ABSTRACT
One of the most controversial topics in healthcare is whether complementary and alternative medicine (CAM) can replace modern medicine. Homeopathy has become a popular form of CAM, and while it is generally regarded as safe, it has not been proven effective. Most scientific professionals mistrust homeopathy due to the lack of scientific rigour and credibility in studies that seek to analyze homeopathic practices; many argue that any positive outcomes may be attributed to the placebo effect. While homeopathy cannot replace conventional medicine, the therapeutic effects of homeopathic consultation addresses the impersonal nature of traditional medicine.

PART 1: HOMEOPATHY LACKS SCIENTIFIC BASIS AND SHOULD NOT REPLACE CONVENTIONAL MEDICINE

INTRODUCTION
Developed over 200 years ago by German physician Samuel Christian Hahnemann, homeopathy is a form of alternative medicine practice based on belief in “The Law of Similars”—the idea that a natural substance that causes symptoms in a healthy person can be used to cure the same symptoms in a sick person. Several types of homeopathic treatments exist, ranging from auto-isopathy, whereby treatments for ailments stem from the patient’s own body, to classical homeopathy, in which individualized natural remedies are given. Physicians are wary of recommending homeopathy and other forms of complementary and alternative medicine (CAM) due to a lack of proven efficacy and long-term risk assessments. As the trend towards distrust in the healthcare system and medicine increases, it is important that patients are aware of the risks of pursuing homeopathy in place of traditional pharmacological interventions.

THE DILUTION EFFECT
There are several principles of homeopathy that contradict scientific ideology. One such principle is the dilution effect, wherein remedies that are more dilute have more potent effects. These remedies are prepared by diluting a mixture several times, shaking vigorously between each dilution. Almost none of the original remedy remains at the end as the dilutions often fall below 1 mol/L, the scientifically determined limit for dilutions. As such, any effects from these treatments would be implausible. Hahnemann explained the discrepancy by stating that water is able to change structures to capture the “essence” of the diluted molecule. Several studies have attempted to corroborate this claim using techniques such as magnetic imaging and thermoluminescence, but strong conclusions have not been reached. Since this principle conflicts with scientific knowledge, it is hard for the medical community to consider such an effect to be possible, let alone effective. For this reason, homeopathy is often dismissed as “the ultimate fake,” and “concentrated nonsense.” Unless convincing research emerges, there is no plausible reason that such heavy dilution would cause any effect whatsoever.

EFFECTIVENESS
Few studies have been able to demonstrate the positive effects of homeopathic remedies. One clinical trial review concluded that limitations on study quality and conflicting evidence demonstrate the overall lack of scientific credibility of homeopathic remedies. A large area of interest for the potential usage of homeopathic remedies is in cancer pain relief. In a European survey, 35.9% of cancer patients reported using homeopathy or other forms of CAM. However, a review on homeopathy showed that using this form of treatment in conjunction with chemotherapy did not
yield enough evidence of any clinical effect. Overall, due to the lack of conclusive studies, there is insufficient evidence that there are any benefits of using homeopathic remedies.

RISK ASSESSMENT
While homeopathic treatment is generally regarded as safe, temporary negative effects, referred to by homeopaths as “aggravations,” are sometimes seen in patients. These effects are justified by the notion that symptoms must first worsen in order to improve. Although aggravations, which can depend on the treatment, are generally tolerable, adverse effects can emerge, including swelling, bleeding, abdominal pain, and rashes, with rare cases involving hospitalization. These effects could stem from toxicity or allergic reactions to common homeopathic remedies, including low dilutions of heavy metals (e.g., arsenic, mercury). The lack of regulations surrounding remedies also raises concern as the Food & Drug Administration regulates that any ingredient can be considered “homeopathic” and have remedial use.

Despite the lack of scientific validity, many patients still report benefits from homeopathy. A 2005 study published in The Lancet reviewed placebo-controlled studies on homeopathy, finding that in the vast majority of these studies, there was no significant difference between effects from homeopathic remedies and placebos. Interestingly, another study found that upon homeopathic consultation, rheumatoid arthritis patients derived more clinical benefits compared to the standard of care. As such, the healing effects that homeopathic patients experience stem mainly from the consultation. Potentially, if physicians integrated a personalized approach to their practice similar to the individualized care offered by homeopathy, the therapeutic outcomes attributed to homeopathy could be replicated.

A 2017 study which surveyed physicians in Zurich showed that half of those who prescribed homeopathic remedies did so not because they believed in homeopathy, but because they wanted to achieve other therapeutic effects. These effects include the placebo effect of the remedies and the healing effect of the consultation. However, an ethical problem is posed when physicians deceive their patients by prescribing remedies that they do not believe provide any clinical effect. Although many reviews that favor homeopathy are selectively biased and do not prove effectiveness beyond non-specific therapeutic effects, better evidence can emerge if high quality and large-scale randomized controlled trials are performed.

CONCLUSION
A high degree of scientific rigour is needed to determine whether homeopathic remedies are anything more than a placebo. Regardless, the popularity of homeopathy and its therapeutic effects suggest that physicians should try to appeal to the individualized needs of each patient. Although it would be unethical to recommend homeopathy if the physician does not believe in its effectiveness, conventional healthcare practitioners should be more open-minded towards integrating the holistic framework of homeopathic treatments to help patients feel a greater personal degree of care.

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