

“I can see the sea!” – How can Blue Health improve our Wellbeing across Communities?

Yohanna Yared*, Catherine Lamont-Robinson, & Alan Kellas

University of Bristol Medical School, University of Bristol, Bristol, UK

*Corresponding author: Yohanna Yared, University of Bristol Medical School, University of Bristol, Bristol, UK.

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Abstract

Background: Water is necessary for life and humans use water for a range of purposes. The ‘blue health’ field was investigated over a 6-week experiential period and a subsequent literature review, including a 10-day sailing voyage on the Jubilee Sailing Trust’s (JST) Tenacious mixed-ability tall ship. Blue health can be understood as interventions to improve health performed in an aquatic setting [1].

Methodology: The main lenses of focus were through ‘embodiment’ and the experience of disabled sailors aboard the Tenacious. A 6-week exploration was undertaken of the blue health field, including activities such as open water swimming and paddleboarding. A review of the databases Medline, Cochrane and Allied and Complementary Medicine (AMED) was performed. The following search terms were used: ‘disabl*’ AND (‘blue health’ OR ‘water’ OR ‘water resources’ OR ‘water movements’). Papers not available in English were excluded.

Results: Through the literature search, there was evidence to support the value of a blue health approach, however the quality of evidence available was limited. Interventions, including interception-improving techniques, audio-visual recordings of sea settings and sailing, hold benefits for patients. These experiences can allow them to form alternative embodied knowledges, in particular around disability. Blue health also has an ecological dimension: protection of the aquatic environment also protects the health of humans.

Conclusion: More research is necessary in the blue health sphere on local, national and global levels. Blue health represents an intersection between art, sciences, and disability, and is a valuable resource for people to develop an embodied sensory experience and new social practices with water. Healthcare professionals should inform themselves and their communities on blue health approaches to facilitate improved patient access and directly contribute to this growing field.

Keywords: Blue Health, Wellbeing, Disability, Water, Embodiment, Water Resources

Introduction

Water is essential for life: not only physiologically for hydration of the body but also for bathing, sanitation, leisure and to sustain the food we grow. Culturally, water has been highly prized in rituals across the world for thousands of years, and historically people have travelled to coastal areas in pursuit of the healing nature of the seaside [2, 3]. Aside from the necessity of water to our lives,

humans have been able to derive pleasure and a wide range of nuanced experience from proximity, or even immersion to water.

Blue health (BH) may be defined as interventions taking place in the aquatic setting, used to promote health [1]. This is a growing field of discourse, increasing in relevance today in light of the ongoing climate crisis and deterioration of the ‘blue’ environment.

Methodology

Through this 6-week Student Choice Project (SCP) on blue health, I had the opportunity to experience a range of blue health interventions, such as open water swimming, surfing, paddleboarding, culminating in 10 days on an adapted tall ship sailing in the Irish Sea with the Jubilee Sailing Trust (JST). Alongside specialist seminars and tutorials, comprising the academic component of the SCP, I also conducted a literature review to expand my understanding of research available around blue health.

As the SCP progressed, I developed a particular interest in the interaction between the disabled community and blue health. How could this group derive benefit from blue health, and how can their sensory, embodied experience differ to other groups participating in blue health? How can this be applied clinically to improve avenues of health resources for this group? The embodied experience here can be understood as one's connection to the body's sensory perception of the world [4].

Through these two strands of investigation (academic and experiential) in tandem, I have come to understand the breadth of methods and settings we may draw on as resources to implement blue health approaches: from clinical settings such as hospitals or acute care (sounds, images, seascapes) and out in the community – oceans, rivers, lakes, hydrotherapy pools and even bathtubs at home!

My literature search involved the databases Medline, Cochrane and Allied and Complementary Medicine (AMED). I used the following key terms:

- 'disabl*' (truncated to include all word variations)
- 'blue health'
- 'water' (MeSH)
- 'water resources' (MeSH)
- 'water movements' (MeSH)

The terms were combined using the Boolean operators 'AND' and 'OR' to form the search term: 'disabl*' AND ('blue health' OR 'water' OR 'water resources' OR 'water movements'). These criteria produced a selection of papers constituting this literature review. From this, the papers were sorted by relevance by the search engine. The abstracts and titles of the first 400 papers were reviewed, and those relevant to the blue health topic were read for inclusion in this search. Additionally, only English language papers were selected. In total this brought approximately 40 papers suitable for inclusion. Upon reflection, this search brought a significant volume of literature. A more specific search criteria would perhaps have been beneficial.

Blue health as a Conduit for Embodied Experiences

Through my SCP I was able to appreciate blue health as a conduit for alternative and embodied sensory experiences – for example, at the All Aboard training centre at Bristol harbourside, I heard accounts of teams of blind rowers, so attuned to the feeling of the oars in their hands that they could move in perfect unison, without the use of sight at all. The complex interaction between the blue environment and our senses afford the formation of 'haptic restorative sensory experiences' [5]. But what does the sea afford that cannot be done on land? The sea and other blue environments offer a space to just 'be' – to float, immerse, move without the requirement to even support your own body –

a mindful practice in itself! The unique nature of this 'haptic' experience perhaps can be attributed to this liberating experience of immersion – feeling in 'the hands' of the waves and currents moving you rather than your own body. Blue health offers this opportunity for people with disabilities to craft an alternative, embodied social practice for themselves with the water [6].

Settings such as All Aboard, who centre themselves as a 'training centre', as opposed to a traditional watersports club, further facilitate these diverse experiences by reducing the competitive element. Instead, participants can focus on engaging with the embodiment the water brings – to feel, observe, notice your body and surroundings. This practice can aid our 'interoception': the interpretation of our internal bodily inputs. Interoceptive training has been found to be beneficial in autistic groups to reduce anxiety [7, 8]. Blue spaces can facilitate a valuable connection between our inner environment (sensed via interoception) with the outer world.

Aboard Tenacious, one blind sailor I met carved his own holistic sensory experience. He drew the most vivid, vibrant sensations from the roughest weather – with strong winds, rocking waves and the feeling of the ship rolling over the water – conditions that reduced the able-bodied sailors to severe seasickness! For him, the ship was a safe, accessible contained space, well-adapted for him to explore. Through the physical and literal frame of this accessible space, he was able to push the boundaries of a visceral experience otherwise not available ashore. Aboard Tenacious, he could stand on deck, hear the rush of the water, and feel the spray on his face. The smell, feeling, movement aboard provided an enriching, joyful experience – strongly contrasting to that of other disabled and abled crew members.

This sailor's embodied experience was drawn from his perception of the sea from the safe haven of Tenacious. But for one abled-bodied freediver and eco-educator I met during the SCP, the embodied experience was centred around experiencing the water from within! He was most able to engage with his own embodiment by, in his words 'tapping' into the 'massive ocean energy', primarily by immersion into the water. For him, the physical sensation of the water around him, the sense of becoming 'part' of the water was critical. He developed his own free diving ritual to achieve this, removing the barrier of noisy scuba gear between himself and the ocean. It was during the fleeting interactions between himself and the elusive marine life below the surface that this palpable energy of the ocean could be felt, providing an unadulterated, visceral experience.

Surfing at the Wave in Almondsbury, Bristol allowed me to explore my own connection to the water. I joined a women's group (Open Minds Active) centred around camaraderie, support and enjoying nature together. Here, I was able to reflect on my own embodied experience in the water. For me, the benefit all came from the instinctual feeling of being moved by the rushing water, the notion of being just one body in a wide, powerful expanse of sea. This new perspective allowed me to centre myself within nature and explore my own connections to the world around me.

How does the sea afford what cannot be done on land? What can be achieved in/on the limitless expanse of the sea? What does the sea allow that other natural experiences do not? Extracting

the power of the sea clinically and in the community may benefit patients – in one systematic review, elements of blue health were incorporated into the hospital environment as ‘positive distractors’ [9]. The interventions included audio and visual recordings of the sea. The review found generally that these interventions did not do harm but failed to elicit a clear benefit due to the biases of the studies.

Lembo found that the audiovisual stimulus of an ‘ocean shoreline’ was better for improving anxiety in patients undergoing flexible sigmoidoscopy compared to standard care [10]. In a group of 13 patients given an audiovisual aid, the mean anxiety level (\pm standard deviation) was significantly lower (2.5 ± 0.4) than in the standard care group (4.4 ± 0.6 , $N=12$). However, this study was judged to be at high risk of bias due to a lack of patient blinding.

The people aboard *Tenacious* were able to forge a new identity – a sailor, a (watch)leader, a climber of the mast, a rope-puller – new magical roles forged in an equitable environment free of the constraints and limitations of home. They are an example of the social model of disability in action – with the removal of barriers, abled and disabled crew could achieve the goals of the voyage as one team.

This could occur in many settings but arguably there was some symbolism or sensory magic in sailing away (figuratively, metaphorically) from land, allowing home to disappear into the horizon. We were neither here nor there – what was it held within this liminal space, this limbo, that allowed this to flourish?

Blue Health to help Protect Our Planet ↯↯

Blue health is often interpreted as ‘water interventions to aid wellbeing’ but an alternative reading of the phrase suggests the health of the ‘blue’ world itself. The marine environment is becoming rapidly degraded and progressively ‘ill’. The natural soundscapes, environment and delicate lifecycles are becoming depleted, and in June 2022 the UN declared an ‘ocean emergency’ [11]. Blue health (in both senses of the term) are closely intertwined: rising sea levels put civilians at risk of losing access to water, sanitation and hygiene (WASH), a huge scale of displacement and further natural disasters [12-15]. Disabled people are highly vulnerable to these insecure living situations and stand to suffer significant harm as a result [16]. Hence, there is an urgent ecological necessity to value blue health – without adequate protection and attention, we stand to lose it [17].

Discussion

What can be done to implement blue health approaches more widely? Healthcare professionals should support local initiatives to bring blue health into accessible spaces – for example the Bristol Harbourside has the potential to become a blue health hub. The All Aboard group are already based there but there is scope for further expansion – a necessity for the future considering the advent of climate change and hotter, drier cities [18]. Establishing quiet areas of nature adjacent to the water and introducing free activities like open water swimming can facilitate new enjoyment of blue health. Harbourside areas could be an important source of blue health in cities across the UK, and further afield. In Bristol, a port city, we can take advantage of the natural environment to deliver blue health – in my future re-

search I’d like to consider what kind of blue health waterscapes in other parts of the UK may be able to offer.

Furthermore, medical schools should consider incorporating modules on blue health interventions, so that greater numbers of patients will be able to benefit from blue health prescribed by their doctors in the future. This effort has been aided already by the creation of a blue health resources document [19]. This document includes a wide range of scientific and artistic resources through mediums such as poetry, dance and film. This was a key point of guidance through the SCP. Moving forward, establishing a blue health network across the Bristol area would be valuable. Over the SCP, I found the existing blue health landscape to be a slightly fractured network of friends and organisers – formalising a network would be beneficial to help spread awareness of what is available locally. Medical professionals may also consider supporting movements for greater access to blue health spaces – for example the trespass movement, however this is a deeply political issue. Attention should be paid to the locations of blue health spaces – in my own experience, it was challenging to access many without cars [20].

Reflection & Conclusion

Over the blue health SCP, I was fortunate to have experience a wide breadth of ‘blue health’ offerings – from Bristol freshwater, to ocean saltwater! The SCP challenged my own framings and understanding of disability, and I witnessed first-hand the transformative and inclusive social practice abled and disabled sailors developed together aboard *Tenacious*. As the only student on this new SCP, I was also somewhat a guinea pig! I had the opportunity to make art (sketching and painting) (Appendix 1), journaling my experiences over my own blue health voyage as an artist rather than medic. Including ‘water connection’ methods such as these were hugely beneficial to craft my understanding of the intersection of disability, arts and sciences that blue health represents. I hope to explore more in the future.

I improved my research skills through the literature review, but it was difficult to find papers specific to blue health in the literature – the bulk of evidence pertaining to blue health approaches (i.e. hydrotherapy) were found within systematic reviews on ‘exercise therapies’. Consequently, it was challenging to tease out the impact of blue health specific interventions where they had been used in a mixed/multidisciplinary approach – i.e. mixed exercise therapy as opposed to a single hydrotherapy approach for example. Furthermore, most of the relevant literature used small sample sizes and generally were not able to produce a strong standard of evidence. For example, in one systematic review, all studies involved carried a high risk of bias due to their methodology, providing poor quality evidence. Considering this gap in the literature, I am interested in carrying out some research in the future, alongside others already breaking new ground in the blue health field [21].

More high-powered research is necessary in blue health; clinicians are currently not able to recognize the benefits with the low quality of evidence available in the literature. This will not be easy – blue space interventions have complex mental and physical effects, and the ways by which these occur are not easily documented by the quantitative data of RCTs, for example, [1, 22].

There is considerably more to be understood in the field of disability studies, and during my Medical Humanities intercalated degree next year I hope to continue in this area. My time with the JST showed me a glimpse of the vast canvas of the disabled lived experience – no two sailors experienced the voyage the same [23-33]. I was privileged to be able to witness the transformative, empowering process of coming aboard, sailing away, and leaving life behind!

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Appendix 1

