Pre Procedural Anxiety and Pain Perception following Root Surface Debridement in Chronic Periodontitis Patients

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Abstract:

Background: To evaluate and compare pre procedural dental anxiety levels and post procedural pain perception in chronic periodontitis patients during conventional staged root surface debridement (RSD) and single stage RSD .

Materials and methods: 37 adult generalised chronic periodontitis patients requiring root surface debridement were recruited in this study. Pre procedural anxiety levels were assessed using a self reported questionnaire and post procedural pain perceptions were assessed using 0-10 cm VAS. The subject population were divided into two groups: staged RSD (n=18) and Single stage RSD (n=19). Staged RSD patients visited four times as opposed to single stage RSD patients. Data were subjected to Pearson chi square test, Mann Whitney U test and Spearman's rank correlation.

Results: There was no statistically significant difference in dental anxiety levels or pain perceptions in both the groups.Within group 1, there was statistical significant difference in dental anxiety levels between visit 4 and visit 3 (p=0.037) and pain perception between visit 3 and visit 1 (p=0.005),visit 4 and visit 1 (p=0.002) and visit 4 and visit 2 (0.04) were statistically significant. There was a positive correlation of anxiety questionnaire (Q1 - Q4) to the pain score in group 1 which was statistically significant and in single stage RSD

Conclusion: Conventional quadrant wise RSD tends to cognitively condition the anxiety experience thus influencing pain experience.

Key words: Chronic periodontitis, dental anxiety, pain, patient centred outcomes, root surface debridement, Visual analogue scale.

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INTRODUCTION:

Dental anxiety and fear are strong negative feelings associated with dental treatment. Dental anxiety was described by Klingberg and Broberg as a state of apprehension that something dreadful is going to happen in relation to dental treatment or certain aspects of dental treatment.[1] Dental anxiety is a multidimensional construct that consists of somatic, cognitive and emotional elements and describes a general state that is not stimulus specific. This trait in an individual may result in avoidance of dental treatment.[2]The experience of pain during dental procedures is a concern to many individuals. Hence all members of the dental team including periodontists or dental hygienists must aim to minimize the degree of discomfort during periodontal procedures such as scaling and root surface debridement.[3]

There are reports in periodontal literature related to patients' perception of pain and discomfort during periodontal probing,[4] scaling,[5] root surface debridement [RSD],[3]periodontal surgery [6] and maintenance treatments.[7]However the impact on patients in regard to single visit or multi-visit RSD has yet to be fully investigated.

The treatment of chronic periodontitis primarily involves the reduction or elimination of bacteria present in the plaque biofilm.[8] The periodontal pathogens can establish not only in periodontal pockets, but also on the tongue, tonsils or on the other oral mucous membranes. These sites may represent a potential reservoir for the reinfection of adjacent sites following active periodontal treatment.[9,10]

In order to avoid the risk of intra-oral bacterial translocation to recently instrumented and healing periodontal sites, Leuven group introduced the concept "one visit full mouth disinfection" This concept utilises instrumentation of periodontal pockets and use of antiseptic disinfection for the remaining sites in the oral cavity within 24 hours.[11]

The studies on the clinical efficacy of the full mouth disinfection versus conventional multi-visit approach suggest only minor differences between the two protocols.[12-14] Nevertheless these conclusions reflect the therapeutic outcomes clinically based rather than patient centred outcomes which must also be considered while selecting a treatment.[15] Non-surgical periodontal therapies are often perceived as stressful and painful by the patient.[3] However to our knowledge there are very few studies in the literature comparing patient perceptions of single visit RSD versus conventional multi-visit debridement in terms of anxiety and pain. So this study aimed to assess the difference in pre procedural anxiety and post-operative pain levels in multi-visit and single visit RSD approaches.

The objectives of this study were

- to assess and compare the pre procedural anxiety levels in chronic periodontitis patients who were undergoing conventional multi-visit and single visit RSD
- to assess and compare the post-operative pain perception in chronic periodontitis patients who underwent conventional multi-visit and single visit RSD
- to correlate the anxiety levels to pain perception in patients undergoing multi-visit and single visit RSD

MATERIALS AND METHODS:

Patient Sample:

17 males and 20 female patients with generalized chronic periodontitis (GCP) were included in this study. All subjects were recruited from the Department of Periodontics, SRM Dental College, Ramapuram, Chennai, India (Ethical committee approval number SRMU/M&HS/SRMDC/2010/M.D.S-Staff/103). Patients with GCP with the clinical evidence of probing depths $\geq$4mm, presence of more than 24 teeth with a minimum of four molars, no previous history of periodontal therapy and with good systemic health [as assessed by the recruiting Periodontist] were included in this study.[16] The assessment criteria for

generalised chronic periodontitis was according to American Academy of Periodontology 1999 classification.[16]

Patient who were on antibiotics and analgesics in the last 6 weeks, patients with the history of systemic diseases which interfere with the pain perception, such as neurological or psychiatric disorders and who were on medications which interfere with pain perception were also excluded. Additionally patients presenting with acute dental, periapical/periodontal pain, dentinal hypersensitivity and subjects with orthodontic and prosthetic appliances were excluded from the study. Finally, patients who did not attend all appointments were excluded from the study.

The literature suggests that age, sex, and socioeconomic status (SES) of an individual can influence fear and anxiety. Tuba TaloYildirm 2016 in their study suggested statistically significant difference between the levels of dental anxiety and socio demographic status hence we selected individuals belonging to similar SES so as to eliminate any bias incorporation.[17] The Kuppuswamy scale is recognised as a tool to measure SES in the urban population. This validated scale utilises an online tool which was used in this study and utilised SES based on 2013 criteria.[18]

Study design:

This is a randomized, prospective, single blind, controlled clinical study. This study was conducted from January 2013 to December 2013. This study was approved by the Research ethics committee of the SRM Dental College, Ramapuram, Chennai, India. Patients were recruited based on the selection criteria and were randomly assigned to one of the following groups. (fig 1)

Group 1: Conventional multi-visit RSD, Group II: Single visit RSD

The sample size was calculated based on the primary outcome measure i.e. effect of RSD on pre procedural anxiety levels and pain perception obtained from the results of pilot study.

Thus, a minimum sample size was determined to be 16 in each group (alpha =0.05 Power 90%). The proposed sample size of 16 was adjusted to 18 based on hospital records of the institute which indicated an average 15% drop out rate. An initial pilot study using 16 subjects was performed to help standardise the reliability of examiner in terms of clinical parameters and consistency of operator for the treatment provided.

Independent randomisation for allocation to group 1 or group 2 was performed using the flip of a coin. Written informed consent was obtained from each subject. Participants' social information such as education, income, previous visits and smoking status were also recorded. Further the SES of individuals in the chennai urban population was subjected to 2013 Kuppuswamy tool.

Clinical protocol:

18 patients were treated with conventional multi-visit approach and 19 patients with single visit RSD approach. The procedures were performed under local anaesthesia: 2% Lignocaine, 1:80,000 adrenaline. Buccal and palatal infiltration were given for maxillary quadrants and inferior alveolar nerve block with long buccal and lingual nerve block were given for mandibular quadrants. All the patients were given a similar dose of anaesthesia. A combination of site specific Gracey curettes [Hu-friedy, USA] and ultrasonic piezoelectric scaler [EMS, Piezon®] were used for RSD procedure followed by polishing with prophylactic paste [Proxyt®prophy paste, Ivoclar, Vivadent]. Patients were asked to take analgesics (paracetomol 500 mg two tablets four times a day for five days) only if they felt necessary following wearing off the anaesthesia as the patients were required to record their pain scores on VAS. Only four patients out of thirty seven reported the use of analgesics. Oral hygiene instructions were given for each patient on their first visit including Bass technique of tooth brushing and interdental brushes as appropriate and were prescribed a standard anti calculus and anti-gingivitis formulated toothpaste (Colgate total). All patients

were treated in a controlled clinical atmosphere by a single experienced periodontist [VKN]. The group I patients were treated quadrant based in 4 visits, at an interval of one week and group II patients were treated in a single visit.

Clinical parameters:

Probing pocket depth and clinical attachment level were recorded by a single operator (AB). Assessment of anxiety and pain was performed by single operator (DA). The periodontist (VKN) was blinded to the anxiety and pain scores to avoid the incorporation of bias**.**

Probing pocket depth:

This was assessed using UNC -15 probe [Hu-friedy, USA] from the gingival margin to the base of the pocket at 6 sites [Mesiobuccal, mid buccal, distobuccal, mesiolingual, mid lingual and distolingual].

Clinical attachment level:

This was assessed using UNC -15 probe [Hu-friedy] from the cemento enamel junction [CEJ] to the base of the pocket at 6 sites [Mesiobuccal, mid buccal, distobuccal, mesiolingual, mid lingual and distolingual].

Assessment of anxiety:

All subjects were given information on the treatment to be provided and were assessed for their anxiety levels at the beginning of appointment before the start of the procedure by using a self-reported questionnaire adopted by Chung et al 2003[19] and EsraGuzeldemir et al 2008.[20] This questionnaire consisted of 4 questions from Corah's Dental anxiety scale [DAS] and 3 questions from Dental fear survey [DFS] [Table 1]. In this study we replaced the word 'drill' with 'instruments' in Q6 and 'cleaning of your teeth' with 'deep cleaning of your teeth' in Q7 to suit the treatment protocol of this study. The validity of this questionnaire was assessed prior to the study by administering the questionnaire to 30 patients at 2 different time points at one week interval. Group I patients responded to this

questionnaire at each treatment visit, while Group II patients responded once prior to the treatment.

Assessment of Pain intensity:

The subjective perception of pain was assessed postoperatively using a 0-10 cm VAS. Patients were given guidance about how to score the VAS; score '0' being no pain or discomfort and score '10' being worst pain or discomfort. Patients were discharged post treatment with the VAS in an envelope so subjects could complete their pain scores once the anesthetic had worn (minimum 4 hours) off. Subjects received verbal reminder over the phone four hours after the procedure and asked to complete the VAS. Subjects were asked to return the completed VAS envelope at the next visit.

Treatment time:

The time taken to perform the multi-visit RSD was maximum 30 minutes for each quadrant and for single visit RSD maximum of 120 minutes.

A flow chart of data collection and treatment provided in group 1 and group 2 is represented in figure 1.

Statistical analysis:

At the outset data were presented descriptively and compared between the two groups noting the characteristics of the subjects. Data distribution pattern of the study population was assessed using Shapiro - Wilk test. Based on data distribution parametric and non parametric tests were used for statistical analysis. Thus, for statistical analysis the Pearson chi square test and Mann Whitney U test were used for comparison of data and Spearman's rank correlation was used for correlation analysis between dental anxiety scores to the pain scores. SPSS, Version 20 (IBM corp Chicago, Illinois, USA) was used to carry out statistical analysis. $P < 0.05$ was considered statistically significant for analysis.

RESULTS

Characteristics of the study subjects:

A total of 37 individuals (20 females, 17 males) with chronic periodontitis were recruited in the current study and randomly divided into group 1 (n=18) (conventional multi-visit debridement) and group 2 (n=19) (24 hours RSD). Overall the mean age in the study population was 40.97±10.32 years and age ranged from 25 to 64 years. Table 2 presents the descriptive characteristics of the subjects recruited.There was no significant correlation between clinical parameters and anxiety levels and pain perceptions.

There were no significant difference in the demographic and clinical variables between group I and group II. (P>0.05) (Table 2) No statistical significant difference were found between the group I and group II with regard to mean age, education levels, previous visits to the dentist, probing pocket depth and clinical attachment level.

Based on the scores of the Kuppuswamy scale the population were divided into upper, upper middle, lower middle, upper lower and lower socioeconomic class. In group 1, 61% of subjects and in group 2, 58% belonged to upper lower class. Thus the majority of the population belonged to similar socioeconomic class, eliminating any influence in the anxiety state. (Table 3a, 3b)

Anxiety scores:

The pre-procedural anxiety levels were assessed using DAS and DFS questionnaire and werevalidated, prior to the start of the study. The validity of this questionnaire was assessed by distributing to 30 patients at 2 different time points one week apart. The cronbach's alpha value of 0.87 indicated excellent internal consistency of the questionnaire.

Table 4 represents the comparison of anxiety scores of both the groups at visit one at baseline which showed no statistical significance.

VAS scores for Pain:

Pain scores were assessed using VAS of 0 to 10 cm. Mean VAS scores for entire study population was 1.8±1.5 cm ranging from 0 to 5 cm. With regard to gender, the mean VAS scores for males were 1.65±1.7 cm ranging from 0 to 5 cm and for females 1.87±1.3 cm, ranging from 0 to 4 cm. The comparison of VAS scores between group 1 and 2 at baseline/ visit one, did not show any statistical significance with a p value of 0.239.

Intragroup analysis within group 1:

The comparison of anxiety responses within group 1 across 4 visits is presented in table 5. The question 2 'having your teeth cleaned' showed a statistical significant difference in the anxiety scores with a p value of 0.02.

The results of intra group comparison with relation to anxiety showed a statistical significant difference between visit 3 and 4. Further, the pain scores showed highly statistically significant difference between visit 3 and visit 1, visit 4 and visit 1 and between visit 2 and visit 4 as represented in table 6

Correlation of anxiety levels to pain score:

Finally, the anxiety scores were correlated with the pain scores in both group 1 and 2 at visit 1. Table 7 represents the correlation values along with the p values. In group 1, question 1,2,3, and 7 showed a statistically significant positive correlation between anxiety and pain scores. On the contrary in group 2 none of the anxiety questions showed statistical significant correlation with the pain scores.

DISCUSSION:

The factors that have been shown to influence anxiety are age, gender, educational status and SES. In this study, the subjects recruited showed similar demographics such as age, gender, educational status, SES as determined by Kuppuswamy scale and none of the subjects were completely new patients to dental treatment. Since subjects who are anxious are likely to experience more pain [21] than those who are not anxious, at the outset, all efforts

were made in this study to avoid confounding factors that may influence dental anxiety levels.

The plaque biofilm is a community of micro-organisms which are spatially organised into three dimensional structure and is supported by extra cellular matrix.[22] The results of this prospective, randomised, blinded controlled clinical study did not show differences in pre procedural dental anxiety levels and postoperative pain perceptions between single visit RSD and conventional multi-visit RSD groups. This observation is in agreement with Santuchi CC et al 2015 who conducted a 6 months randomised controlled clinical trial to observe the clinical effects and patients based outcomes with full mouth disinfection and scaling and root planing using a quadrant based approach. [23] Further, authors in Santuchi CC et al 2015 analysed DAS & DFS independently, as well as combined questionnaire and suggested that the scores of patients based outcomes in FMD groups were superior to the quadrant based group. However, they concluded that there were no statistically significant differences observed between both groups. On the contrary in this study we used DAS and DFS together as a single questionnaire as previously used by Sanikop S et al 2011 in an Indian population [5]and EsraGuzeldemir 2010.[20] Additionally, the questionnaire was evaluated for internal consistency prior to the start of our study.

The pain perception by each individual is very subjective and can pose problems in recording a precise degree and amount of an individual's perceived pain.[24]There are several tools to evaluate pain perception. Self-reported tools used in dentistry to evaluate pain are often unifacial, as they are easier to apply. Examples of unifacial pain assessment tools are VAS, Verbal rating Scale (VRS), Numerical Rating Scale (NRS), Computer Graphic Scale (CGS) and Picture scales.[25]The examples of multidimensional pain assessment tools such as McGill pain questionnaire has shown to be highly consistent and supposedly the best tool to evaluate pain in research.[25,26] However, VAS is a simple measure to use especially in research where

the purpose is to just record the pain perceived and not to evaluate all dimensions of pain characteristics.[26] Also VAS has been shown to be reliable and has been previously used to record pain levels following periodontal treatment [27- 29]

Perceived pain will differ, dependent on treatment provided by different clinicians and in different clinical environments. In order to exclude this as confounding factor a single experienced periodontist performed RSD on all patients in a standard clinical setting.

In this study, patients with ≥ 4 cm VAS score reported the use of analgesics on the day of the procedure, similarly, Karadottir et al 2002 based on their study results suggested ≥ 40 mm VAS score to be painful. Thus the arbitrary thresholds of pain experience was set at ≥ 4 cm and overall about 10.5% of the recruited population showed ≥ 4 cm of arbitrary pain threshold and this is slightly lower percentage in comparison to Karadottir et al 2002,[7]who reported 15% of patients experiencing pain. This most likely can be attributed to different study design, study population, use of hand instruments and number of operators. Canaki et al 2007 suggested that periodontal therapies were perceived as painful by GCP patients. Further post- operative pain was higher with surgical procedures which involved exposure of bone and increased time duration than with RSD.[27] Overall our results are in agreement with Canaki et al 2007 who also used a single experienced operator to carry out all procedures. Similarly Mei et al 2016 suggested mild pain following periodontal and implant surgeries. Further, the duration, complexity of surgery, and additional anaesthetic volume used increases local tissue expansion and the production of pro inflammatory mediators, which stimulates the nociceptors influencing pain perceived.[30] However, we did not administer additional local anaesthetic to any of our study subjects, and standardised the volume that was used.

In the current study, in group 1, patients came 4 times to complete the RSD and there was significant reduction in the anxiety levels between V4 and V3. Whereas Heaton et al 2007 did

not report any difference in anxiety levels with past experience of a particular treatment or with the same clinician. However they concluded that the results of earlier research in this regard had been conflicting.[31]

We observed a positive correlation of Q 1 to 4 anxiety questions to the pain scores at the V1 in group 1: Q1 being seated in the dental chair, Q2 having your teeth cleaned, Q3 All things considered, how fearful are you of having dental work done? and Q4 If you had to go to the dentist tomorrow, how would you feel about it? Showed a positive correlation to the VAS scores which were statistically significant. Whereas, Karadottir et al 2002 [7]showed positive correlation of anxiety responses for Q 4,5,6,7 (Corah's Dental anxiety scale) to the pain scores during instrumentation which were statistically significant. Both our study and Karadottir et al 2002 [7]showed similar correlation for Q4 which suggests patients experienced more anxiety and pain when they had to come back for the treatment.

Interestingly, in group 2, although the anxiety questions positively correlated with the pain scores they were not statistically significant. This suggests that Q4, If you had to go to dentist tomorrow, how would you feel about it?, clearly did not apply for group 2 population, as they were assured that the RSD will be completed within 24 hours.

Although dental anxiety levels progressively reduced in group 1, dental anxiety was still a significant predictor for pain experience as per the correlation analysis. Dental anxiety is suggested to be cognitively acquired negative *conditioned* response to undesirable stimuli in dental environment influenced by family relatives, peer groups and information media.[32] Thus, group 1 RSD patients were possibly conditioned or cognitively learnt the feeling of anxiety at each visit of their procedure but this was not observed in group 2 single visit RSD patients as they possibly did not have a chance to cognitively condition their anxious experience.

Furthermore, the pain scores did not differ between the two groups. However, as with the anxiety scores, the pain scores also significantly reduced between visit 3 and visit 1; between visit 4 and visit 1 and visit 4 and visit 2 in group 1. This observation is similar to that of Van steenberghe et al 2004, who attributed these results to the familiarity of the clinical environment, operator and the procedure itself by the patients.[3]

Further our findings differed from Kocher et al 2005 who suggested the pain scores to be zero. This can be implied to a different piezo driven ultrasonic device used (vector system ®) in their study.[33] Thus in this study the use of piezo electric scaler may have given different results compared to Kocher et al 2005 [33]and Karadottir et al 2002.[7]

In the current study the pain experienced during subsequent visits in group 1 significantly reduced from V1. This is in agreement with Van Steenberg et al 2004 who suggested that a series of factors could be responsible for such an observation.[3]The main reason being the familiarity of the clinical setting, the procedure itself and/ or the operator.

In our study, we used standardised and controlled clinical environment for all the subjects as environmental factors can influence pain perception. We scheduled all our patients during the same time of the day (Forenoon) and thus we have possibly reduce the impact of any external factors influencing pain perception. Additionally we recorded pain scores 4 hours after the procedure so as to reduce any different memory effects on pain perception with longer time lapse.

In this study, we did not measure physiological aspect of anxiety such as blood pressure and heart rate which would have been an interesting additional measure to support the self-reported anxiety data.

CONCLUSION:

This study aimed to investigate and compare pre procedural anxiety levels and post procedural pain perception in single multi-visit and conventional quadrant wise multi-visit

RSD procedures. However, the results suggested both procedures did not show any significant differences in dental anxiety levels or pain perception. Based on the results of this study it can be concluded that in group 1 patients, anxiety can be a significant predictor for pain. Within the limitations of this study single visit RSD appears to be a favourable option in highly anxious generalised chronic periodontitis subjects requiring RSD. Further, explaining the procedure seems to ease the patient's anxiety levels and pain experienced. Hence, all efforts should be made to ease their anxiety during RSD procedures.

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Table 1 - DENTAL ANXIETY QUESTIONNAIRE

How much anxiety/fear or discomfort does each of these cause you?
Please use the numbers from the scale for the **first three** questions.
1. None at all 2. A little 3. Somewhat 4. Much 5. Very much

I. Being seated in dental chair

II. Having your teeth cleaned

III.All things considered, how fearful are you of having dental work done?

IV. If you had to go to the dentist tomorrow, how would you feel about it?

a. I would look forward to it as a reasonably enjoyable experience.
b. I wouldn't care one way or another.
c. I would be a little uneasy about it.
d. I would be afraid that it would be unpleasant and painful.
e. I would be very frightened of what the dentist might do.

V. When you are waiting in the dentist's office for your turn in the chair, how do you feel?

a. Relaxed
b. A little uneasy
c. Tense
d. Anxious
e. So anxious that I sometimes break out in a sweat or almost feel physically sick

VI. When you are in the dentist's chair waiting while she gets the instruments ready to begin working on your teeth, how do you feel?

a. Relaxed
b. A little uneasy
c. Tense
d. Anxious
e. So anxious that I sometimes break out in a sweat or almost feel physically sick

VII. You are in the dentist's chair to have your teeth deep cleaned. While you are waiting and the dental assistant is getting out the instruments that the periodontist will use to clean your teeth around the gums, how do you feel?

a. Relaxed
b. A little uneasy
c. Tense
d. Anxious
e. So anxious that I sometimes break out in a sweat or almost feel physically sick

Questions 1 through 3 originate from the DFS, and Questions 4 through 7 are from Corah's DAS

Table 2 : Descriptive statistics:

Variables	Group 1	Group 2	P value
No of subjects	18	19	
Male	10	7	0.467
Female	8	12	0.371
Age (Mean+SD)	41.72±2.69	40.26±2.16	0.893
Smokers	2	4	0.414
Education			0.229
Secondary school	7	9	
Primary school	8	7	
UG	1	3	
PG	2	0	
Income per month			0.869
INR 5000	6	4	
INR 10000	7	13	
INR >10000	5	2	
Previous visit			0.223
1st visit	0	0	
2nd visit	9	9	
>2 visits	9	10	
Clinical Parameters			
PD	3.71±0.22	3.6±0.25	0.578
CAL	4.14±0.31	4.13±0.27	0.822

Table 3 a :Kuppuswamy scale representing the socio-economic status of recruited individuals.

			Kuppasamy score				
			Upper	Upper - MIddle	Lower Middle	Upper Lower	Total
Groups	Group 1	Count	0	2	5	11	18
		% within Groups	.0%	11.1%	27.8%	61.1%	100.0%
	Group 2	Count	1	3	4	11	19
		% within Groups	5.3%	15.8%	21.1%	57.9%	100.0%
Total		Count	1	5	9	22	37
		% within Groups	2.7%	13.5%	24.3%	59.5%	100.0%

Table 3 b

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.285[a]	3	.733
Likelihood Ratio	1.672	3	.643
Linear-by-Linear Association	.453	1	.501
N of Valid Cases	37		

Table 4: Comparison of responses to anxiety questionnaire between groups at visit 1(at baseline)

Q no	Group 1 vs Group 2 Pearson Chi square value	P value
1	2.181	0.5
2	4.62	0.3
3	1.86	0.3
4	1.21	0.8
5	1.25	0.5
6	1.51	0.4
7	2.84	0.4

Table 5: Comparison of anxiety responses within group 1 across visits

Q no	Pearson chi square value	P value
1	11.5	0.07
2	23.2	0.02
3	13.6	0.13
4	11.08	0.5
5	6.7	0.3
6	9.9	0.3
7	7.7	0.8

Table 6 – Intra group comparison of anxiety and pain within group 1

Anxiety	**A2-A1**	**A3-A1**	**A4-A1**	**A3-A2**	**A4-A2**	**A4-A3**
P-value	0.673	0.564	0.08	1.0	0.07	0.037*
Pain	P2-P1	P3-P1	P4-P1	P3-P2	P4-P2	P4-P3
P-Value	0.496	0.005*	0.002*	0.254	0.04*	0.08

***Denotes statistical significance P <0.05**

Table 7 : Correlation of anxiety questionnaire to the pain scores at first visit (one time point) of group 1 and group 2

Q no	Group 1		Group 2	
	r value	p value	r value	p value
1	0.73	**0.001***	0.24	0.30
2	0.60	**0.008***	0.33	0.16
3	0.70	**0.001***	0.33	0.16
4	0.46	**0.053***	0.02	0.92
5	0.140	0.580	0.13	0.58
6	0.40	0.093	0.25	0.29
7	0.55	**0.017***	0.25	0.29

Figure legends:

Figure 1: Flow chart of subject recruitment