

### Yoga for back pain

One study involved a 6-week back pain Yoga programme and 22 people with chronic low back pain attended twice a week for six weeks. Compared to a control group who did not receive the Yoga programme (and used), the Yoga improved flexibility and balance, and diminished depressive symptoms. In addition to the questionnaires, interviews were conducted and it was found that being in a group motivated participants to do the exercises, and that the Yoga fostered relaxation and new awareness/learning.

Another study compared the outcomes of younger Yoga therapy and an educational course, both lasting for 16 weeks, for people with chronic low back pain. The main interest of the researchers was whether the participants would increase function, and also if pain levels would be affected. In the Yoga group, there were significant reductions in functional disability, pain intensity and pain medication usage at the end of the 16 weeks and 3 months after the programme compared to the educational group.<sup>19</sup> Perhaps these people continued to put their new awareness into practice at home. There was not a significant difference in psychological outcomes. It wasn't clear from the article what the content of the Yoga therapy was, but perhaps a more meditation and breathing based programme would have greater psychological impact.

"My students frequently remind me that their favourite posture is Savasana (relaxation/corpse pose). It seems, if nothing else, Yoga can remind people that to take time out and be still is very relaxing and calming."

A larger study again conducted in America, compared a 12-week programme of Yoga with both conventional exercise and a self-care book. The Yoga was based on the Vini-Yoga style as adapted from the book 'Yoga for Wellness' and participants were asked to practice at home. At the end of the study, the Yoga group was superior to both the other groups in terms of back-related function. In the longer term, the Yoga group had less 'behavioural' symptoms & mobility after the programme than those who used the self-care book.<sup>20</sup> It is important to note that all these studies used qualified Yoga teachers who were experienced in teaching people with back pain, with the right expertise to ensure those that Yoga will help people with back pain to learn what movements will strengthen their back, what to avoid, and to experience an improvement in function.

### Yoga for stress and anxiety

My students frequently remind me that their favourite posture is Savasana (relaxation/corpse pose). It seems, if nothing else, Yoga can remind people that to take time out and be still is very relaxing and calming. An interesting and intensive study in 2006 looked at the effect of a Yoga based lifestyle programme on anxiety in people with a variety of conditions. The 10-day intervention included asana (postures), pranayama (breathing exercises), relaxation techniques, group support, individualised advice, and lectures and time on the philosophy of Yoga. Anxiety scores were significantly reduced in people with hypertension, coronary artery disease, obesity and depression. However, it might be that someone who had that level of anxiety would feel motivated and this protocol may actually be used as part of an educational programme like this could be run through the NHS.

A more modest study looked at the effect of 6-week Yoga classes based on the Vini-Yoga tradition on symptoms of stress, in cardiac rehabilitation outpatients in America. Significant improvements resulted in measures on anxiety, tension, somatisation<sup>21</sup> and depression. Even 3 months after follow-up, participants were practicing the postures at home and reported positive attitudes toward the treatment. Similarly, in a study using Yoga as a treatment for adolescents with anxiety based syndrome, reductions in anxiety of adolescents with anxiety based syndrome, reductions in anxiety were recorded.<sup>22</sup> This occurred even though they received only one hour of Yoga instruction and then 4 weeks of practice at home, guided by a video. In addition, the adolescents reported lower levels of functional disability and less use of emotion-focused coping (rather than using problem solving).

It seems that taking part in Yoga sessions can give individuals a sense of control over the condition or symptoms and in turn, reduce anxiety and stress. I always think about Yoga as a tool kit, full of different techniques that I can rely on: to relax, to engage, to stretch, to strengthen, to focus inwards, to expand awareness. Although a good Yoga teacher can guide you through this tool kit, it's up to the individual to use the tools and become more practiced at using them. As somebody who practices Yoga regularly, you'll know why you do it and what the benefits are. I find it reassuring that scientists are increasingly interested in Yoga and how it can be effective for all sorts of people and conditions. Hopefully Yoga can now move more quickly from specialist centres to mainstream schools and healthcare in the UK.

19) Research 'significant' means that a statistical calculation has shown that there is a true difference between two different groups or variables.

20) WEST, J., OTTE, C., GERBER, K., JOHNSON, J. and MOHR, D., 2006. Effects of Hatha Yoga and Aerial dance on perceived stress, sleep, and salivary cortisol. *Annals of Behavioral Medicine*, 28(2), pp. 113-118.

21) MULLEN, G., DENNIS, D. and GORFINKEL, T., 2006. Emotional well-being of college students in health courses with and without an emotion component. *Perceptual & Motor Skills*, 103(2), pp. 717-725.

22) HARETT, S., DALBERGHEZ, J. and HIRSCHMAN, A., 2006. Mind the body: Yoga, embodiment and well-being. *Sexuality research & social policy*, 3(4), pp. 30-42.

23) LEE, S., 2004. The subjective well-being of beginning or advanced Hatha Yoga practitioners. *Database Abstracts Humanities*, 324-32, pp. 1741.

24) KURBAN, R. and ALL, H., 2005. Meditation, a harbinger of subjective well-being. *Journal of Personality & Social Psychology*, 89(1), pp. 50-52.

25) GALANTINO, M.L., KUCZYNSKI, T.M., FIORETTI, RUSCO, J.L., HOLBROOK, M.L., BOGCK, E.P., GENTLE, R. and FARRAR, J.T., 2004. The impact of modified Hatha Yoga on chronic low back pain: a pilot study. *Alternative Therapies in Health & Medicine*, 10(2), pp. 55-57.

26) WILLIAMS, K.A., PETERSON, J., SMITH, D., GOODRICH, D., WU, J., KIM, N., DOYLE, K.J., JR., GREGORY, JACQUET, R., MURPHY, KOLM, M., GROSS, R. and STRANDBERG, C., 2002. Effect of Yoga for stress in chronic low back pain. *Pain*, 101(1-2), pp. 107-117.

27) SHERMAN, K.J., CHEKIN, S.C., ZHOU, J., MEDICINETS, D.L. and OCHOA, R.A., 2006. Combining Yoga, exercise, and a self-care book for chronic low back pain: a randomized, controlled trial using content. *Annals of Internal Medicine*, 143(7), pp. 945-952.

28) Depression is where physical symptoms are present, but the cause is unknown.

29) KLOTZKE, J., CHENBERG, C.T., HAROLD, J., ISRAEL, P.H., JACOBSON, R. and ZIMM, F., 2006. A randomized trial of high- vs. low-intensity yoga for chronic stress syndrome. *Pain Research & Management*, 10(2), pp. 217-222.

There is a clear effect of Yoga teacher and a researcher. She is someone who is always around, a professional, well-being and treatment outcomes in primary anxiety, but it is interesting to see how generally. Comments and the article can be sent to [www@yogaintheuk.com](mailto:www@yogaintheuk.com).

# scientists & yoga

by Teasa Sanderson



## how research confirms what we Yogi/nis already know

The second half of the 20th century witnessed a dramatic influx of Yoga into the West. Yoga has become a household word. Many adverts have appeared showing pictures advertising all sorts of products (I recall a beer advert as the strangest use of Yoga to sell something!). I often wonder what the average person, who hasn't been along to a class or followed a DVD, thinks Yoga involves. At best people think it's a form of exercise requiring extreme flexibility. Frequently people have said 'Oh, you teach exercise in weird shapes. I'm not flexible. I couldn't possibly do it'. At worst, people stink away, leaving you feeling that you have 'cuff' stamped on your forehead.

The thing is, I know Yoga is good for me and I can feel the benefits. However, it can be difficult to say more than 'it is relaxing' or 'I feel healthier'. There is a growing amount of research about Yoga, particularly in India and America. Although some of the results may seem obvious to someone who has experienced Yoga, it is important for the scientific community that the benefits are proven and may even convince some of your more sceptical acquaintances to try it. I have also included research that examined whether Yoga could specifically benefit back pain and stress, conditions that are common in Yoga classes and everyday life.

### well-being

There is a substantial amount of research now showing that participating in a class of Yoga postures has a beneficial effect on well-being. Well-being has been measured using many different scales, including emotional and physical ones. Significant reductions in negative emotion and cortisol levels (an indicator of stress) were shown after even a one-off 90 minute hatha Yoga class.<sup>1</sup> However, most research examined the effects of regular Yoga practitioners or asked people to attend class for one or more months.

A large study with US college students examined the effects of exercise on emotional well-being. Students took part in aerobics, Yoga, swimming and other physical activities. A comparison group attended a lecture-only health course. The findings clearly showed that engaging in any type of exercise changed the students' perceptions of self-worth, appearance, romantic relationships, social acceptance, and athletic competence.<sup>2</sup> In particular, female students showed an improvement in their feelings about romantic relationships and athletic competence.

Another study looked at the effect of Hatha Yoga (the programme included postures, exercises, breathing techniques and meditation). Over the 2 month programme, the participants' self-perceptions

about their bodies improved. Among both men and women, more frequent Yoga practice was associated with increased body awareness, positive emotions, and life satisfaction.<sup>3</sup> A different study compared the well-being of beginner and advanced Hatha Yoga students and found that the more advanced practitioners demonstrated higher levels of emotional well-being.<sup>4</sup> It seems that people were chosen from different levels of classes at several Yoga centres in Hawaii (yes, I was also thinking that my well-being would be higher if I lived there!).

This poses an interesting thought: are people in an advanced class necessarily 'advanced'? How do we know? Do they know more postures, have greater flexibility or have just been going to classes for longer? Or have they developed a greater awareness and inner serenity? Perhaps the answer depends on what form of Yoga is being practised and what one's personal goals are.

The majority of research that I found was on Hatha Yoga, and the term 'Yoga' was generally used to represent physical postures rather than meditation or breathing exercises. An in-depth study which interviewed Indian college students who were practising Yoga postures found that the most fundamental changes were in physical self-concept.<sup>5</sup> I have seen this many times in my Yoga classes and the case study below gives one example of this phenomenon.

### case study:

A lady, whom I will call Jackie, came to one of my classes for several years. She had never tried Yoga before and was nervous about doing any form of 'bodywork' in a group. She told me later, as other women have done, that this was the first time she had done any physical activity since PE at school which she had hated. She always wore a huge black T-shirt and didn't want to take off her socks.

Jackie was a very self-contained person and shy. I felt that as well as being embarrassed about parts of her body, she was also distant from her physical self which she felt as separate from her. Over time, I observed that she was learning to 'unpack' her body, to see the areas of tension and relax them. It was beautiful to watch her in postures such as *Matsya asana* (Cat pose) where you could see her focusing inwardly and feeling the vertebrae move segmentally with great sensitivity. I also noticed that in *Sarvangi* (Inversion pose) her breathing had become much deeper and showed a new sense of freedom.

One day, I noticed that the socks had gone in retrospect, that was part of a bigger shift. Jackie started talking as a humanist and following her dream of a different life.