

Does Facial Cosmetic Acupuncture Improve the Appearance of Wrinkles? A Narrative Review of the Literature



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BACKGROUND

Facial Cosmetic Acupuncture (FCA) involves insertion of fine needles to improve the condition of the skin^{1,2,3}. Treatment typically comprises:

- 1. Local needling of facial acupuncture points or directly into areas of concern.
- 2. Constitutional needling of body points to treat health conditions impacting facial skin.

Despite FCA's long history⁴, rapid development has occurred in the last 20 years, within an expanding market for non-surgical cosmetic procedures⁵.

Rising demand for cosmetic procedures is driven by greater disposable income⁶, social media driven dissatisfaction with appearance, innovation in non-surgical techniques, and loosening of taboos associated with 'having work done'.

Concern about facial wrinkles is the most frequent reason for patients seeking cosmetic facial treatment^{1,7}.

FCA is presented as a natural and safe treatment for facial wrinkles and an alternative to cosmetic procedures such as dermal fillers, neurotoxin injections and dermabrasion. Training is widely available, and with treatments typically delivered in 8–12-week courses, FCA can be a lucrative addition to an acupuncturist's repertoire¹.

AIM

This study aims to undertake a narrative literature review to:

- Assess whether there is high quality evidence of facial cosmetic acupuncture's effectiveness in improving the appearance of wrinkles.
- Explore opportunities for further, high quality clinical research.

METHODOLOGY

A narrative review was undertaken to assess the quality of current literature about FCA's effectiveness in treating wrinkles.

Six electronic databases were searched to 30th November 2022, PUBMED, Alt Healthwatch, AMED, Medline, Cochrane Library, and Science Direct. References from included studies were searched to identify further relevant studies.



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Search terms included 'acupuncture' or 'needling', and 'facial', and 'rejuvenation' or 'enhancement' or 'cosmetic', and 'wrinkles or 'lines'.

The search included case studies, case series, observational studies, quasi-experimental studies, RCTs or systematic reviews. Also included were publications classed as professional opinion and FCA textbooks. This publication type was included due to the paucity of high-quality research, and because this professional opinion currently informs clinical practice.

After removing duplicates, titles and abstracts were screened by one researcher to identify suitable studies.

Twenty-eight publications met the eligibility criteria.

Quality of study design and reporting quality was assessed using guidelines recommended through the Equator Network, including CARE for case studies, STROBE for Quasi-experimental studies, and PRISMA for systematic reviews.

Quality appraisal of selected studies was undertaken using Joanna Briggs Institute (JBI) critical appraisal tools.

Acupuncture interventions were assessed using STRICTA reporting guidelines⁸.

The selected studies fall into two main groups:

- 1. Professional Opinion; the largest component of FCA literature; and
- 2. Quasi-Experimental Studies (prospective, single-arm, nonrandomised and uncontrolled).

No RCTs of FCA's effectiveness were identified.

FINDINGS

Analysis of Professional Opinion

Key findings include:

- Opinions presented are logically rooted in Chinese medical theory.
- There are few references to extant clinical research.
- Most studies recommend facial <u>and</u> 'constitutional' body points, with facial needling targeted at recognised acupuncture points, facial muscles or directly into wrinkles.
- Recommended treatment protocols are not evidence based.
- Statements about FCA's effectiveness are not evidence based and include:
 - 'after one course of treatment skin turns delicate and fair', and 'effects can be permanent'⁹.
 - $_{\odot}\,$ 'effects can be expected to persist for up to 5 years'^{10}.
 - 'facial acupuncture may erase 5 to 15 years from the face'¹¹.
 - 'elimination of fine wrinkles' and 'reduction in depth and severity of deeper lines^{11,12}.
- Most authors comment on safety, highlighting pain and bruising as minor complications.

Analysis of Quasi-Experimental Studies

- Six quasi-experimental studies were identified^{13,14,15,16,17,18}. Key findings include: • Two studies were pilots^{14,15}None of the studies had control
- Two studies were protective of the studies had control groups.
- Recruitment strategies are inadequately described.
- Sample sizes are small (typically <30), limiting statistical analysis.
- Data on baseline participant characteristics are inadequate.
- Descriptions of acupuncture used are poor. Only one study
- used STRICTA guidelines⁸ to report treatment design. • No study gave details about the background of practitioner(s) delivering treatment.
- The broad range of acupuncture techniques used across studies limits comparability of results and development of firm conclusions about FCA's effectiveness.

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- Outcome measures are inconsistent between studies.
- The risk of measurement bias is high due to the subjective us of rating scales, and the use of electronic devices with unspecified resolution and calibration.
- Authors are aware of weaknesses in their study designs and make recommendations for further research including larger sample sizes, controlled study design and more accurate outcome measurement.
- All studies report either neutral or positive outcomes from FCA
- No studies report negative outcomes.

Speculation on Mechanisms

- Most studies speculate on FCA's mechanisms, and the quasiexperimental studies offer some support for theories in professional opinion pieces. Potential mechanisms include:
 - Increased blood flow to the face^{13,14}.
 - Improved muscle tone¹⁵.
 - Collagen induction¹⁶.
- Evidence from quasi-experimental studies, although low quality, points towards the contribution of the above mechanisms as the underlying cause(s) of reduced skin wrinkling following FCA.
- As studies using different needling strategies all report reduced skin wrinkling, it is likely more than one mechanism is involved.

DISCUSSION

Driven by rising demand for non-surgical cosmetic treatments, facial acupuncture is growing in popularity and becoming an integral part of the offering of many acupuncture practices.

However, there is little clinical research to demonstrate FCA's effectiveness in reducing the appearance of lines and wrinkles

Currently, the practice of facial acupuncture is dependent on professional opinion that is logically rooted in Chinese medical theory.

The extant clinical research is of poor quality due to small sample sizes, varied treatment protocols, subjective outcome measurements, and the lack of controlled study designs.

Despite the poor quality of available clinical research, all the experimental studies identified by this review conclude that FCA reduces the appearance of lines and wrinkles. This suggests that larger, controlled studies with objective outcomes measurements are worth pursuing.

The mechanisms through which FCA may reduce skin wrinkles remain unclear. Consequently, speculation on mechanisms is premature and a logical path is to first confirm whether FCA's effects are clinically significant before attempting to isolate the mechanism(s) through which the treatment operates.

CONCLUSION

There is little clinical research on the effectiveness of FCA. Whilst inconclusive, published clinical studies suggest treatment may be effective in reducing the appearance of wrinkles. However:

It is currently not possible to state with any confidence whether FCA is effective in reducing facial wrinkles.

Existing research is compromised by poor quality, quasiexperimental design with small sample sizes, wide variation in the acupuncture used and subjective outcome measures.

- Further research is recommended, including:
- 1. High-quality case studies or case series.
- Randomised Controlled Trials with large sample sizes, objective outcomes measurements and with clearly defined, repeatable treatment protocols.

Until clinical studies produce high quality evidence of the effectiveness of facial cosmetic acupuncture in reducing the appearance of wrinkles, FCA practice will remain rooted in professional opinion and Chinese medical theory.

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