

# Patient Psychology Research Review™

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Issue 15 - 2015

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Patient Psychology Research Review

## Welcome to the final issue of Patient Psychology Research Review

**for 2015.** Highlights include an interesting look at measures of 'patient satisfaction with the doctor', that provides useful pointers for improving medical communication skills. This is followed by fascinating evidence that the placebo response in trials has increased in recent years, leading to smaller differences between drug and placebo arms. Two studies report the influence that drug labelling or emotive language have on drug efficacy and tolerability, and a study determines the best apps and/or wearable devices for monitoring physical activity. The issue ends with a reminder to be careful out there during the Christmas season.

We hope you find these and the other selected studies interesting. Please enjoy the holiday season and we'll be back in the New Year.

Kind regards

**Keith Petrie**

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## What do measures of patient satisfaction with the doctor tell us?

**Authors:** Boquiren V et al.

**Summary:** This study investigated how patient satisfaction with the doctor (PSD) is currently being measured. A search of MEDLINE and PsycINFO databases from 2000–2013 identified 1726 articles that assessed PSD; 316 studies fulfilled inclusion criteria. Review of the studies showed that PSD was either the sole focus of a questionnaire, or PSD questions were embedded in a larger questionnaire that assessed patient satisfaction with overall healthcare, a specific medical encounter, or the healthcare team. Five broad domains underlying PSD were revealed: communication attributes; relational conduct; technical skill/knowledge; personal qualities; and availability/accessibility.

**Comment:** This is an interesting analysis of the PSD measures. The paper looks specifically at the primary domains underlying this concept and the doctor behaviours and patient perceptions within each dimension. Probably of most relevance are the behaviours identified under the Communication Attributes and Relational Conduct domains. Under doctor Communication Attributes the review identified listening skills, eliciting patient information, providing explanations, ensuring patient understanding, providing information and addressing patient's concerns and questions as being the key behaviours. In the Relational Conduct domain, treating the patient with respect, a professional demeanour, and allowing shared decision-making were key. Also in this dimension were the patient's perceptions that their concerns were taken seriously, they felt understood and they had confidence in the doctor. The dimensions identified in the review provide a possible blueprint for evaluating interviewing skills in medical contexts and also provide pointers to developing teaching courses for developing medical communication skills.

**Reference:** *Patient Educ Couns* 2015; published online Jun 10  
[Abstract](#)



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## Increasing placebo responses over time in U.S. clinical trials of neuropathic pain

**Authors:** Tuttle A et al.

**Summary:** This study determined whether the placebo response in trials has increased in recent years, leading to a smaller difference between drug and placebo arms. Data were extracted from randomised controlled trials of drugs for chronic neuropathic pain that were published in 1990–2013. Placebo responses increased considerably from 1990 to 2013, but drug responses remained stable, leading to diminished treatment advantage. The trend was driven by studies conducted in the US. Consideration of participant and study characteristics revealed that randomised controlled trials increased in study size and length in the US but not elsewhere (these changes were associated with larger placebo response). Analysis of individual trial time-courses showed that treatment responses evolved faster than placebo responses then plateaued, such that maximum treatment advantage was achieved within 4 weeks.

**Comment:** Following the early success of gabapentin in clinical trials for treating neuropathic pain newer drug trials have been disappointing. In this study the authors investigated whether this may be due to the placebo response becoming stronger over time as has been seen in other areas of medicine, notably with antidepressants and statins. The results of their review show that the placebo response indeed increased over the period from 1990 to 2013. This has significantly reduced the advantage of active therapy over placebo. A more difficult and complex question is why has this occurred? One possibility is that doctors or the public have become more enthusiastic about the power of drugs and this has increased the placebo response and reduced the advantage of active therapy. Whatever the reason, showing a benefit over active treatments to placebo has become harder. Time to invest in some placebo stocks perhaps?

**Reference:** *Pain* 2015;156(12):2616-26  
[Abstract](#)

## Relaxation response and resiliency training and its effect on healthcare resource utilization

**Authors:** Stahl J et al.

**Summary:** Mind-body interventions can reduce stress and build resiliency. This study examined the effect of a mind-body intervention (the Relaxation Response Resiliency Program; 3RP) on healthcare utilisation. 4452 patients who underwent 3RP in 2006–2014 were assessed before and 1-year after the intervention, and compared with 13,149 controls. At 1 year, total healthcare utilisation for the intervention group decreased by 43% ( $p < 0.0001$ ), clinical encounters decreased by 41.9%, imaging by 50.3%, lab encounters by 43.5%, and procedures by 21.4% (all  $p < 0.01$  vs pre-intervention). Emergency department visits decreased from 3.6 to 1.7/year ( $p < 0.0001$ ) and hospital/urgent care visits converged with those of controls. Subgroup analysis showed that healthcare utilisation by the intervention group decreased significantly compared with controls (by 18.3% across all functional categories, 24.7% across all site categories and 25.3% across all clinical categories).

**Comment:** This paper is a retrospective analysis of the use of medical care before and after participation in a mind-body relaxation training programme conducted at Massachusetts General Hospital. The study found that participants in the relaxation response programme used fewer healthcare services in the year after completing the programme compared to the previous year. While the findings of the study are limited by its retrospective design, this is a provocative study which suggests that patients who are high users of healthcare could be helped by a relatively cheap relaxation training programme (compared to hospital or A&E care). The authors' analysis suggests that the patients most likely to benefit from the relaxation programme are patients with mental health problems or musculoskeletal and gastroenterological complaints.

**Reference:** *PLoS One* 2015;10(10):e0140212  
[Abstract](#)

## 3-D bone models to improve treatment initiation among patients with osteoporosis

**Authors:** Stephens M et al.

**Summary:** This study investigated the use of 3-D bone models for facilitating the initiation of bisphosphonate treatment in newly diagnosed patients with osteoporosis. 58 patients with estimated fracture risk above that at which guidelines recommend treatment were randomised to receive either a standard physician interview or an interview augmented by the presentation of 3-D bone models. Patients in the 3-D bone model group were more emotionally affected by osteoporosis immediately after the interview and reported a greater understanding of osteoporosis at 2-month follow-up, than the control group. A greater proportion of the intervention group started treatment with an oral bisphosphonate (52% vs 21%), but the overall initiation of medication for osteoporosis (including zoledronate infusion) did not differ significantly between groups.

**Comment:** This study by our group in Auckland found that providing patients with 3-D models of osteoporotic and normal bones in a medical consultation increased anxiety about the illness and perceived understanding of the illness. A greater proportion of the patients who had seen the bones initiated treatment with oral alendronate. This work is based around the idea that making disease processes more visible to patients can increase motivation to take treatment. The use of visual media and especially new 3-D technology can make bodily and disease processes more concrete for patients and requires very little resource to be effective. I think this approach holds promise for improving adherence in general, particularly if the visual image is tied directly to the patient's current level of adherence.

**Reference:** *Psychol Health* 2015; published online Nov 17  
[Abstract](#)

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### Impact of brand or generic labeling on medication effectiveness and side effects

**Authors:** Faasse K et al.

**Summary:** This NZ study examined the impact of brand or generic labelling on medication effectiveness and side effects. 87 undergraduate students with frequent headaches took tablets labelled either as brand name "Nurofen" or "Generic Ibuprofen" to treat each of 4 headaches (using a within-subject counterbalanced design). In reality, half of the tablets were placebos and half were ibuprofen 400mg. Participants recorded their headache pain before and 1 hour after taking the tablets. Pain reduction after taking the brand name-labelled tablets was similar with active ibuprofen and its placebo. However, if the tablet had a generic label, the placebo tablet was less effective than active ibuprofen. Fewer side effects were attributed to placebo tablets with brand name labelling than to the same placebo tablets with a generic label.

**Comment:** Another paper from our group looking at the impact of labelling pain medication as either "Nurofen" or "Generic Ibuprofen". It shows how branding confers treatment benefit even when the medication contains no active treatment. As in other parts of our lives, branding also plays an important role in giving products an added veneer of quality or efficacy. Branding may enhance the placebo effect and increase drug effectiveness, which could be lost with a switch to a generic alternative. This loss of branding can also cause an increase in side effects, which is not caused by the medication itself but instead due to negative expectations of increased side effects from the generic medication. These are important issues as countries seek to contain costs by switching to more generic medications.

**Reference:** *Health Psychol* 2015; published online Oct 12  
[Abstract](#)

### A randomized trial testing US Food and Drug Administration "breakthrough" language

**Authors:** Krishnamurti T et al.

**Summary:** In colloquial terms, the word "breakthrough" suggests an important, definitive advance. However, the US Food and Drug Administration (FDA) is allowed to assign the "breakthrough" designation to a drug that "treats a serious or life-threatening condition" and "may demonstrate a substantial improvement ... over available therapies" based only on preliminary evidence. This randomised trial explored the impact of the "breakthrough" designation on consumer perceptions of drugs. An online sample of 597 adults was randomised to read 1 of 5 short descriptions of a recently approved drug, based on an FDA press release for a metastatic lung cancer breakthrough drug. The descriptions ranged from "facts only" to including the descriptors "breakthrough" and "promising". Adding either descriptor significantly increased the percentage of participants rating the drug as "very" or "completely effective" compared with facts only (23% and 25% vs 11%).

**Comment:** How often have you read in the paper that a new study or treatment is a "breakthrough"? I would expect the answer is quite a lot, especially if you are a NZ Herald reader. In this clever study, the authors looked at the effect the word "breakthrough" or "promising" had on the perceptions of the drug. The authors found that use of these terms increased individuals' belief in the drug's effectiveness and strength of supporting data that the drug had been proven to save lives, compared to descriptions that did not use these terms. Participants were also more likely to take the breakthrough drug. The study shows the effect that emotive language can have on perceptions of drug efficacy and may be relevant to recent media discussions in NZ about drugs that people believe should receive public funding.

**Reference:** *JAMA Intern Med* 2015;175(11):1856-58  
[Abstract](#)

**Merry Christmas and a healthy, happy 2016!**

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## Using animation to improve recovery from acute coronary syndrome

**Authors:** Jones A et al.

**Summary:** This study investigated the effects of a brief animated intervention, used at the patients' bedside, on their recovery from acute coronary syndrome (ACS). 70 patients with ACS were randomised to the intervention or standard care alone. Seven weeks after the intervention, patients assigned to the intervention had fewer symptoms, less cardiac avoidance, greater exercise and faster return to normal activities than standard care patients.

**Comment:** This study of a brief animated intervention on an iPad showing how ACS develops and how statin and aspirin medication work to keep coronary arteries healthy was helpful in improving illness perceptions, increasing rates of return to normal activities and greater levels of exercise in the intervention group. The study is further evidence that interventions that incorporate visualisation of the illness or the action of medication can help patients' understanding of the disease process and increase motivation to adhere to medication. Such interventions also have the potential of being very scalable as they can be delivered in person or perhaps even by email as part of an education programme. Whether particular patients benefit from visualisation interventions is still an open question, but the technique itself seems very powerful.

**Reference:** *Ann Behav Med* 2015; published online Oct 23

[Abstract](#)

### Independent commentary by Professor Keith Petrie

Keith Petrie is Professor of Health Psychology at Auckland University Medical School. He worked as a clinical psychologist in medical settings before taking up a faculty position in Auckland.



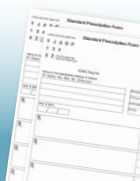
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## Accuracy of smartphone applications and wearable devices for tracking physical activity data

**Authors:** Case M et al.

**Summary:** This study evaluated the accuracy of smartphone applications and wearable devices for tracking physical activity. 14 participants walked on a treadmill set at 3mph for 500 steps (twice) and 1500 steps (twice). During testing they carried 10 smartphone apps or wearable devices either on the waistband (Digi-Walker SW-200<sup>®</sup> pedometer, and Fitbit Zip<sup>®</sup> and One<sup>®</sup> accelerometers), the wrist (Fitbit Flex<sup>®</sup>, the UP24<sup>®</sup>, and the Nike Fuelband<sup>®</sup> wearable devices), or in the pants pocket (an iPhone 5s using Fitbit<sup>®</sup>, Health Mate<sup>®</sup>, and Moves<sup>®</sup> apps, and a Galaxy S4 using Moves<sup>®</sup>). Mean step counts and standard deviations for each device were estimated. Compared with direct observation of step counts, the relative difference in mean step count ranged from -0.3% to 1.0% for the pedometer and accelerometers, -22.7% to -1.5% for the wearable devices, and -6.7% to 6.2% for smartphone applications.

**Comment:** This paper looks at the accuracy of smartphones and devices such as Fitbit<sup>®</sup> in comparison to a direct observation of step counts. Participants were loaded up with devices and set about to walk an observed 500 and 1500 steps. The pedometer and devices using accelerometers (Fitbit Zip<sup>®</sup> and Fitbit One<sup>®</sup>) were most accurate whereas the more expensive wearable devices (Fitbit Flex<sup>®</sup> and Nike Fuelband<sup>®</sup>) were less accurate. Generally, the iPhone and Galaxy phone apps were also very accurate. The results suggest that using smartphones for collecting step data will probably be easier for people than wearing a device and these phones also offer very accurate recordings.

**Reference:** *JAMA* 2015;313(6):625-26

[Abstract](#)

## "Oh the weather outside is frightful": severe injury secondary to falls while installing residential Christmas lights

**Authors:** Driedger M et al.

**Summary:** This Canadian study examined the severe traumatic injuries associated with falls during installation of Christmas lights. All patients who were admitted to a referral level 1 trauma centre in 2002–2012 with severe injuries caused during Christmas light installation were reviewed. 40 patients (95% male; mean age 55 years) were severely injured by falling while installing Christmas lights. The types of injuries included neurologic (68%), thoracic (68%), spinal (43%) and extremity (40%) regions. Falls were from ladders (65%), roofs (30%), the ground (3%) and railings (3%). Interventions included intubation and critical care (20%), and orthopaedic/neurosurgical operative repairs (30%). The length of hospital stay ranged from 2 to 165 days (median 15.6 days). 12.5% of patients were transferred to a long-term care or rehabilitation facility, and 5% of patients died.

**Comment:** Finally, a reminder to be careful out there during the Christmas season. This look at injuries while installing Christmas lights makes sobering reading. Most patients injured in this series of residential Christmas light accidents were male and aged in their mid-50s, but their falls had very serious consequences, with a median of 15 days in hospital and 2 deaths.

**Reference:** *Injury* 2015; published online Sep 28

[Abstract](#)

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