IDDF2021-ABS-0099

EXPLORING THE EFFECTS OF ACUPUNCTURE THERAPY IN RESTORING HEALTH VIA MODULATION OF INTESTINAL MICROBIOTA

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10.1136/gutjnl-2021-IDDF.36

Background Acupuncture has been an important complementary and alternative therapy in China. It is a nonpharmacologic modality that involves penetrating the skin at specific points using the tips of thin stainless steel needles, with broad applications, safe, economical, convenient and few side effects. The procedure can be performed by manual manipulation or electrical stimulation (electroacupuncture (EA)). Recently, an increasing number of studies indicated that acupuncture/EA could modulate the gut microbiota composition, suggesting acupuncture/EA can treat diseases associated with intestinal microbial dysbiosis. Therefore, this study explores and sheds light on the existing evidence of the acupuncture/EA treatment in ameliorating various diseases by modulating intestinal microbiota composition.

Methods Based on the PRISMA guidelines, several databases (PubMed, Web of Science, ProQuest) were accessed to perform systematic literature searches using 'Acupuncture' OR 'Electroacupuncture' AND 'microbiome' as the MeSH terms. Studies reporting on the health ameliorative effect of acupuncture mediated by gut microbiome modulation were included. Meanwhile, studies without the involvement of gut microbiome modulation were excluded, along with reviews, conference proceedings and commentaries.

Results Thirty-two studies in accordance with the inclusion criteria out of 446 articles were selected for qualitative

analysis. Eight out of the 32 analysed studies involve human clinical studies that demonstrated acupuncture/EA modulates gut microbiota composition, resulting in improvement of several clinical conditions, including obesity, irritable bowel syndrome, Crohn's disease, migraine and hypertension. The remaining 24 studies evaluated the efficacy and mechanism of acupuncture/EA in ameliorating diseases linked to gut dysbiosis in rodent models, such as cancer, metabolic-, gastrointestinal-, and neurological-related disorders. Essentially, these studies observed that the therapeutic effects of acupuncture/EA treatment were achieved by restoring the intestinal microbial balance, ameliorating intestinal barrier function and modulating the intricate interplay between intestinal microbiota, gut-brain axis and the host immune system (IDDF2021-ABS-0099 Figure 1).

Conclusions In short, these studies highlighted the therapeutic effects of acupuncture/EA in improving various clinical problems by restoring the host-gut microbiota interactions. Nonetheless, future studies should clarify the exact mechanism by which acupuncture/EA modulates the gut microbiota while considering the acupoint specificity, acupoint combination and different intervention measures.

IDDF2021-ABS-0101

GUT MICROBIOME DIVERSITY MEASURES FOR METABOLIC CONDITIONS: A SYSTEMATIC SCOPING REVIEW

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10.1136/gutjnl-2021-IDDF.37

Background Evidence on the association between the gut microbiome and metabolic conditions has been increasing during the past decades. Unlike the straightforward identification of beneficial non-pathogenic bacteria as a potential probiotic for clinical use, the analysis of gut microbiome diversity is more complex and required a better understanding of various

Abstract IDDF2021-ABS-0099 Figure 1