



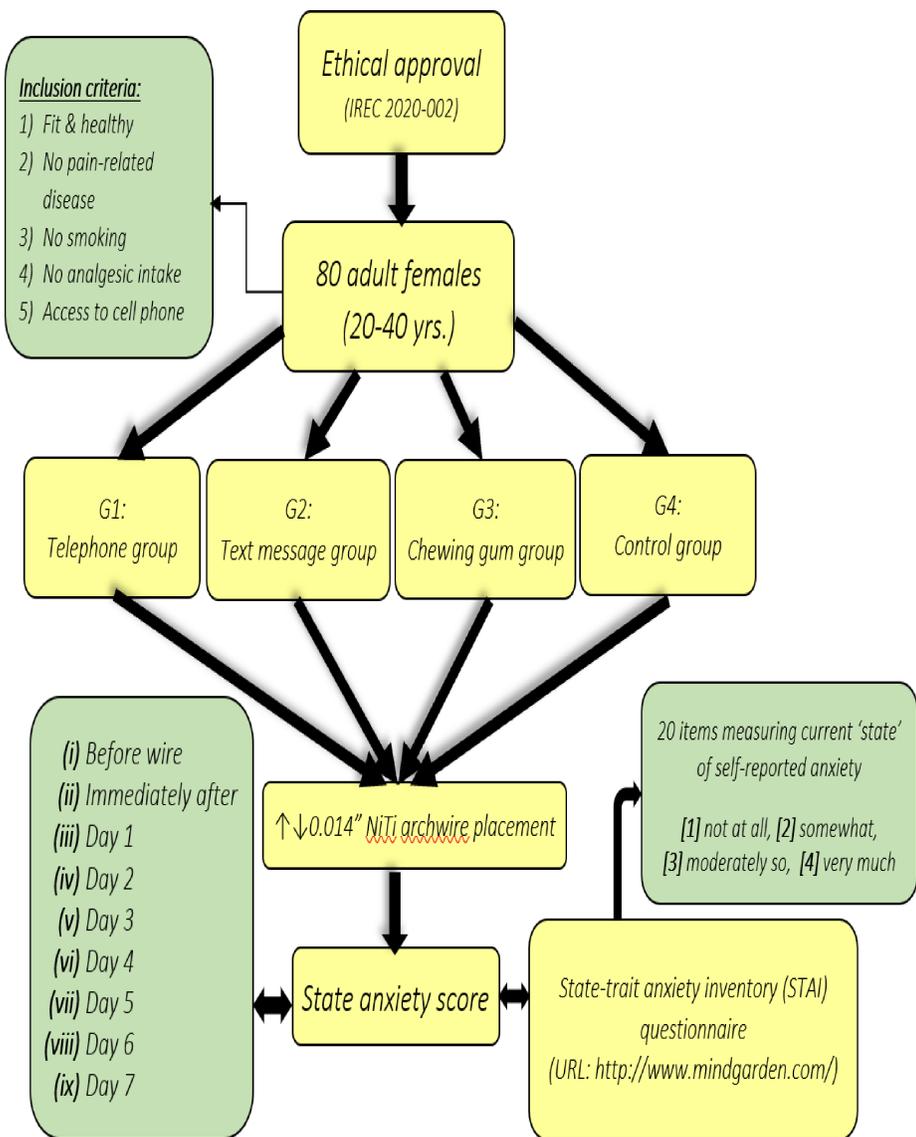
### Introduction

Fitting of orthodontic appliances, such as initial aligning archwire placement can be uncomfortable and requires psychological adjustment. This procedure is often associated with pain, and research has demonstrated that psychological factors such as anxiety significantly contributes to the experience of pain<sup>1</sup>. Therefore, strategies that reduce patient's anxiety might help to ameliorate the subjective perception of pain, and non-pharmacological interventions that do not depend on drugs such as structured telephone call, text messaging and gum chewing might be useful.

### Objectives

To investigate whether there was a difference in self-reported state anxiety among patients with orthodontic initial aligning archwire placement between postprocedural telephone call, text messaging, chewing gum and control group.

### Materials and Methods



#### Standardized telephone call & WhatsApp text messages:

Receive call/text message after 24 hours of initial wire placement

- (1) patient's well-being,
- (2) whether pain and discomfort are present,
- (3) reassurance that the patient's reaction is within normal limits,
- (4) the need for good oral hygiene,
- (5) the need for a soft diet,
- (6) the use of analgesics, and
- (7) the importance of maintaining a positive attitude.

#### Chewing gum protocol:

Prescribed chewing gum after 24 hours of initial wire placement

Chew sugar-free chewing gum (Wrigley's Extra, Malaysia) for 5 mins

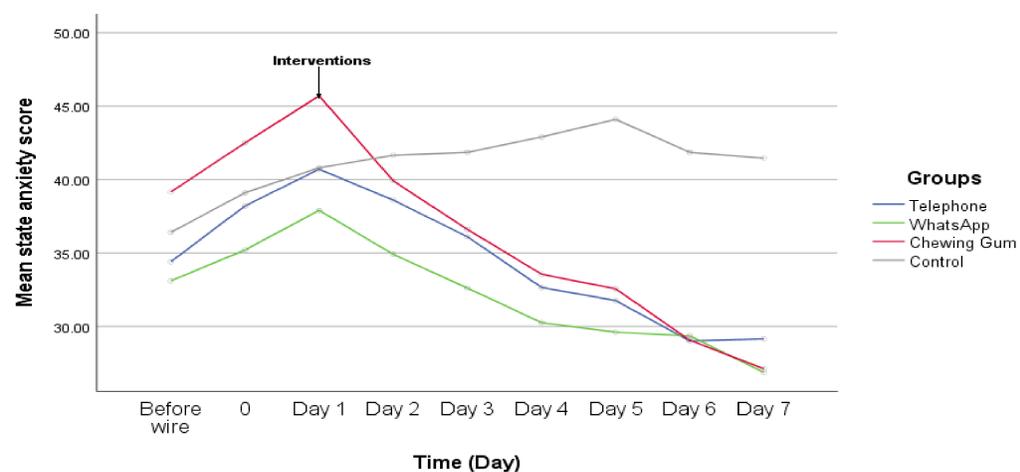
One-way repeated measure ANOVA to compare the effects of non-pharmacological methods on the mean state anxiety level at different time points

### Results

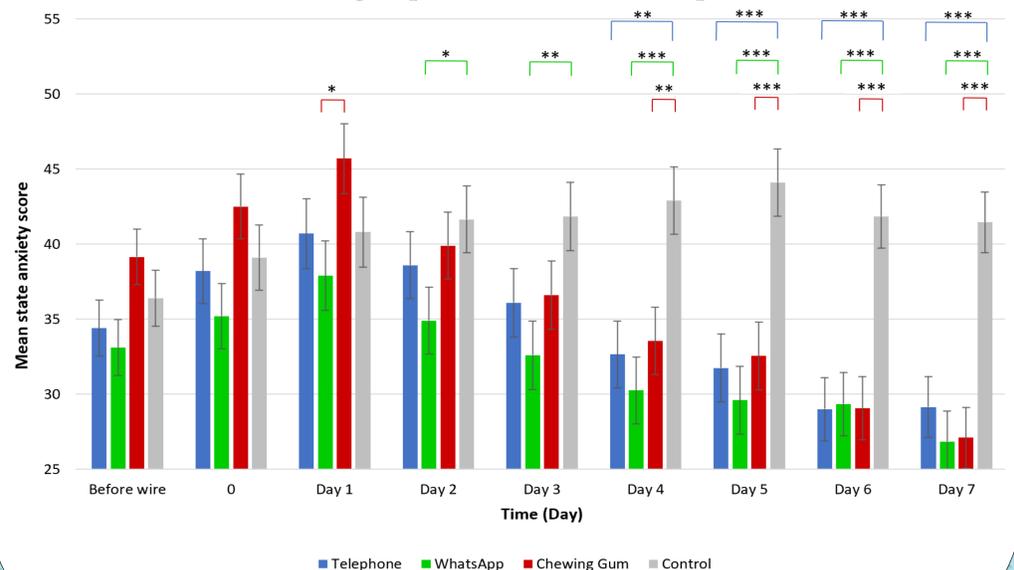
**Table 1. Baseline characteristics of the patient sample**

Group	Mean age (years)	Standard deviation
Telephone (n = 20)	27.7	5.1
WhatsApp (n = 20)	27.2	5.3
Chewing gum (n = 20)	26.1	2.6
Control (n = 20)	27.5	6.3

**Figure 1. Mean state anxiety score over the trial period (from state anxiety form)**



**Figure 2. Mean state anxiety score of telephone, text message, chewing gum and control groups across different time points**



One-way repeated ANOVA ( $F(135,12650) = 1.91, p = .000$ ) at .05 level of significant.  
 $p < 0.05, *; p < 0.01, **; p < 0.001, ***$

### Discussion

Our study concurred with Bartlett *et al.*, (2005)<sup>2</sup> in which telephone call was effective in disseminating information, and contact with a health-care provider over the phone was sufficient to give patient reassurance and significantly reduce anxiety compared to control group.

Written words in text messaging sent by orthodontic clinic for communication purposes resulted in decreased anxiety level due to its ease of accessibility using cell phone, especially in adult population<sup>3</sup>.

Cycles of gum chewing helps loosen the tightly packed periodontal fibers, reducing inflammation and therefore restoring the vascular circulation, thus reducing pain and possibly anxiety level<sup>4</sup>.

### Conclusions

Structured telephone call, WhatsApp text messaging and chewing gum conferred better anxiety reducing effect in patients with initial orthodontic aligning archwire placement compared to no treatment.

### References

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