

**Title: Attributes used by regional Australian back pain sufferers to evaluate treatment types and service providers**

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## **Attributes used by regional Australian back pain sufferers to evaluate treatment types and service providers**

### **Abstract**

The aim of this research was to identify the key service attributes used by back pain sufferers to measure their satisfaction with mainstream and alternative treatments and service providers. The convergent interviewing technique was used to interview 12 respondents in a regional town in Australia. The research identified four key quality dimensions: treatment outcome, treatment style, service provider; and service practice. Although some of the attributes under each of these dimensions have been identified in the back pain service quality literature, others were new such as for example, changes in posture; restoration of peaceful sleeping patterns; treatment style being comfortable; being told upfront how many treatments are needed and what the expected outcomes will be; and getting results after a reasonable two to three treatments. Furthermore, the research showed that both the treatment style and service can contribute to satisfaction on their own or simultaneously.

### **Introduction**

While service quality measurement is an established concept in marketing (Parasuraman, Zeithaml & Berry, 1991), its acceptance as a core element in the management of health services is relatively new (Otani et al., 2012). In particular, there is growing recognition that the measurement of therapy outcomes such as those provided for back pain should no longer focus solely on physiological or treatment outcomes (such as range of movement and muscle strength) but must also consider soft outcomes such as *satisfaction* with the treatment service and healthcare costs (Deyo et al., 1994).

Soft outcomes have been shown to have a positive impact on patients (Ford, Back & Fottler, 1997; Layzell, 2001) and service providers (Yom & Ke, 2011). For example, not only are patients who judge their treatment as being satisfactory more loyal customers (Yom & Ke, 2011), but they are more likely to: 1. comply with the treatment offered; 2. seek additional medical treatments when needed (Beattie, Nelson & Nelson, 2002); and thus 3. experience improved health outcomes which result in lower health costs to society (Layzell, 2001).

One area that is in need of researching customer satisfaction with treatment type and service providers is back pain. Back pain is a global problem affecting people in both developed and developing countries (Disease Control priorities Project, 2007). It is estimated that in industrialized countries, more than 80 per cent of people will have back pain in their lifetime. (Disease Control Project, 2007) In Australia, diseases of the musculoskeletal system and connective tissue were identified as the most prevalent group of main disabling conditions in Australia in both 2003 and 2009 (ABS, 2009).

Even though there are a number of studies measuring satisfaction within various healthcare contexts, few do so in relation to back pain treatments. Service quality and satisfaction studies have been conducted in hospitals (Babakus & Mangold, 1992; Lim & Tang, 2000; Chahal & Kumari, 2012), medical imaging (Wong, 2002) obstetrics/gynaecology (Chang, Chang &

Hsu, 2006) dentistry (Carnes, Carr & Gardner, 2007), pathology (Zarbo, 2006) and GPs (Rundle-Thield & Russell-Bennett, 2010).

Only a handful of studies have measured service quality and satisfaction for back pain treatments (for example, Lyzell, 2001; Scotti, 2007; Taylor, et al., 2002; Hill & Kitchen, 2007). However, these studies are limited in two ways. Firstly, they are not generalizable because they are either literature reviews or findings of qualitative studies (for example, Hush, Cameron and Mackey, 2011). Secondly, these studies are usually limited to practitioners' views of what patients want (for example, Beattie et al., 2002) and to single treatment types such as physiotherapy treatment (for example, Hill and Kitchen, 2007) which is part of mainstream medicine. Thus the range of service quality attributes relevant to other back pain treatment settings might not be adequately captured by these studies.

This study bridges the gap in the literature by investigating the criteria used by back pain sufferers to measure service quality and satisfaction with both mainstream and complementary and alternative back therapies. Therapies include physiotherapy, chiropractic care, Bowen therapy, kinesiology, acupuncture and massage.

The findings of this study will allow mainstream and, for the first time, alternative treatment practitioners to measure and enhance the elements that impact patient satisfaction with their services. In turn, such findings could provide the rationale for the Australian government to channel funding into treatment types and service provider practices that provide the most effective treatment services for patients to improve the burden of this disease on society.

### **Measuring service quality: A review of the literature**

Marketing academics have proposed various dimensions with which to measure the quality of services and thus customer satisfaction (for example, Parasuraman, Ziethmal & Berry, 1991; Babakus & Mangold, 1992; Cronin & Taylor, 1994; Buttle, 1996). Two frequently used measure of customer satisfaction are SERVQUAL (Parasuraman, Ziethmal & Berry, 1991) and SERVPERF (Cronin and Taylor, 1994). SERVQUAL measures service quality by comparing customers' expectation and matching perception of service performance based on six dimension and 22 related items (Parasuraman, Ziethmal & Berry, 1991). These dimensions are empathy, reliability, responsiveness, tangibles and assurance. In turn, SERVPERF uses the 22 SERVQUAL items, but measurement is limited to performance perception only to reduce the number of items in the scale. In addition, SERVPERF measures the impact of satisfaction on behavioural intent.

Although SERVQUAL and SERVPERF have been applied to the healthcare industry (for example, Babakus and Mangold, 1992; Wong, 2002), researchers have identified other dimensions and/or items that are more relevant for the healthcare setting under investigation. For example, Falia (2012) suggested applying Gronroos' (1984) functional and technical dimensions to plastic surgery. Chahal and Kumar (2012) used three dimensions of interaction quality, physical environment and outcome quality, but only the latter two were significantly related to performance measures of patient satisfaction and patient loyalty in a hospital setting. Both Gallan et al. (2012) and Gaumer (2006) had no dimensions, just a number of items for the medical centre and chiropractic practice respectively. However, Gaumer (2006) found that one of his items, perceived effectiveness as a chiropractic provider, had no effect on overall satisfaction contrary to Hill's and Kitchen's (2007) findings for physiotherapy care

and Hall's et al. physician's study. Moreover, factors such as cost of care, waiting times, and accessibility of practitioner by phone were not at all related to overall satisfaction.

What is notable from this review is that there is no consistency in the items and dimensions that have been provided in each study. These results could be due to the fact that the studies are developed in different health care settings and as such necessitate different items and dimensions. In brief, what are the items and dimensions of service quality that back pain patients use to evaluate their satisfaction with their treatment type and service provider?

## **Methodology**

The convergent interviewing technique (Dick, 1990; Nair and Riege, 1995) was used to address the present research problem identified through the literature. Convergent interviewing involves conducting a series of long, initially unstructured interviews with interviewees (Master, 2000). In the convergent interviewing method, the content (questions) of the interview as well as the scope of data collection (for example, who to interview next and how many to interview in total) are constantly modified and refined as new ideas emerge through successive interviews (Dick, 1990; Nair and Riege, 1995).

The convergent interviewing technique was used because it offered flexibility in adapting the questions and the number and types of interviewees to interview. This flexibility is particularly useful in exploring areas that lack a solid theoretical base (Naire and Riege, 1995). Although customer satisfaction studies have been applied to health care services, they have modified existing scales such as SERVQUAL to suit the health care setting. The physiotherapy satisfaction scale developed by Hill and Kitchen provides a starting point but does not relate to other treatments such as Bowen therapy, kinesiology, massage and chiropractic care. This research uses a qualitative methodology to explore and identify new service quality items that could impact satisfaction with multiple back pain treatment types and service providers.

The sample size for the convergent interviews was determined based on the theoretical rule of stabilization. That is, the interview sample should be terminated when additional sample units cannot offer any new information in addition to what has already been collected from the previous interviews (Naire and Riege, 1995). Thus sampling should cease when convergence or stabilisation is achieved and it has been shown that this can be reached with fewer than 10 interviews (Master, 2000). Interviews were conducted with adult back pain sufferers who had sought either one or more types of treatment for their problem. Study participants were recruited in Queensland, Australia through personal contacts, and through notices in physiotherapy practices, government offices and the University of Southern Queensland. The data gathering process started with an initial interview with a selected patient and the sample was gradually added to, to ensure gender, age and educational balance in the sample. Stabilisation was achieved after 12 interviews. Data analysis involved pattern matching (Miles and Huberman, 1994) and frequency counts.

## **Findings**

This study identified four main dimensions used by interviewees to measure satisfaction with back pain treatments and service providers: treatment outcome, treatment style, service provider; and service practice. Each of these four areas will be discussed next.

*Treatment outcome satisfaction* was noted to be a function of six criteria: pain intensity, duration of pain relief, level of stiffness, restoration of normal movement/ function, changes in sleeping patterns and changes in posture (refer table 1). The most frequently cited factor was pain duration and intensity (cited by all interviewees) followed in second place by restoration of movement (8 or 66% of interviewees) and decreased aches and stiffness (6 or 58% of interviewees). Mood changes as a result of treatment, restoration of peaceful sleeping patterns, and changes in posture were other elements outlined by interviewees. For example, interviewee 10 felt an overall improvement in her mood as a result of the successful treatment: *'My headaches lessened and I wasn't feeling discomfort in my back and shoulders. And, my general wellbeing improved. You know when your back doesn't feel well, you are not motivated to do anything'*. In contrast, interviewees 1, 2, 5 and 11 felt down and depressed because of the pain and in some cases, because of improper diagnosis or treatment.

**Table 1: Service quality items to determine back pain sufferers' satisfaction levels**

<b>Variables</b>	<b>Interviewees</b>	<b>Total</b>	<b>%</b>
<b>Treatment outcome satisfaction</b>			
a) Duration of pain relief (long term 3months+ ; short term less than 3 months); b) Pain Intensity – acute to no pain	1 - 12	12	100
Restored full movement/ability to carry out daily functions	1, 2, 4, 5, 6, 10, 11, 12	8	66
Decreased stiffness/headaches	7, 10; 1, 2, 3, 12	7	58
Mood changes about a) treatment and b) treatment outcome	1, 2, 5, 10, 11	5	42
Restored peaceful sleeping patterns	1, 2, 12	3	25
Changes in posture	1, 2, 7	3	25
<b>Treatment style satisfaction</b>			
Treatment did/ did not address the problem in a reasonable amount of time (2 to 3 treatments)	1, 2, 3, 5, 6, 7, 11	7	58
Treatment equipment was ineffective	1, 3, 5, 6, 11	5	42
Treatment style was painful/unsuitable	1, 2, 4	3	25
<b>Practitioner satisfaction</b>			
Diagnosis provided (wrong/right)/not provided	1, 2, 3, 5, 7, 8, 10, 11, 12	9	75
Practitioner did/did not solve the cause of the problem	1, 2, 4, 5, 7, 8, 10, 11, 12	9	75
Practitioner provided self-helpful advice (including exercises)	2, 3, 4, 5, 7, 8, 12	7	58
Constant/high payments for practitioner's services a hindrance	1, 3, 4, 6, 8, 11, 12	7	58
Practitioner to obtain history of illness and treatment from patient prior to treatment	2, 5, 7, 9, 10	5	42
Explanation of: a) what the treatment entails; b) number of treatments; c) outcomes of treatment	1, 2, 4, 9, 11	5	42
Value for money (1 hour treatment for \$40)	1, 3, 5, 7, 11	5	42
Practitioner explained things in a manner that was easy to understand	2, 4, 11, 12	4	33
Practitioner gave no personal care (eg, know your name, friendly)	5, 7, 9, 10	4	33
Practitioner's behaviour unprofessional (eg. Sleaziness, disrespectful; selling interviewee unwanted items)	1, 2, 6	3	25
Practitioner let you know if they could not help	5, 7, 11	3	25
Practitioner listened to client	5, 11, 12	3	25
<b>Practice satisfaction</b>			
The rooms were nicely decorated/clean	8, 10, 12	3	25
The receptionists were friendly	9, 10	2	17
Long waiting lists	8, 12	2	17
The equipment used was new/good	8	1	8

A recurring theme in this section of the analysis was that interviewees noted that some treatments were more effective in meeting the above six criteria than others. For example, Interviewee 11 noted a decrease in pain level after using a physiotherapist but not from using acupuncture. As another example, interviewee 1 said that acupuncture provided only up to 48 hours of relief. Other interviewees (interviewees 1, 5 and 7) were still searching for an accurate diagnosis and resolution of their back pain despite consulting a number of treatment types and service providers. In parallel with this finding was that even by holding the treatment type constant, interviewees still felt differences in treatment outcome satisfaction. For example, interviewee 2 had visited two masseuse but one gave him greater treatment satisfaction than the other.

Next was *treatment style satisfaction* which comprised the level of comfort of the treatment; the effectiveness of treatment equipment in solving their problem; and whether the treatment could solve the problem in a reasonable number of visits. In relation to treatment style, for example, interviewee 1 said: *'The (chiropractic) treatments were so tough he would slam my head into the chiropractic bed during cracking and treatments were just painful'*.

The third dimension of satisfaction was *service provider satisfaction*. A total of 12 items were uncovered for this area of satisfaction as shown in table 1. Most of these factors were similar to those uncovered in the literature such as correct diagnosis and treatment provided by the practitioner, clear explanation to the patient's problem, and practitioner providing personal care and being professional (Hill & Kitchen 2003). Interestingly, some newer ideas emerged including interviewees seeking medical history to improve diagnosis; the number of treatments needed, expected treatment outcomes, self-help tips to empower the patient to help themselves, value for money and honesty from the practitioner.

Consider the issue of honesty. Interviewees wanted the practitioner to let them know if they were unable to solve their problem and save the time and money. For example, interviewee 11 said *'What impressed me about him (the chiropractor) is that... he said "I don't operated this way, if I don't feel I am being successful with you I will tell you and I would recommend you go and find some other treatment'*.

Finally, four criteria were listed under practice satisfaction: cleanliness, equipment quality, friendliness of receptionists, and the length of the waiting list. Some examples given include interviewee 8 who said: *'I had a good impression of the physiotherapist. The rooms were nicely decorated (not too bright) and had a reception area and good equipment used.'* Interestingly, none of these issues were mentioned by more than two to three interviewees compared to some of the issues mentioned for the other major areas of satisfaction.

### **Conclusion and implications**

The purpose of this paper was to identify the factors used by back pain sufferers to determine their satisfaction levels with various treatments and services. The findings showed that patient satisfaction is based on four dimensions of treatment outcome, treatment style, service provider, the practice. Next, the criteria uncovered in this research for treatment outcome satisfaction verified Hill's and Kitchen's research and also built on it by adding another four criteria. These items were decrease in stiffness/headaches Mood changes, restoration of peaceful sleeping patterns and changes in posture. Furthermore, the research showed that both the treatment style and service contribute to treatment outcome satisfaction. Finally, using

Parasuraman's et al. (1991) suggestion, this research verified and modified the SERVQUAL items about service provider quality suit this particular healthcare context. Future research is required to test and validate this scale and to measure customer satisfaction within the Australian context. The findings could be used to improve health outcomes for Australians.

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