

## Ayurveda-Practice-Based Research Network (A-PBRN): Lesson Learned and Way Forward in the UK

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### Abstract

We have recently undertaken a corporate strategy evaluation for a more accurate appraisal of the Ayurveda Practice Based Research Network's two-year outcomes. While many of our views and experiences may not be original to PBRN networks, we feel that for Integrative Ayurveda, our insights will be valuable to others who are constructing or reshaping Ayurveda practice in a shifting health care context.

Research that is contemporary, applicable, and amenable to integration into practice must be prioritized. Clinicians, academics, information technologists, and various scientists, as well as strategy implementation professionals, combining to establish a creative Hub, is a viable approach for reaching this objective in comparison to the original PBRN models. The creative Hub could assist academics in identifying significant research topics and meeting "critical" standards. Bridging the ends between practitioners, researchers, and clinicians may require novel partnerships and non-traditional funding sources in the future.

**Keywords:** Ayurveda practice, health care, PBRN models

### Introduction

The Evidence-based medicine (EBM) has emerged as one of the most significant paradigm shifts in the history of medicine, presenting itself as a strategy that may change medical practice into more scientifically-empirically grounded, effective, safe, and cost-efficient care (Worrall, 2002). EBM has made a tremendous contribution to the practice of medicine and has earned the utmost respect of the scientific community, as if EBM were a renaissance in the history of medical science (Cohen et al., 2004). Despite the significance and reliability of EBM, there are substantial reasons that it is currently facing a serious crisis. The most significant criticism of EBM is based on the incapacity of EBM to provide personalized, patient-centred care and the growing influence of the medical drug-device sector to misappropriate evidence-based medicine (Romana, 2016).

The alternative strategy calls for incorporating more patient-centred precision care, broader imaginative research in which patient's experience of illness and real clinical encounters, and the interactive approach of various research stakeholders (Greenhalgh et al., 2014). Amidst these criticisms of EBM in biomedicine, it is essential to examine the evidence generation and clinical decision-making method of Indian traditional medicine (Ayurveda), which has a distinct epistemological foundation. Due to a lack of evidence, Ayurveda is usually dismissed in scientific conversations and the public sphere (Patwardhan, 2010) The RCTs tend to focus on interventions using a single medicine or therapy, whereas Ayurvedic therapeutics are more complex and customized, frequently involving various supplements, external therapies, psychotherapy, and nutritional and lifestyle guidelines (Lad, 2002).

Over the past decade, numerous Ayurveda clinical studies have attempted to replicate the RCT approach of reductionistic approach (Graz, Elisabetsky & Falquet, 2007). For the most accurate clinical evaluation of Ayurveda, several modified RCTs and randomized controlled trials (RCTs) are required. Alternative trial designs have been implemented to address the issues stated previously (Sanson-Fisher, Bonevski, Green, and D'Este, 2007; Singh, 2010). Individual randomized trials, stepped-wedge trial design, and N-of-1 trial designs among the experimental designs for complex interventions published by the Medical Research Council (MRC), United Kingdom

(Skivington et al., 2021). A creative "black-box" concept is a randomized controlled trials with modifications that may be particularly applicable to Ayurveda (Gautama, 2021).

According to the MHRA's definition of complex interventions, Ayurveda is a whole-system approach that cannot be classed as herbal and cannot be ruled out due to a lack of evidence (O'Cathain et al., 2019). Analysing the Ayurvedic system, its relevance, and efficacy outside of typical trial settings, where a proper research model may be fair with its design and scientific methods in evaluating Ayurveda intervention, requires a new perspective.

In recent years, Practice-based Research Networks have developed a reputation for their innovative, research-based work; however, there is growing evidence that these collaborations offer wider benefits (Westfall et al., 2009). Studies indicate that Quality improvement through practice modification, continuing medical education, physician retention in patient care settings, and permitting primary care organization transfer are all possible (Aspy, Enright, Halstead & Mold, 2008; Ornstein, & Jenkins, 1999; Feifer & Ornstein, 2004). Additionally, they should participate in educating and supporting the formulation of health policy (Westfall, Roper, Gaglioti & Nease, Jr., 2019) On the basis of the promising potential of integrating evidence-based Ayurveda into healthcare, we proposed the development of the first Ayurveda practice-based research network. PBRN's inclusive participatory strategy can greatly contribute to ethnopharmacological innovation in traditional medicine (Petrovska, 2012). Prior to now, the physicians' participation in field and community research have uncovered new ethnopharmacological medications in traditional medicine (Petrovska, 2012). The active participation of physicians in the PBRN may facilitate the design of successful ethnopharmacological medicines, the toxicological evaluation of Ayurvedic drugs, and the observation and reporting of drug-herb interactions (Cascorbi I Drug Interactions Principles Examples and Clinical Consequences, 2012).

Since The COVID-19 Pandemic has sparked a great deal of interest in Ayurveda (Palacios, Stillman, Borish & Lawrence, 2016) and it has answered several questions regarding community care. Growing demands of the studies conducted in "real-world" scenarios has spurred the development of innovative and non-traditional PBRNS in a vast array of disciplines and settings. In this "post-covid" era, we've learnt crucial lessons from our recent construction of an Ayurveda Practice Based Research Network, and we're excited to increase the need of our work and preserve our initiative in today's altering health care discussions.

## **2. Who We Are?**

A- PBRN network was founded in July 2020 by Aarogyam (UK), a community interest corporation registered in the United Kingdom, to integrate safe and effective holistic health care interventions into the community. A-PBRN, formerly known as the Aarogyam community advisory board and renamed the Integrative Ayurveda Network as additional organizations joined, is a member-based collaborative network of qualified Ayurveda practitioners.

Through a collaborative learning organization model, the A-PBRN encourages its members to improve patient care and research using health information technology. A-PBRN offered individualized integrative care to patients who self-referred from the NHS via GPs, community care, or on their own. The A-PBRN was efficiently managing chronic pain, diabetes, general mental health, obesity, asthma, chronic diseases, and LONG COVID through Ayurveda-supported self-care. Our A-PBRN has a steering committee with 18 members and an executive committee with 5 members (Chair, Vice Chair, Executive Director, Operations Director, and PBRN Coordinator). We have developed significant ties with two nearby academic institutions. A -PBRNs began to develop around the time of the COVID-19 pandemic in order to provide Ayurveda-based care to individuals and communities. As a result, A- PBRN has more ayurveda practitioners outside of private practise, similar to community health care. By network providers, patients, and community members, it became apparent that a number of primary care-identified health issues, as well as research on those issues, originated within the community.

In many A- PBRNs, analysis began to take the form of a collaboration between practitioners and their communities, and the scope of the project expanded to incorporate primary care-community interventions. Communities began to participate in this transformation process, and in some instances, they even became partners with A- PBRN and its practitioners in creating objectives and strategies.

## **3. What Have We Learned?**

### *3.1 Developing a Shared Perspective and Commitment*

Fundamental to the development of A- PBRN was the intention to perform practice-based research of the highest scientific quality in the safety net. By recognizing what makes Ayurveda both personalized and standardized, we sought ways to combine its distinctiveness with conventional care. One founding member remarked, "For the first time, there was a cohesive, focused intellectual commitment to serve the greater good, which prevailed over manner of practice and individual/organizational self-interest." The A-PBRN was founded on the basis that "We

could conduct research together as a team. I couldn't believe it at first, but it was one of the most extraordinary and surprising experiences I've ever had." Member of the initial group added.

### *3.2 Together, Building a Research and Outcome Framework*

Ayurveda has traditionally been a closed practice, with practitioners developing their own unique approaches to treating patients through Integrative Ayurveda. The concept of research methods (trial forms for evaluating the safety, efficacy, and effectiveness of herbs) was never well accepted and welcomed by the Ayurveda community. Similarly, a limited number of academics mainly focused on the whole-person approach and a research approach that was better suited to Ayurveda. Community-based participatory programs were started to bring the best from practice, and Ayurveda practitioners were active in discussions with the community and researchers. Researchers and the public will start to have a greater understanding of the wider use of Ayurveda, not just herbs, as well as the requirement for practitioner supervision when using herbs in any clinical condition.

Ayurveda practitioners also participated in meetings with researchers to discuss research methodology and design and approve the best possible solutions for documenting evidence in their practice. "No one ever told us that research could also be this. These discussions should have been more encouraged", according to the lead practitioner. The A-PBRN can also deliver and evaluate the individualistic patient centred care which is one of the major limitations with EBM. The A-PBRN may also help to document and reflect the subjective experience of patient with illness and treatment. The inclusion of inter-subjective experience documentation may can strengthen the overall evidence base of clinical research through A-PBRN.

### *3.3 Collaboration and Leadership*

A devoted leadership team, institutional support, and new links in the health-care community helped our A-PBRN succeed. The dearth of research experience among Ayurvedic practitioners and the absence of Ayurvedic expertise among academics has always resulted in substantial gaps. The A-PBRN practitioners trusted the lead researcher's Ayurveda knowledge and experience, as well as their commitment to developing a model that could give a true impact analysis of Ayurveda as a full system. As one of our members put it, "when the barriers between organizations and associations blur and people question who works for who, that's happening for the first time!" Cross-organizational connections were also advantageous to our A-PBRN. The only goal is to put Ayurveda on a scientific footing, and everyone is invited to participate in the discussions. This indicates true collaboration and resource sharing."

### *3.4 Bringing together Academia and the Community*

Our two "separate worlds " constantly find it difficult to communicate with one another, probably because our A-PBRN is in the community as opposed to an academic context, which is the driving force for other PBRNs. Building coherence among A-PBRN physicians and researchers and establishing collaborations so that our physicians and researchers could better comprehend one another's viewpoints required time. Recruiting Ayurveda practices to participate in our initial intervention trial required clinician representatives for research initiatives, and this effort was crucial to our success. Working with researchers committed to long-term collaborations with physicians was also beneficial. Having "boundary spanners" on the team with both clinical and research backgrounds was extremely valuable.

### *3.5 Changes in Clinical Practice and Quality Improvement*

A-PBRN became a valuable tool for enhancing primary care quality and advancing research goals simultaneously. This emphasis on quality improvement has been embraced by additional PBRNs (Mold, 2005). Even though this work is preliminary, it raises compelling questions about the potential for networks to make a long-term impact in the primary care patient environment if it emphasis the research on clinician-relevant topics and provide meaningful and applicable clinical tools. If this discovery is confirmed by future study, it demonstrates that A-PBRNs may serve as a catalyst for the adoption of innovative therapeutic practices.

### *3.6 Roundtable Discussions*

The purpose of the Roundtable discussion was to foster the correct dialogue between various partners and research network stakeholders. Regular Ayurvedic research conferences and seminars have been held, but only a small number of academics, practitioners, and communities have engaged. Language (Sanskrit terms by Ayurveda Experts) and the misinterpretation of traditional medicinal practices as a Hindu discipline constituted one of the major barriers to engagement.

Ayurveda was maintained exclusively by Hindu groups with strong ties to faith and tradition, and not solely based on an understanding of Ayurveda as religiously based practices handed down the centuries (Kessler, 2013). Instead

of organizing Ayurveda conferences and seminars, we initiated a series of open-to-the-public Roundtable discussions with physicians and academics. These discussions became acknowledged proof of their ideas and practices.

Ayurveda Practitioners welcomed the notion of offering Ayurveda words in English, with most of them translated into clinical language in addition to Sanskrit. During a roundtable, a general physician stated, "It was a great idea to compare practicing backgrounds and realize we are not that different when it comes to holistic healthcare. Conventional care has limited resources for whole health and well-being." These collaborative gatherings permit healthcare professionals and the general public to engage in a fair and transparent discussion regarding Ayurveda.

### *3.7 Continuing Professional Developments*

Ayurveda practitioners have their own diagnostic and case-management procedures. Ayurveda practitioners were invited to workshops on translational research and community-based participatory research. The concept of Practitioner-Investigators was introduced, and it was well received by Ayurveda Practitioners. "I couldn't understand a word she said when I first went to the meeting and started listening to the lead scientist." However, she assured me she is pleased to teach and explain, which encouraged me to join the workshops. These sessions are critical for integrating data collection strategies that clinical researchers may need." Ayurveda student practitioners shared thoughts.

### *3.8 Addressing Legal and Regulatory Challenges*

At the beginning, all parties expressed serious concern regarding confidentiality and data sharing. As a result, data and information technology professionals were brought in along with bioethics advisors. Patients' personal data was not included in the new technology-based data collection and sharing tools, and each patient was given a case number that could be linked to the practitioner's file and was only available to them. Each practitioner was instructed in anonymization techniques, and they all had a research assistant to assist them in securing sensitive and confidential information. No information or data was shared before research assistants double-checked everything. It was also proposed that patients give their consent for secondary data analysis. Patients' consent for secondary and anonymized data sharing was also included by practitioners.

Mutually, practitioners and researchers decided to share a database for the UK Data Archive as a result of this. "Research is a critical tool for any healthcare to advance. Ayurveda research was restricted, and practitioners couldn't use it. This novel approach of incorporating research into practice while providing routine patient care is a wonderful step." Ayurveda Practitioner shared. "Because of the breach of confidentiality and data protection law, we were never able to publish our case or post anything other than testimonials on our websites."

However, we have never seen a way of keeping patients and data safe while still being able to use them for scientific research. We appreciate all of the specialists taking the time to get to know us and finding practical solutions." Practitioners shared their insights.

### *3.9 Presenting Outcome in Scientific Conferences and Journals*

Practitioners were encouraged to be presenting authors and co-authors in the research studies which came from A-PBRN, so the Ayurveda Practitioners shared their practice and outcome as it happened. In the last one year alone, 6 major publications and presentations were included in mainstream scientific meetings including (Congress of Royal College of General Physicians, 27th WONCA Europe conference, London, United Kingdom) Royal College of Psychiatrist, (Lawton, 2022) European Psychiatry (Voegeli et al., 2022). Those highlights worked as a catalyst to A-PBRN, with more discussions taking place among mainstream health care providers and researchers. "We never thought that our work will be accepted and shared in mainstream scientific conferences and will be appreciated based on outcome. This is truly pathbreaking". Ayurveda Practitioner Investigator said.

## **4. What Are Our Plans?**

During the subsequent phase of our development, our A-PBRN will have to address a number of identified gaps between our initial concept and actuality. Particularly, we wish to make real-world research significantly more relevant, applicable, and well-integrated into practice; accomplishing this goal requires collaboration between the community, practitioners, and academia. Achieving this synergy remains a challenge for all PBRNs, including ours.

We now envisage an Innovation Hub that unites Ayurveda Practitioners, physicians, researchers, information experts, and quality improvement specialists. An Innovation Hub could facilitate practitioner, professional, and patient participation and collaboration in a portfolio of initiatives that directly improve clinical practice, inform policy, and inspire future research projects. Such integration could support opportunities to use available data to

address clinical, quality improvement, and policy questions; evolve data aggregation tools that enable complex panel management to care for an entire cohort of a population; and transform other automated processes to better support and align with population care and outcomes. This method may aid researchers in generating pertinent research questions while also meeting 'quick-turnaround' needs, such as rapidly responding to database-based inquiries.

We seek to develop data gathering procedures and capabilities that help research while simultaneously delivering everyday value to practitioners and policymakers. Others have described models of a similar nature. A number of resources would be needed to finance an Innovation Hub. Due to the fact that this type of resource adds value, it can be financed primarily through membership fees or consulting fees. The additional value of this resource is predicated on the premise that practices may incorporate the costs into an alternative payment model that incentivizes practices to deliver better care to populations and may have data to demonstrate improved outcomes.

Next, there may be opportunities for training with such a Hub, especially if such training is tied to a degree program; funding for a fellowship program may also be explored. Researchers would be essential in evaluating the impact of new breakthroughs and their significance. This would necessitate acquiring grant funding to investigate the adaptation of therapies that have been shown to be beneficial in one surroundings to another, as well as gaining knowledge of the transmission of novel ideas and diffusion of innovations across a variety of clinics and patient cohorts.

## 5. Conclusions

A-PBRN may considerably improve the scientific evidence of Ayurveda by linking it with patient-centred clinical practice in the real world. A-PBRN may also greatly contribute to the transformation of evidence into robust clinical and policy recommendations. In building our A-PBRN, we followed similar paths and learned many of the same lessons as our predecessors. To maintain our progress, we must close the gap between traditional research and its use in primary care. In the future, this may require the formation of new alliances and the investigation of alternate funding sources.

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## Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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