osteoporosis information leaflet only.<sup>21</sup> Improvements in self efficacy have been reported in evaluations of the ASMC.<sup>22–24</sup> More research on the OPSMC is required to confirm that the benefits conferred by the ASMC also apply to the OPSMC. Educational strategies for osteoporosis (including the OPSMC) are much less well researched than other interventions for osteoporosis such as pharmacological treatments.<sup>25,26</sup> There are currently no formal meta-analyses (such as Cochrane reviews) for educational interventions in osteoporosis, although one has been carried out on educational interventions in adults with rheumatoid arthritis.<sup>27</sup> This concluded that the patient education strategies included in their review had small short term effects in a number of areas including disability, psychological status and depression (although most of the studies were small and included a variety of educational strategies). This illustrates that educational interventions are not necessarily standardised and may differ in content, duration and approach, as well as trial quality, making comparisons between different approaches more complex. There is still much to be done in evaluating this area of patient care.

### Who is suitable?

Osteoporosis education programs are suitable for people of a wide age range at different absolute levels of risk for developing osteoporosis. People at a lower absolute risk of osteoporosis may benefit by altering health related behaviours to ensure their health for the long term, whereas older people at higher absolute risk can have the opportunity to gain confidence in embracing treatment or prevention options that are more suitable for them, and within a supportive group environment. Similar programs to the OPSMC are also available for chronic diseases<sup>28</sup> in addition to the original version for arthritis (ASMC).<sup>19</sup> These courses have been used in other countries,<sup>29,30</sup> although the programs currently run by Osteoporosis Australia are still targeted at literate, English speaking adults, but culturally appropriate adaptations could potentially be made.

### Conclusion

Osteoporosis is a disease of the skeleton, but also of lifestyle, health beliefs and the habits of a lifetime.

Managing osteoporosis requires more than diagnosis and treatment. Strategies with patient centred approaches to health care have an emerging place in the health of the Australian population. Levels of knowledge about osteoporosis, and of self efficacy with relation to osteoporosis related health behaviours are low. Educational programs such as the OPSMC can increase osteoporosis knowledge and self efficacy. However, more evidence based research is required in this area.

### SUMMARY OF IMPORTANT POINTS

- Osteoporosis is under diagnosed in Australian settings.
- Managing osteoporosis requires more than diagnosis and treatment.
- Educational strategies include increasing knowledge and increasing self efficacy.
- Osteoporosis education maintains patient interest and helps improve patient outcomes.
- Risk factors such as calcium intake and physical activity are modifiable.

### Further information

Osteoporosis Australia is a national organisation that provides information, resources, support, and education about osteoporosis, with a view to reducing the incidence of osteoporotic fractures. Both patients and physicians can utilise the services and programs including the abovementioned OPSMC. Both the ASMC and the OPSMC are copyright. Contact Osteoporosis Australia for more information at: [www.osteoporosis.org.au](http://www.osteoporosis.org.au).

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