

Patient Psychology Research Review™

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Issue 6 - 2013

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Patient Psychology Research Review

Welcome to the latest issue of Patient Psychology Research Review.

Highlights this month include a review of the rationale for patient decision aids, a study of the impact of clown doctors on preoperative anxiety in children, an impressive wound healing study in older adults, and a fascinating 'invisible gorilla' study.

We hope you enjoy the selected studies and look forward to hearing any feedback you may have.

Kind regards

Keith Petrie

keithpetrie@researchreview.co.nz

An introduction to patient decision aids

Authors: Drug and Therapeutics Bulletin Editorial Office

Summary: This review discussed the rationale for patient decision aids, and provided examples of their current and potential uses. Patient decision aids help people make informed choices about healthcare by taking into account their personal values and preferences. They encourage active participation by patients in healthcare decisions and form part of a shared decision making process. Decision aids have been developed to make it easier for patients and healthcare professionals to discuss treatment options, and are relevant in many common healthcare decisions.

Comment: Decision aids are being used more often to help patients make treatment decisions about their illness. Particularly in areas of medicine where there are a number of competing treatment options or the benefits and risks of treatment need to be weighed up carefully. Decision aids also have the advantage of the patient feeling more involved in choices about their care. The decision aid area has become quite an active area of research. Interestingly, the data show that when patients use decisional aids they tend to choose more conservative treatment options and report improved communication with their doctor.

Reference: *BMJ* 2013;346:f4147

<http://dx.doi.org/10.1136/bmj.f4147>

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Clown intervention to reduce preoperative anxiety in children and parents: a randomized controlled trial

Authors: Dionigi A et al.

Summary: This study evaluated the impact of clown doctor intervention on preoperative anxiety in children hospitalised for minor surgery. 77 children and their parents were included. Children were randomised to be accompanied in the preoperating room by their parents and two clowns (clown group; 52 children) or to be only accompanied by their parents (comparison group; 25 children). The clown intervention significantly reduced the children's preoperative anxiety. Those in the clown group benefited from the clown's presence and showed better adjustment than children in the comparison group. Mothers in the comparison group had higher anxiety than those in the clown group.

Comment: Surgery is usually a very anxious time for children and parents. This study demonstrated that clowns interacting with children prior to surgery using soap bubbles, magic tricks and puppets to familiarise children with the hospital environment reduced children's anxiety prior to surgery. The clowns didn't seem to reduce parental anxiety, perhaps because they were focused on the children. Questions also remain about which age groups would respond best to the intervention. However, the study shows that clowns could be used more often in paediatric settings to reduce anxiety prior to procedures.

Reference: *J Health Psychol* 2013. Epub ahead of print 29 Jan

<http://dx.doi.org/10.1177/1359105312471567>

Expressive writing and wound healing in older adults: a randomized controlled trial

Authors: Koschwanez H et al.

Summary: This NZ study investigated whether expressive writing could hasten wound healing in older adults. 49 healthy older adults aged 64–97 years were randomised to write for 20 minutes a day about upsetting life events (expressive writing group) or daily activities (time management group) for 3 consecutive days. Two weeks later, 4-mm punch biopsy wounds were created on the inner, upper arm that were then monitored regularly for reepithelialisation. At day 11 post-biopsy, individuals in the expressive writing group had a greater proportion of fully reepithelialised wounds than those in the time management group (76.2% versus 42.1% healed; $p=0.028$). Regression analysis found that more sleep in the week before wounding also predicted faster healing. In conclusion, expressive writing can improve wound healing in older adults.

Comment: This impressive wound healing study was completed in healthy older adults. The investigators demonstrated that writing about traumatic or upsetting events prior to surgery improved wound healing in punch biopsy wounds, compared to writing about control topics. This work is based on Jamie Pennebaker's pioneering studies showing health benefits following expressive writing and provides compelling evidence for how psychological processes can strongly influence immune activity. A number of studies now have shown that stress has a strong effect on wound healing. This intervention study suggests that psychological interventions also may be effective in speeding wound healing. Further investigations into whether writing can be more conveniently timed to after surgery, when patients have more time, may increase the applicability of the intervention.

Reference: *Psychosom Med* 2013;75:581-590

<http://dx.doi.org/10.1097/PSY.0b013e31829b7b2e>

Misinformation increases symptom reporting: a test-retest study

Authors: Merckelbach H et al.

Summary: This study examined whether misleading information can promote symptom reporting in nonclinical participants. The investigators collected baseline data about psychological symptoms from 78 undergraduate students and then misinformed them that they had rated relatively highly for 2 target symptoms. The same symptoms were then assessed a week later using a self-reported measure of psychological symptoms. Most participants (63%) were unaware of the discrepancies between their original symptom ratings and the upgraded scores they were misinformed about. At the 1-week follow-up retest, these participants revised their symptom ratings in the direction of the misinformation (i.e. they increased their symptoms ratings). In conclusion, poor introspective monitoring of common psychological symptoms creates an opportunity for misinformation and symptom escalation.

Comment: This paper provides some evidence that symptom reporting is susceptible to manipulation by misleading participants about symptoms they have previously reported. Participants who asked about their (false) symptoms tend to increase reports of the same symptoms in subsequent assessments. The study has implications for the production of symptoms in functional illness and explains how increased symptom reporting has been shown following news bulletins of illness outbreaks. In each of these cases, discussion of the symptom may make relevant sensations more salient for an individual and thus increase the particular symptoms.

Reference: *JRSM Short Rep* 2011;2(10):75

<http://dx.doi.org/10.1258/shorts.2011.011062>



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Patient inertia and the status quo bias: when an inferior option is preferred

Authors: Suri G et al.

Summary: The status quo bias (SQB) is the tendency to stick with a previous decision either by actively choosing the default, or by doing nothing. This set of studies evaluated the impact of the SQB on patient inertia, a potential source of medical noncompliance. The investigators created a laboratory analogue of the decision context that often occurs in situations involving patient inertia. In studies 1 and 2, participants were given the option to reduce their anxiety while waiting for an electric shock (i.e. by pressing a button to reduce the wait). Frequently, participants chose to stay with default options despite the fact that they could have been better off by proactively taking action. In study 3, participants were given experience with pushing the button that reduced the shock probability. This seemingly minor support was enough to overcome the SQB.

Comment: This paper reports on a very clever set of studies that support the idea that individuals have an inbuilt preference for the status quo. The researchers do this by demonstrating that people hold on to the default or status quo option, even when it is clearly worse than the available alternatives. The authors also convincingly argue that in order to reduce this bias among patients, it is necessary to support individuals to overcome their in-built default state and induce people to try the behaviour once. Thus it may be more cost-effective to convince patients to start taking their medication as prescribed, go for a first run or have the first medical check, rather than trying to spend money on a broader public health campaign.

Reference: *Psychol Sci* 2013. Epub ahead of print 19 Jul

<http://dx.doi.org/10.1177/0956797613479976>



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Pedometer-based internet mediated intervention for adults with chronic low back pain: randomized controlled trial

Authors: Krein S et al.

Summary: This study investigated the effects of a pedometer-based, internet-mediated intervention on chronic back pain-related disability. 229 veterans with nonspecific chronic back pain were randomised 1:1 to receive the intervention or usual care. The intervention group received an uploading pedometer and had access to a website that provided automated walking goals, feedback, motivational messages, and social support. Usual care participants also received the uploading pedometer but did not receive the automated feedback or have access to the website. The primary outcome was measured using the Roland Morris Disability Questionnaire (RDQ); a difference in mean scores of ≥ 2 was considered clinically meaningful. At 6 months, average RDQ scores were 7.2 and 9.2 in the intervention and usual care groups, respectively for the complete case analysis ($p=0.02$). A post hoc analysis of patients with RDQ scores ≥ 4 at baseline showed even larger between-group differences at 6 months, but at 12 months the differences were no longer significant. In conclusion, automated interventions may be an efficient way to assist patients with chronic back pain.

Comment: In most Western countries, chronic low back pain is an expensive and difficult to treat condition. Patients with back pain represent the greatest proportion of patients attending pain clinics and back pain is one of the most costly and disabling conditions. This intervention, which was based around a pedometer and website that provided automated goal setting and feedback, as well as some educational materials, showed impressive effects for improvement in disability at 6 months. While the effects weren't maintained at 12 months, the results point to the potential that an internet intervention may have to improve recovery in this group. The intervention is cheap and very scalable and with changes has the potential to make inroads into improving disability in patients with very intractable pain problems.

Reference: *J Med Internet Res* 2013;15(8):e181

<http://www.jmir.org/2013/8/e181/>

Long-term outcomes of internet-based self-management support in adults with asthma: randomized controlled trial

Authors: van Gaalen J et al.

Summary: This study assessed the long-term effects of internet-based self-management (IBSM) support in patients with asthma. 200 adults with physician-diagnosed asthma (≥ 3 months of inhaled corticosteroids prescribed in the past year) were randomised to IBSM or usual care alone for 1 year. Follow-up at 30 months after baseline showed a sustained and significant difference in asthma-related quality of life and asthma control in favour of the IBSM group. However, no between-group differences were found for inhaled corticosteroid dosage or for lung function. In conclusion, improvements in asthma-related quality of life and control in patients who received IBSM support for 1 year were sustained for up to 1.5 years after terminating support.

Comment: This study represents an example of one of a large number of studies that are being published showing that internet-based chronic illness self-management programmes have enormous potential in helping patients improve their management of their condition. In this study, internet support resulted in improved asthma control and improved quality of life and these positive results were sustained over a year after the internet support finished. Such chronic illness management programmes are becoming more common and more sophisticated. They now use goal setting and integration of physiological data from the patient or their relevant medical device. It is likely such programmes will become essential components of standard care in many chronic conditions.

Reference: *J Med Internet Res* 2013;15(9):e188

<http://www.jmir.org/2013/9/e188/>

Patient Psychology Research Review

Independent commentary by Professor Keith Petrie

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

For full bio [CLICK HERE](#).



Association of costs with somatic symptom severity in patients with medically unexplained symptoms

Authors: Konnopka A et al.

Summary: This study investigated the association between costs and somatic symptom severity (SSS) in patients with medically unexplained symptoms (MUS). A retrospective cost analysis was undertaken for a 6-month period in 294 primary care patients with MUS. Patients with MUS had mean 6-month direct costs of 1098 EUR and indirect costs of 7645 EUR. Outpatient physician visits were the most expensive direct cost, followed by pharmaceuticals and hospital stays. Indirect costs were mostly due to reduced productivity at work and early retirement. Compared with mild SSS, moderate SSS was significantly associated with indirect (but not direct costs); severe SSS was associated with increased direct and indirect costs. Age was positively associated with direct and indirect costs. In conclusion, the costs associated with MUS are strongly dependent on SSS.

Comment: This study examined the direct and indirect costs of 294 primary care patients with medically unexplained symptoms. Looking back over the previous 6 months, patients had direct costs of approximately NZ\$1,500 with outpatient hospital visits being the most expensive item. However, patients also on average cost NZ\$12,000 in indirect costs, made up mostly by reduced productivity. The costs are clearly an underestimate, as the study is based on 2007 pricing. The study highlights what a large burden patients with unexplained medical symptoms are to the health system and society. Effective interventions are needed to help GPs manage such patients without resorting to more and more expensive investigations and interventions.

Reference: *J Psychosom Res* 2013. Epub ahead of print 24 Aug

<http://dx.doi.org/10.1016/j.jpsychores.2013.08.011>

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Research Review publications are intended for New Zealand health professionals.

Effectiveness of mobile phone messaging in prevention of type 2 diabetes by lifestyle modification in men in India

Authors: Ramachandran A et al.

Summary: This study investigated whether text messaging that encouraged lifestyle change could reduce incident type 2 diabetes in Indian men with impaired glucose tolerance. 537 men aged 35–55 years with impaired glucose tolerance were randomised 1:1 to a mobile phone messaging intervention or standard care (control group). The intervention group received frequent text messages encouraging lifestyle changes. After 2 years' follow-up, the cumulative incidence of type 2 diabetes was lower in the intervention group than in controls (18% vs 27%; hazard ratio 0.64, $p=0.015$). In conclusion, text messaging is an effective means of encouraging lifestyle modification to prevent type 2 diabetes in high risk men.

Comment: This is an excellent example of how new technology can be used to reduce the risk of illness. This Indian study, just recently published in the *Lancet*, was effective in reducing the incidence of type 2 diabetes in high risk men through the use of carefully chosen text messages that encouraged activity and healthy eating. The messages include such texts as "moderate physical exercise keeps you healthy", "avoid snacks while watching TV, you may overeat" and "take fruits as a whole and not as a juice". The messages were sent out 2–6 times a week, depending on participants' preference, over a 2-year period. The study capitalises on the high penetration of cell phones in very poor and at-risk populations and the intervention is very scalable to a much wider public health campaign.

Reference: *Lancet Diab Endocrinol* 2013; Epub ahead of print 11 Sep

[http://dx.doi.org/10.1016/S2213-8587\(13\)70067-6](http://dx.doi.org/10.1016/S2213-8587(13)70067-6)

The invisible gorilla strikes again: sustained inattentive blindness in expert observers

Authors: Drew T et al.

Summary: This study evaluated the presence of inattentive blindness in radiologists. 24 radiologists were asked to perform a familiar lung-nodule detection task. A gorilla that was 48 times the size of the average nodule was inserted in the last slide that was presented. 83% of the radiologists did not see the gorilla. Eye tracking showed that most of those who missed the gorilla looked directly at its location. In conclusion, even expert searchers operating in their domain of expertise are vulnerable to inattentive blindness.

Comment: I finish this edition with a very interesting study. Many readers will know of a classic psychology experiment by Simon and Chabris where participants were asked to count the number of basketball passes made by a group of students in white shirts. In the middle of the video a gorilla strolls into the action (you can see the video at www.theinvisiblegorilla.com). The researchers found about half of the people who watch the video miss the gorilla. In this new study, researchers asked radiologists to perform a lung nodule detection task. However, the researchers had inserted into some of the slides quite a large gorilla. The majority of radiologists didn't see the gorilla. These studies point out that our mind often fools us, and even experts, into seeing only what we think we will see. Often these illusions can get us into trouble. Watch out for gorillas.

Reference: *Psychol Sci* 2013. Epub ahead of print 17 Jul

<http://dx.doi.org/10.1177/0956797613479386>



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