
**Abstract:**

*Objectives:* Many studies have established that highly negative or catastrophic thoughts about chronic health problems such as pain are associated with greater distress, lower self-efficacy for dealing with the problem and depressed mood. This study examined whether highly negative (or ‘catastrophic’) appraisals of hot flush experiences were associated with greater distress and lower perceived control regarding this menopausal problem.

*Design:* A postal survey was carried out, with a follow-up 12 months later

*Methods:* Two questionnaires were initially completed by a volunteer sample of 61 women currently experiencing hot flushes. A mixture of qualitative and quantitative data were collected, including a Catastrophic Thoughts Questionnaire (CTQ) measure of catastrophic thoughts, based in part on Rosenstiel & Keefe (1983). Thirty nine women who continued to report hot flushes were followed up 12 months later.

*Results:* Ratings to each item of the CTQ were highly intercorrelated. Women reporting more catastrophic thoughts tended to be lower in perceived control over flushes. Respondents’ reported distress during hot flushes was more closely related to their frequency of negative thoughts about the problem, than to perceived control, flush chronicity or daily frequency of flushes. Over 12 months, respondents showed a highly stable pattern of catastrophic thoughts, and continued links with levels of distress during flush episodes.

*Conclusions:* Cognitive appraisal processes that undermine coping with other chronic health problems seem also relevant to understanding the distress triggered by intermittent, unpredictable flush episodes. The findings imply that women may develop improved tolerance for menopausal flushing through challenging negative interpretations of the experience.
Introduction: Hot flushes are a common experience for the majority of women during the peri- and post-menopause (Kronenberg 1990). Their origins are poorly understood. The hypothalamus, involved in thermoregulation, appears to release noradrenaline during flushes (Freedman 1998). The role of lowered levels of oestrogen remains unclear. Many women regard stressful experiences as triggers for flushes and their views are supported by laboratory-based observations (Swartzman, Edelberg & Kermann 1990). Hormone Replacement Therapy (HRT) generally reduces or eliminates hot flushes, but is currently taken on a long-term basis by relatively few women. In the UK, less than 10% of women who have a natural menopause take HRT long-term (Moorhead, Hannaford & Warskyj 1997), leaving large numbers to manage hot flushes through their own coping strategies. Clearly some women regard this menopausal problem as little more than a mild nuisance. However, a substantial minority (estimated as 10-25% by Hunter & Liao 1996) report considerable distress both during flush episodes and in anticipating further occurrences, particularly in situations that demand poise and a positive self-presentation (Reynolds 1997a). Hot flushes are viewed as stressful because of many factors. Not only are the physical experiences of high temperature, sweating and raised heart-rate uncomfortable, but the signs of flushing may be experienced as socially problematic. Anxiety and/or embarrassment may occur where women construe their flushes as ‘announcing’ their menopausal status, within cultures that attach a multiplicity of negative social labels to this life stage (Gullette 1997). Very few women feel able to control the physical onset of flushes and instead experience them as occurring unpredictably. However, those with strong beliefs in their ability to control psychological reactions such as anxiety or embarrassment during flush episodes tend to report less distress/discomfort (Reynolds 1997b) and describe more diverse coping strategies (Reynolds 1999). Hunter & Liao (1996) described a cognitive-behavioural intervention that helped women to cope with flushes through learning to identify their triggers.
and through the practice of strategies such as calming self-talk, relaxation and breathing exercises. This intervention resulted in a significant decline in both the frequency and the subjectively problematic nature of flushes. It also appeared to enhance general mood. The participants valued the relaxation training, support and information gained during the programme, but it remains unclear whether the intervention helped participants to challenge and re-frame negative interpretations of the flush experience itself.

From a cognitive-behavioural perspective, maladaptive coping with health problems may in part reflect limited availability of adaptive strategies and resources (such as support) and/or appraisals of the condition as highly threatening. Extremely negative appraisals have been termed ‘catastrophising’ when they involve despairing anticipations about the future, dwelling on worst-case scenarios or berating the self for failing to control the current situation. These three components have been termed rumination, magnification and helplessness (Sullivan, Bishop & Pivik, 1995). Although such thought processes have been little studied in the context of menopause, there is limited evidence for their relevance in exacerbating distress and dysfunction associated with premenstrual tension (Morse, Bernard & Dennerstein 1989). The present study examined the thoughts that may be triggered during flush episodes, exploring whether women who interpreted flushes in highly negative terms reported more distress and lower perceived control for this common menopausal experience.

The influence of ‘catastrophising’ thoughts on coping has been widely examined mainly in the context of chronic non-malignant pain (Weisenberg 1994), although also applied to understanding coping with other long-term health problems such as tinnitus (Budd & Pugh 1996). The term ‘catastrophic’ is arguably less judgemental, permitting the researcher to acknowledge the person’s deeply negative subjective experience without imposing connotations
of wilful exaggeration. Several studies have established that strong beliefs in control and avoidance of catastrophic thoughts about a health problem are good predictors of coping and less restriction in daily activities (Budd & Pugh 1996; Jensen, Turner, Romano & Karoly 1991). Perceived control and self-efficacy beliefs in part shape tolerance for chronic pain, as reviewed by Keefe, Dunsmore & Burnett (1992). However, evidence also suggests that individuals vary in the meanings that they attribute to pain and other symptoms, including dwelling on frightening causes such as cancer or crumbling joints. Some anticipate a future in which pain will be a constant feature. Others despair at a 'spoiled identity’ created by pain (Keefe, Brown, Wallston & Caldwell 1989). There has been considerable debate about whether catastrophic beliefs directly undermine tolerance for pain, coping strategies and a sense of control, or whether reactions to pain are mediated by depression (e.g. Rudy, Kerns & Turk 1988). Geisser, Robinson, Keefe & Weiner (1994) showed statistically through path analysis that catastrophising thought content exerted an additional influence on the evaluation of pain experience independently from measured depression.

In the context of pain assessment, a measure of catastrophic thoughts has been developed by Rosenstiel & Keefe (1983). The scale forms one of eight scales in the Coping Strategies Questionnaire (CSQ) and has been shown to form a distinctive factor by Swartzman, Gwadry, Shapiro & Teasell (1994). It comprises six statements describing highly negative thoughts about pain (e.g. It is awful and I feel it overwhelms me). Keefe et al (1989) showed that the frequency of catastrophic thoughts among individuals with arthritis was highly predictive, not only of current pain intensity but also pain intensity, activity restriction and depression measured six months later. Individuals appeared highly consistent in their frequency of catastrophic thoughts about pain over six months. Further (albeit rather limited) support for the cognitive perspective has been offered by some cognitive behavioural intervention studies that have
helped individuals to ameliorate pain experience through disputing their unwarranted negative beliefs about the causes, consequences and curability of their pain (e.g. Basler, Jaekle & Kroener-Herwig 1997).

Clearly menopause is not an illness and does not present the same coping challenges as chronic pain. Nevertheless, many women experience frequent but unpredictable episodes of discomfort, which disrupt their daily activities, concentration and social identities. Some find the experience very stressful, yet may not be willing or able to accept long-term hormonal treatment. Theorising about possible factors that shape flush distress has been rather limited to date. The present study investigated whether the cognitive-behavioural perspective that has enhanced understanding of individual differences in managing chronic health problems (such as pain) could explain individual responses to the unpredictable discomfort of hot flushes. The relevance of catastrophic thinking to flush distress was explored. There were four aims. First, the study sought to develop and explore the properties of a questionnaire specifically devised to assess catastrophic thoughts about hot flushes. The second aim was to explore how often women reported catastrophic thoughts about flushing and whether these patterns of interpretation were consistent over 12 months. Thirdly, the study examined relationships between catastrophic thoughts about hot flushes, levels of distress reported during flush episodes, perceived control, self-esteem, flush frequency and chronicity initially and 12 months later. Fourthly, the study examined whether catastrophic thinking was more predictive of flush distress than the other measured variables.

Method:

Sample

Sixty one women requested to participate in a postal questionnaire study of their current
experiences of menopausal hot flushes. They were contacted through leaflets and newspaper requests, rather than through general practitioners, as women attending a medical practitioner are typically higher in distress than community samples (Ballinger 1985). The mean age was 51.2 years (range 39-65 years). The majority (74%) were living with partners; 33% had (adult) children living at home; 69% were in paid work (full-time, part-time or self-employed). The mean length of time (chronicity) that respondents had been experiencing hot flushes was 4.6 years (range <1-18 years; SD 3.75). The sample reported a mean frequency of hot flushes over 12 hours as 8.5 (range 1-38; SD 7.9 ). Hormone Replacement Therapy was being taken by 19/61 (ten of these reported having had a hysterectomy).

For Phase 2, only those women who had twelve months earlier consented to be followed up were contacted. The 12 month follow-up questionnaire was returned by 46 women (out of 56 agreeing to the follow-up study. The second sample represented 75% of the original sample and 82% of the ‘consenting’ follow-up group. Clearly only those who continued to experience flushes could identify their thoughts during flush episodes and so the second sample was limited to the 39 who still reported hot flushes at Time 2. These 39 formed the Phase 2 follow-up sample.

**Questionnaire measures:**

Three postal questionnaires gained extensive information about women's experiences of hot flushes, and only some of the data are relevant to this report. Two questionnaires were sent out in Phase 1, about 4 weeks apart. In addition to the data reported under ‘sample’ above, the first questionnaire collected mainly qualitative self-reports about subjective experiences and coping with hot flushes. The second questionnaire collected mainly quantitative data (for example, about attitudes, catastrophic thoughts, perceived control and self-esteem). The third questionnaire, 12 months later, collected similar measures as questionnaire 2. Relevant to the
The present paper are the following psychological measures, all taken at Time 1 and Time 2:

Catastrophic thoughts about hot flushes questionnaire (CTQ1, CTQ2)
PCI: standardised Perceived Control over Hot Flushes Index : PCI(1); PCI(2)
Self-esteem scale (Rosenberg 1965)
Self-rated distress during hot flushes (0-100 visual analogue scale)

The Catastrophic Thoughts Questionnaire (about hot flushes) was based on two sources of information. Firstly, the six items of the Rosenstiel & Keefe (1983) Catastrophising Subscale of the Coping Strategies Questionnaire were included. These were suitably re-worded as necessary to apply to hot flushes, rather than pain. These represent items numbered 2,3,4,5,6 and 12. Secondly, a number of highly negative interpretations of hot flush experiences was collated from the qualitative data supplied in questionnaire 1, together with some pilot interviews. The wording was checked through piloting on a small number of mid-life women, who did not form part of the main study. Through this process eight further items were added, to form a questionnaire 14 items long. Response options were similar to those provided by Keefe et al (1989). A six-point response scale was given (0-5) with anchor words being ‘0: Never think this during a hot flush’ and ‘5: Very often think this during a hot flush’. The questionnaire is given in Appendix 1. High scores represent more catastrophic thinking, with a maximum score of 70.

The PCI (Perceived Control over Hot Flushes Index) contained 15 items referring to control (eg ‘I can do a lot of things myself to cope with my hot flushes’) and offered Likert response options. Its development was described by Reynolds (1997b). High scores represent greater perceived control, with a maximum score possible of 60.
Self-rated distress was measured on a 100 mm line, adopting the method of measuring pain intensity described by Keefe et al (1989). Respondents were asked ‘Please indicate the amount of distress (if any) that you typically experience during a hot flush’. The anchor words at each end of the line were ‘Not at all distressed’ and ‘Extremely distressed’.

Results:
Respondents occasionally overlooked one or more items within the questionnaires, so sample size varied somewhat in the analysis of results.

Aim 1: Exploring some properties of the Catastrophic Thoughts Questionnaire:

a) Response patterns to the original (Rosenstiel & Keefe 1983) and new components

The questionnaire (at Time 1) was fully completed by 57 respondents. Six items of the scale were derived from the original pain-related scale and eight were newly devised for this investigation. Before using the scale to predict flush distress, a check was made regarding whether women offered similar ratings to the original and new ‘components’ of the questionnaire. Mean ratings to the re-worded Rosenstiel & Keefe items were 1.72 (SD 1.27) and 1.53 to the newly derived items (SD 1.21). The differences were not significant (t=1.77; df=56). Respondents were highly similar in their responses to each set of items (r = 0.80; p<0.000). On the set of six ‘original’ items, mean ratings were 10.3 (compared with 13.2 given by pain patients in the study of Keefe et al 1989). This comparison showed that whilst the women, as a group, regarded the catastrophic thoughts as infrequently occurring, they were not markedly dissimilar in their appraisals than the chronic pain patients studied previously.

b) Intercorrelations among questionnaire items

Intercorrelations were explored both to establish the statistical relationships within the data and
to gain further insights into the items that had most and least connection to the total Catastrophic Thoughts scores. Responses to all items were significantly inter-correlated (with the exception of Items 1 and 6, where the Pearson correlation was 0.14). With this exception, the lowest inter-correlation was 0.28 (Items 1 and 2; p = 0.033). The highest inter-correlation correlation was 0.74 (items 2 and 5; p = 0.000). Ratings to each of the 14 items correlated with the total score. Item 12 (‘I feel like I can’t go on’) derived from the original pain scale, was most predictive of the total CTQ1 score (correlation 0.86; p=0.000). Item 1 (‘I cannot possibly concentrate’) showed the lowest (but still highly significant) correlation with the total CTQ1 score (0.56; p=0.000).

**Aim 2: Frequency and consistency of catastrophic thoughts about flushing**

Individuals differed considerably in their responses to the Catastrophic Thoughts Questionnaire, with some endorsing very few of the items, and others reporting a high frequency of occurrence. At Time 1, mean ratings were 22.02 (SD 16.0; range 0-64). Whilst average scores suggested fairly infrequent thinking of a highly negative nature, the range of scores demonstrated substantial individual differences. The item most commonly endorsed was Statement 3 ‘It is awful and I feel that it overwhelms me’ (mean rating: 2.56; SD 1.67). Statement 4 was the least endorsed (‘I feel that my life isn’t worth living’) with a mean of 0.86 (SD 1.38). Both statements were derived from the original pain coping scale. Catastrophic thoughts declined significantly over 12 months. For the group (of 39 women) that responded at both Time 1 and Time 2, mean CTQ scores declined from 20.6 to 15.1 (t 2.81; df 37; p 0.008).

However, individuals generally remained consistent in their responses, in that those who reported more frequent catastrophic thoughts at Time 1, also tended to be among the most
negative in the sample at Time 2. Correlations in CTQ scores at Time 1 and Time 2 were 0.61 (N=39; p=0.000).

In the sample of 39 contacted twice, small reductions in distress were also noted over 12 months (from a mean of 54.1, SD 25. at Time 1, to a mean of 50.8, SD 19.8 Time 2) but this did not reach significance.

Those taking HRT were more negative in their appraisals of flushing than those not on HRT (means 26.7 compared with 19.7 on the CTQ1) but this did not quite reach significance (t = 1.57; df 55; full sample at Time 1).

**Aim 3: Relationships between catastrophic thoughts about hot flushes, levels of distress and other variables.**

*Place Table 1 about here*..........................

Correlations in Table 1 show that catastrophic thoughts (measured at Time 1 and 2) were highly related to flush distress at both Time 1 and 12 months later. Initial scores were not only predictive of current distress but also distress reported 12 months later. Catastrophic thoughts about hot flushes were associated with weak beliefs in control over their physical or psychological effects, both initially and twelve months later. Women having more frequent flushes were more prone to catastrophic thoughts initially, but this relationship was no longer apparent after 12 months. There was a weak tendency for negative thinking to be linked to low self-esteem at Time 2. No other measure related to CTQ scores.

**Aim 4: Relating flush distress to catastrophic thoughts, perceived control, flush chronicity, flush daily frequency**,
By comparing correlation coefficients in Tables 1 & 2, distress is more clearly related to frequency of catastrophic thoughts than to any other measure. The variables most predictive of flush distress at Time 1 (CTQ1, PCI (1); Chronicity) were selected for a step-wise multiple regression analysis. The results of this are given in Table 3.

The analysis (Table 3) revealed that whilst CTQ score was most predictive of reported distress, chronicity also accounted for a small, yet significant, amount of the variance. PCI did not add significantly to the multiple correlation, even though significantly related to distress when examined on its own.

More caution needs to be placed on the regression analysis of the Time 2 data due to smaller sample size. For the follow-up measure of distress at Time 2, only CTQ2 showed a significant association. Multiple regression analysis did not find any significant additional variance accounted for by chronicity, perceived control or any other measured variable (even though Pearson correlations between PCI2 and Distress2 were significant).

Discussion
The results of this study must be considered exploratory as based on a relatively small sample of women with widely varying experience of hot flushes. This preliminary investigation suggests that the Catastrophic Thoughts Questionnaire may be a useful, brief and acceptable tool for
assessing highly negative interpretations of hot flushes. Individual differences in the appraisal of somatic experiences have been shown to relate to coping in the context of other chronic health problems such as pain. The findings reported here suggest that a cognitive perspective offers some explanation about why women differ in their tolerance for the intermittent discomfort of hot flushes.

Although the Catastrophic Thoughts Questionnaire was based partly on a pain catastrophising scale, and partly on new menopause-related statements, analysis showed that women responded quite similarly to the two sets of items. Questionnaire answers showed that individuals varied very considerably in their susceptibility to negative thinking about flushes. A minority endorsed most of the thoughts listed whereas the majority reported that they focused on the stated ideas only occasionally.

The frequency of catastrophic thoughts among the sample was comparable (although slightly lower) than among patients with rheumatoid arthritis, studied by Keefe et al (1989). This may indicate that catastrophic thoughts are shaped more by personal styles of thinking than by health symptoms alone. However, unlike the RA group, (who were followed up over 6 months) frequency of catastrophic thoughts about hot flushes declined significantly over 12 months. Nevertheless, the findings mirror those of Keefe et al in showing substantial continuities in individuals’ patterns of appraisal, with those women most negative in their thoughts about hot flushes remaining so a year later.

Highly negative evaluations of current symptoms, future prospects for recovery and adequacy of personal coping strategies may all serve to increase awareness of unwelcome bodily states, helplessness and distress. The data also suggest that more frequent flushing (which magnifies
the daily burden of discomfort, embarrassment, unpredictable interruptions to activities and so on) may seriously challenge some women’s confidence about coping and increase the likelihood of catastrophic thinking. Even so, reported levels of typical distress during flush episodes were not clearly accounted for by simple relationships with flush frequency. The study showed that catastrophic thoughts were the most highly predictive of the selected variables for flush distress, both initially and after one year. In addition, women who had been subject to more years of hot flushes had somewhat higher levels of distress. This finding appears to challenge views that women’s psychological health improves within about two years of menopause as either flushes subside or they learn to cope more effectively with them (Dennerstein, Dudley & Burger 1997; Matthews 1992). However, a different sampling method would be required to examined this issue thoroughly.

As in a pain study by Harkapaa, Jarvikoski & Vakkari (1996), women engaging in more negative thinking about flushes also tended to be low in perceived control. Of the two measures, distress was more closely related to catastrophic thinking than to poor levels of perceived control (although both were useful in identifying the more highly distressed woman). The explanation for this remains uncertain. It is possible that for some women strong beliefs in control may elevate frustration about not being able to predict or avoid flush episodes. A minority of women who believe that they ‘ought’ to be able to control their menopausal signs more effectively, report high perceived control together with high levels of distress (Reynolds 1999). Alternatively (or in addition), perceived control may represent a more distal influence on distress-coping, with beliefs sometimes becoming elusive during the overwhelming sensations of flush episodes. Catastrophic thoughts may exert a more proximal influence on distress from being triggered more immediately during flush episodes. Clearly development of further theoretical understanding should await confirmation of the findings with a larger, more
representative sample.

Some limitations of the study need to be acknowledged. The sample (particularly at Time 2) was not large or randomly selected. Some had experienced hysterectomies and some were using HRT, and these subgroups showed slightly different score profiles. The motives that participants had for volunteering to take part could not be determined. However, there was initially a wide spread of scores on most variables, include distress, perceived control and catastrophic thinking, so participants’ motives were much more diverse than ‘simply’ complaining about flushes or seeking support. After one year, only some women had given permission for contact, and some of those most distressed initially were ‘lost’ either through non-return of questionnaires, or because they had embarked on HRT and no longer reported any flushes. Some of the women most positive about menopause in the first study no longer reported flushes after 12 months and therefore became ineligible to complete the follow-up questionnaire. These factors had the effect of trimming off the extreme scorers and so may have weakened the correlations between distress and some other variables.

Many questions remain and further enquiry is recommended. Causal relationships cannot be determined from the correlational data. Ideally the role of catastrophic thinking in flush distress could be investigated through evaluating the effects of a cognitive behavioural intervention in which women learn to challenge despairing thoughts about menopausal problems. There is also a need for further research into whether catastrophic thinking about flushes links to a restricted coping repertoire (as noted in some pain studies, such as Rosenstiel & Keefe 1983). A larger scale study might permit further investigation of how catastrophic thinking relates to perceived control beliefs, determining to what extent these represent overlapping or separable constructs. The role of depression in shaping flush distress and catastrophic thoughts also needs to be
established. Some previous work on the appraisal of chronic pain has established that catastrophising has an effect on the pain experience additional from that exerted by depression (Geisser et al 1994) but it is uncertain whether and how general mood and well-being affect appraisal and coping processes for menopausal problems.

The findings tentatively indicate that women unwilling or unable to take HRT might learn to cope more effectively with hot flushes through identifying and challenging extreme negative beliefs about the effects of flushes on concentration, identity, coping efforts and future well-being. For example, distress may be ameliorated if the woman can convince herself that flush discomfort is of brief duration rather than imposing constant ‘illness’ (statement 8 of the CTQ). A cognitive behavioural intervention may help to moderate flush experiences through, for example, teaching skills for challenging fears about suffocating (9), altered identity (10), or negative social evaluations (7) through argument or evidence. Further research into the factors that shape and modify women’s appraisals of menopausal health problems is recommended.

References


Table 1: Pearson correlations between catastrophic thoughts, distress and other variables* at Time 1 and 2

<table>
<thead>
<tr>
<th></th>
<th>Correl with CTQ1</th>
<th>Correl with CTQ 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distress 1</td>
<td>0.66 (N=55; p 0.000)</td>
<td>0.50 (N=39; p 0.001)</td>
</tr>
<tr>
<td>Distress 2</td>
<td>0.36 (N=38; p 0.027)</td>
<td>0.43 (N=39; p 0.006)</td>
</tr>
<tr>
<td>PCI</td>
<td>-0.30 (N=54; p 0.03)</td>
<td>-0.39 (N=39; 0.01)</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>-0.14 (N=56; p 0.03)</td>
<td>-0.31 (N=37; n.s.)</td>
</tr>
<tr>
<td>Chronicity</td>
<td>0.18 (N=56; n.s.)</td>
<td>0.14 (N=37; n.s.)</td>
</tr>
<tr>
<td>Frequency</td>
<td>0.44 (N=55; p 0.001)</td>
<td>0.24 (N=37; n.s.)</td>
</tr>
<tr>
<td>Age</td>
<td>0.03 (N=54; n.s.)</td>
<td>0.21 (N=39; n.s.)</td>
</tr>
</tbody>
</table>

*Except for Distress, in this Table, measures taken at Time 1 are correlated with CTQ1 and measures taken at Time 2 are correlated with CTQ2;

PCI: Perceived control index; Self-Esteem - Rosenberg scale.
Table 2: Pearson correlations between reported distress during flushes and selected variables (all at Time 1):

<table>
<thead>
<tr>
<th>Correl with Distress</th>
<th>Correlation</th>
<th>N</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI</td>
<td>-0.49</td>
<td>52</td>
<td>0.000</td>
</tr>
<tr>
<td>Flush Chronicity</td>
<td>0.34</td>
<td>58</td>
<td>0.008</td>
</tr>
<tr>
<td>Flush Frequency</td>
<td>0.25</td>
<td>57</td>
<td>n.s.</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>-0.09</td>
<td>54</td>
<td>n.s.</td>
</tr>
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</table>
Table 3: Multiple regression analysis, predicting flush distress from catastrophic thoughts and chronicity

<table>
<thead>
<tr>
<th>DV</th>
<th>Predictors</th>
<th>B</th>
<th>SE B</th>
<th>T</th>
<th>Mult R</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distress</td>
<td>CTQ1</td>
<td>1.194</td>
<td>0.192</td>
<td>6.22***</td>
<td>0.660</td>
<td>0.436</td>
</tr>
<tr>
<td>Chronicity</td>
<td></td>
<td>1.603</td>
<td>0.776</td>
<td>2.07*</td>
<td>0.693</td>
<td>0.481</td>
</tr>
</tbody>
</table>

\[ F = 22.73; \text{Sig 0.000.}; \]

*** = p 0.000; *= p <0.05
Appendix 1:
**Catastrophic Thoughts Questionnaire**

Instructions: When you are having a hot flush, you may experience a variety of thoughts and fears. Examples of some thoughts are given below. Next to each statement is a scale 0-5. These numbers correspond to the scale below. Against each statement, please circle a number from the scale to show how often you think in this way when having a hot flush:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never think this during hot flush</td>
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<tr>
<td>Rarely</td>
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<tr>
<td>Sometimes</td>
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<tr>
<td>Quite often</td>
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<td></td>
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<tr>
<td>Frequently</td>
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<tr>
<td>Very frequently think this during a hot flush</td>
<td></td>
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</tbody>
</table>

1. I cannot possibly concentrate
2. It is terrible and I feel that it is never going to get any better.
3. It is awful and I feel that it overwhelms me
4. I feel that my life isn't worth living
5. I worry all the time about whether the flushes are going to end
6. I feel I can't stand it any more
7. Other people think that I'm acting peculiarly
8. I feel ill all of the time
9. I will suffocate if the flush doesn't pass
10. I feel like a different person
11. I'll have to give up work* if this goes on (*paid or unpaid work)
12. I feel like I can't go on
13. I'll faint if the flush doesn't stop soon
14. I think that I have something wrong with me