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Louis Gifford: Editorial : A plea for descriptive research.

Over the years I have had many letters from physiotherapists keen for ideas for research projects or to ask my opinion and guidance with their particular ideas for research. I might not be the best person to ask as you will see, but I usually suggest something that would useful to know about in the clinic and which would be relatively easy to research. Sadly nobody has come back to me and shown me their results. I have a feeling the reason is either because what I suggest is not particularly trendy and doesn't involve complicated groupings and analysis (that assessors and examiners seem to like/need?), or the suggestions are too simple, or more likely, just plain daft. You can judge for yourself, but this piece is really a plea for those considering research to give a thought to more descriptive projects rather than quantitative or evidence based work looking at treatments. There is a terrible dearth of well researched basic clinical knowledge, we need to know more about what normally happens. Let's prove that the information we provide has some basis in truth.

Personal research experience!

I have to admit that I have only done two pieces of research work in my whole career and both recorded a natural phenomenon as it occurred over time.

For the first 'pre physio' project I collected macroinvertebrates (big little organisms) living on the bottom of a pond in Wanstead Park in East London. I was particularly interested in the types of organisms that colonised newly covered shore line as the pond level rose through autumn into winter. I waded into the water every week armed with a plastic drainpipe, which acted as a collecting tool, and a tin dish to put the bottom detritus in. The stuff was taken back to the lab where I sifted through and picked out and identified anything that wriggled. The results were never published but I found out that the creatures that moved into the new areas the quickest and stayed the longest were the larvae of the non-biting midges, the chironomidae! I was told by my supervisor, a chironomid nerd, that this was the first piece of research on the topic to his knowledge. To be honest that little comment was really nice, because the main pleasure came from the knowledge that I had dreamt the whole idea up in the first place! (Truth about purpose of research = to create a glow of satisfaction and get a bit of recognition?)

The second project stemmed from a bath-time observation.

I've never been able to really satisfactorily touch my toes without a significant knee bend. First thing in the morning it's far worse, straight legged, I can just reach my knees, but after about an hour of being up I can reach to half way down my shins, passing the knees with relative ease if you please. However, having a hot bath dramatically changes things, in fact it gets rid of the wasted hour and I am well on my way to full daytime range almost as soon as I'm towelling down.

So, I got interested in flexibility changes over 24 hours – everybody talks about morning stiffness, but nobody in the early 1980's had demonstrated it in a worthwhile way (This is meant to be serious). Was it just a feeling or was it a real change in flexibility? Is everyone the same? – Do some like me show remarkable changes in

flexibility, and are there some who are flexible whatever the time of day?. Many patients report being barely able to get out of bed or get their socks/pants/shoes on first thing – is this an amplification and sensitisation of their normal state? Simple stuff and simple questions for an everyday normal and clinical phenomenon, – yet to my surprise no one had recorded it in anything but a very cursory way in all the literature I scoured in the early 1980's.
The research I ended up doing involved measuring lumbar flexion and extension; toe touching with straight knees, SLR; lateral rotation of the glenohumeral joint at 90 degrees abduction and grip strength – every 2 hours over a 24 hour period!! The results are formerly written up in Gifford (1987) and basically show great variability (which may well be more down to the party atmosphere through the night and the hangovers through the following day). However, we do seem to tighten up a bit in the early hours and loosen up through the morning – especially with the forward bending measure – and some of us more than others (My stiffness variation in forward bending was the biggest by the way!).

Note, no statistics, no complicated groups, just a few graphs to help illustrate what happens and a few range comparisons. Simple and useful, but there was a great deal of pressure on me to 'do statistics' I almost wasn't allowed to get away with a 'descriptive project'.

A major point is that we need an 'evidence base' for normal observations and natural histories of disorders. Patients are always asking awkward questions that we haven't got good answers for most of the time and really should have:
How long will 'it' take to get better…? Is the classic. I doubt if anyone has got a good answer, let alone an evidence based answer, in at least 90% of conditions.

What happens after hip replacement?

A little while ago I had a patient who had had a **right** hip replacement a year previously (We chatted about it while I was helping her with a knee problem). She told me that after the operation she became aware that her **left** leg below the knee was excruciatingly painful, incredibly sensitive to touch, and also that the skin over the top of the foot was totally dead when she touched it. The excruciating pain and hypersensitivity went on for months and was her major concern – the hip was absolutely fine and rehabed well. The tragedy was that no one wanted to know about this 'pain that shouldn't be there', no one took time to listen or give a possible explanation, no one reassured her or offered her treatment, and she was really made to feel bad if she mentioned the problem at all. 'I started to feel as if they were blaming me for it, and that I was a fuss pot'. Everyone was interested in the hip, nothing more. I expect you have all heard similar tales, they are so common. However, what was interesting here was the discussion we had, and together we came up with some thoughts about how the whole thing could have been managed far better:
A major issue was that she was quite prepared to have accepted it and would have coped far better if the surgeon had reassured her that 'these things occasionally happen to a few people and are unfortunate side effects…'
I agreed about how helpful good information can be sometimes – and how often it was skirted round or ignored. Then she said, 'I sometimes wonder if these consultants have any idea of what happens to their patients after the operations', 'What do you

mean?' I asked. 'Well, if they don't listen to their patients they probably haven't a clue about what they are going through, and if they don't know what they are going through, how can they possibly be able to reassure them? Has anyone ever sat down and listened to patients and recorded what they feel, what they go through over the weeks and months that follow? Wouldn't that information, that truthful information, be useful for the consultants to give to their patients?'

Agreed! Afterwards I thought that here was an easy research project for someone, and so useful, and that the term used for these 'unwanted' symptoms needed reviewing. I thought of the words 'side effects' versus the more negative 'complications' that a surgeon might use, or could a more useful phrase like 'normal things that may happen following hip replacement'.

The research would require a clinician, and a physiotherapist would be ideal, to meet up with patients pre and post hip operations and assess/chart any number of things that may be relevant to what patients (oh, and surgeons, ahem!) might find useful to know - symptoms, functional changes, various obstacles, changes in range, changes in power, mood changes, other pains, new pains, old pains, wellbeing etc. etc. Straight forward, well assessed normative data derived from a series of well structured interviews and physical examinations of a sizeable population survey would do nicely.

Wouldn't it have been nice for my patient to have been fully listened to, fully examined and then told something like …. 'that about 5-10% of patients who have hip replacement surgery get a nerve irritation problem like hers, that it can be in either leg and that it settles with time and that patients can be helped to manage the problem through the recovery time …' and even something like …. 'during the operation I can reassure you that all steps were taken to move you with great care and not to injure you while you were under the anaesthetic' …. and even … 'that the reason for the problem starting is not fully understood, but is thought to be due to a nerve being irritated in the back and may be a consequence of being totally relaxed while unconscious….unfortunately we have no way of predicting this sort of thing…'

Surgeons might prefer to give information about 'normal' recovery to patients prior to the operation and before a final decision to go ahead was made. Many surgeons in my area do give out information regarding 'complications' – perhaps more in attempt to try and put patients off the surgery, or maybe to avoid lawsuits? A little cynical perhaps, but balanced and honest information is what is required and it can be so helpful if given in the right way.

In the context of post hip replacements like my patient, it would be useful:

1. To scour the literature to find out about post operative 'complications' (at the worst end of the spectrum) and the natural history (at a more positive end of the spectrum) for patients post hip surgery and to then put it all together and publish it.
2. To mount a descriptive research project in as big a number as possible if the information isn't out there already. Research needs to have a balanced focus on the positive as well as the negative aspects of the surgery.
3. To write it all up as a patient handout in the style of the Back Book (Roland et al 1996)

Normal pain

I like the idea of 'normal pain' and 'normal presentation'– for example, normal back pain, normal sciatica, normal frozen shoulder, normal tennis elbow, normal carpal tunnel syndrome, because it implies a natural history and challenges the rather threatening and pathological status given to these conditions and other pains like them.

Did you know that in a review of the literature on frozen shoulder by Hugo Stam (1994):

- The painful phase can last between $2^1/_2$ and 9 months
- The stiff period lasts between 4 and 12 months
- The recovery period lasts between 5 and 26 months – yes that's two years and 2 months.
- The total duration ranges from 12 months to 4 years and 2 months and the average is $2^1/_2$ years!!

OK? Has anyone ever told you that at Physio school? Has anyone ever told you how to discuss it with your patients and that they might find it useful to know if presented well. Acceptance and adjustment are so often helped by sound information. Is anyone aware of any other reviews, or more recent findings? Does anyone know of any research that has systematically researched and recorded where the pain is commonly felt and what its quality is like in a decent number of patients? I would like to know wouldn't you?

As a newly qualified physiotherapist I remember doing 'p/a's' and flexion 'flapping' grade 3 on these frozen shoulder patients for up to one and a half minutes three times a week for week after week after week. In view of the natural history I think this was a complete waste of time and money– mine, the patients, the governments, and I wasn't the only one doing this – thousands were I expect (statement based on no evidence though!!).

If I had a frozen shoulder I would like to know:

- What it is, what's known about it, and what may have caused it if it wasn't an obvious strain or injury.
- Whether I have to live with it, whether it will get better or not, and if it is likely to get better how long it will take.
- What I should be doing to help it get better or prevent it getting worse.
- What treatment options were available and how effective they are. If there was a cure or whether any treatment, exercise or pill was available that helps speed its recovery.

For most conditions therapists see we cannot answer any of these questions really satisfactorily. Thanks to published reviews like that of Stam (1994) we can provide some reasonable answers for some conditions. The information is either out there or if it isn't it needs to be investigated and then it needs to be taught to everyone. Note how Physiotherapy Frontline is full of adverts for courses on how to treat – but rarely is there a course on a condition, its presentation or its natural history. How can we possibly treat or manage something if we don't know anything about it?

There is a great deal of useful mileage for researchers to provide:

- Literature reviews of the natural history of common conditions. For example those listed above but also simple sprains and strains of various tissues.
- Information on the natural history of conditions.
- Information on post surgical recovery patterns
- Information on normal responses to physical tests used in common physical screening over all age ranges. For example, a favourite of mine – what happens to quads, calf, biceps and triceps reflexes from young to old? It's my observation that the calf and triceps reflexes tend to get more and more difficult to elicit the older the patient. True or false?

……… And for teachers to teach it and to then teach us how to explain and communicate the information effectively to our patients. We must all be aware of a great many patients who were given some information that had a very powerful impact on them – positive and negative.

Why is descriptive research of everyday clinical occurrences and observations so un-trendy?

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