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Traditional soap plants used in hand hygiene can play an important role in curbing COVID-19 and other infectious diseases. So why is there little research?

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Abstract

Aboriginal peoples living in remote communities carry a high burden of chronic disease, live in crowded housing, and have poor access to washing facilities. Soap and hand sanitiser are often unaffordable. Furthermore, hand sanitiser, apart from being more expensive has a high alcohol content, making it unsuitable for settlements where drinking is a problem. Consequently, for many Aboriginal people, the standard non-pharmaceutical interventions for reducing the risk of transmission of COVID-19 – including hand hygiene are difficult to achieve, and they are more likely to be hospitalised with COVID-19 than other Australians.

Native soap plants can provide a more accessible, safer and cheaper alternative. These plants are rich in saponins, soap-like phytochemicals that have a range of anti-viral, anti-bacterial and anti-fungal properties. Several taxa are found in Australia, as they are on every inhabited continent, and Aboriginal people like other ancient cultures, have a long tradition of using them to both cleanse their skin and treat various skin diseases.

Yet, while plant saponins have been the subject of much research in the treatment of a range of disorders, diseases and symptoms, there has been limited examination of their potential as hand sanitiser, and none in Australia. Access to local soap plants, bush medicine that Aboriginal people know and trust, and that research has shown to be an effect barrier to COVID-19, would help. However, at least in Australia, there has been no such research, leaving tens of thousands of Aboriginal people with few alternatives.

This paper examines the situation of the Kunwinjku people of western Arnhem Land, Northern Territory, Australia in relation to COVID-19, and the lack of research and official advice on soap plants, and offers some recommendations for change.

I use a narrative approach based on four decades of participant observation and action research as an adopted family member of the Ngalanbali clan of the Kunwinjku people who lived on the outstation, Kudjekbinj, in Western Arnhem Land. I use the term ‘Aboriginal’ when describing these First Peoples of Australia as this is the term family members prefer.

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Introduction

COVID-19 was declared a pandemic by the World Health Organisation on 11 March, 2020 (Cucinotta, D.; Vanelli, 2020), and within six weeks reports of its spread had reached the Kunwinjku people of western Arnhem Land, in Top End of Australia’s Northern Territory.

Senior women were very worried and with good reason. The NT has the highest rate of Aboriginal people in Australia with 30% identifying as “indigenous” (Australian Bureau of Statistics, 2023). Yet, by 2022 nine out of ten COVID patients in the NT were Aboriginal (Roberts, 2022), and the disease had spread to most remote communities.

The standard recommendations for reducing the risk of transmission of COVID-19 include non-pharmaceutical interventions such as social distancing, and hand hygiene. These measures are difficult for tens of thousands of Aboriginal people in remote communities for a range of reasons including overcrowded housing, high mobility between communities, unaffordability and inaccessibility of soaps, unsuitability of hand sanitiser, and the lack of trust in Western medicine.

About three billion people worldwide do not have access to soap and water in their homes (Whinnery et al., 2016 in Kunatsa & Katerere, 2020). An estimated one billion are at risk of COVID-19 (and other infectious diseases) simply because “they lack basic handwashing facilities” (Kunatasa & Katerere, 2021, p. 2; Unicef, WHO 2020). In the Aboriginal housing I have stayed in, most have washing facilities either within the dwelling or outside in a sheltered area. However, many Aboriginal people live in houses not built for extended families (Thompson, 2019, and their sheer numbers limit access to washing facilities, and to soap. That commercial soap is not always affordable or accessible is an additional issue, as is the concern about the high alcohol content of hand sanitiser. According to Dr. K. Griffiths, an epidemiologist and Yawuru woman (Roberts, 2022), overcrowding and the inability to wash hands or bathe, ensure there is increased risk of “greater transmission” of infectious disease.

Thirdly, there is a lack of trust in Western medicine and practitioners, one example of which was the response of senior Kunwinjku women to the pandemic early in 2020. They posted messages on Facebook stating that only faith stood between them and serious illness or death, and asking all to pray.

Housing

34% of houses in ‘very remote’ communities meet the criteria for ‘overcrowded’ (Hall, et al., 2020). It was a situation I often experienced when visiting Kunwinjku relatives in remote areas where I shared washing facilities with up to a dozen or more other people. Similar crowding occurred when relatives came to stay with my partner and children in Darwin. It was not uncommon to have thirteen or more visitors sharing our three-bedroom/one bathroom house (fewer came to stay after 2004 when my partner and I shifted out of Darwin and into a unit that had two bathrooms, but was overall much smaller). Living under these circumstances women in particular were conscientious of the need doe hygiene, and they and older children were always cleaning the house and washing toddlers and babies.

Hygiene was more problematic at events such as funerals. For example, hundreds turned up at the burial of an elder held in Gunbalanya, a town in Western Arnhem Land, in 2016. Several dozen mourners, including myself and a friend, camped in the yard next to the deceased man’s daughter’s home. The one bathroom in the house was always occupied. Consequently, my friend and I used facilities elsewhere in town.

Hygiene is also compromised when washing facilities break or fail on remote communities. Social housing residents often report long waits for the Department of Housing for such repairs (Donohue & McDowell, 2021). At Kudjekbinj, 120 kms from Gunbalanya, an outside showering facility was out of use for weeks because a piece of clothing had blocked the drain and no one knew how to remove it.

Soap and hand sanitiser: Limitations on their use

Infectious diseases are rife in some remote NT communities. One study of 320 Aboriginal children living in five such communities found multiple clinical presentations of each child for infectious diseases including upper respiratory tract infections, otitis media, scabies and other skin diseases, and diarrhoea (Kearns et al., 2013). In 2006, after partaking of a buffet at a church memorial service in Darwin for a deceased Aboriginal elder several attendees including both adults and children contracted a diarrhoeal illness, thought to be rotorvirus, a contagious disease that can cause a life-threatening gastroenteritis in very young children. Consequently, I began taking wash bowls, soap and hand towels to such events, and senior women and I encouraged all to wash their hands before eating.

Yet, among Aboriginal people in remote areas soap is viewed as being not a high priority or even “a luxury item”, and it is often unaffordable (McDonald et al., 2015). Moreover, in a house with many occupants a bar of soap does not last long as I discovered when Kunwinjku relatives stayed with me or I stayed with them.

Commercial hand sanitiser was also seen as a discretionary item of purchase. Furthermore, I tried to persuade people not to buy the product because of its high alcohol content, up to 80% (Lopez-Gigosos et al., 2023).

The NT has the highest consumption of alcohol in Australia (Clifford et al., 2021) although Aboriginal people are more likely to abstain from alcohol than non-Aboriginal people (Australian Institute of Health and Welfare. Alcohol, tobacco & other drugs in Australia, 2021). However, those who do drink often do so to excess and experience greater harm. We had lost many relatives to alcohol. Indeed, the “alcohol-attributable” death rate for Aboriginal people in the NT is 9-10 times higher than the national rate (Skov et al., 2010). Because of laws restricting the sale of alcohol, methylated spirits is sometimes substituted for alcohol; indeed it has been sold as a beverage (NT Law Handbook, n.d.). Hence, my fears that hand sanitiser would also be consumed, and it was, alcohol poisoning becoming a “serious issue” and leading to an increase in NT hospitalisations (ABC television report, 9 July, 2023; Haskin, 2021). As well there has been an increase in accidental alcohol poisonings of children (NSW Health, 2020).

The chronic disease burden

When the pandemic struck national advice identified Aboriginal and Torres Strait Islander people in remote communities as a population disproportionately at risk from a COVID-19 outbreak. They already carried a high burden of chronic infectious disease, spread by lack of hand hygiene (as happened at the memorial service), living in crowded housing, and exacerbated by high mobility between communities and lack of access to healthcare (Australian Department of Health in Donahue & McDowell, 2021).

Yet, the early government response to the pandemic was reported to be “erratic and poorly coordinated” compared to that of Aboriginal bodies such as the land councils and the Aboriginal Community Controlled Health Organisation (ACCHO) sector (Dudgeon et al., 2020). The Aboriginal Medical Services Alliance chief executive John Paterson said that

this situation had been predicted:

This is a jurisdiction where we've got high numbers of the most vulnerable population in Australia'. Aboriginal Territorians are the sickest in this country with all the chronic illnesses and it was just going to be doubly hard for them if they contracted COVID for them to recover. It's very alarming, very concerning, we're disappointed (Roberts, 2022).

Trust

The poor health of Aboriginal people in remote areas has been exacerbated by the lack of trust many have in western medicine (Barnett & Kendall, 2011). In my over forty years' experience, this distrust had manifested itself in a number of ways. For example, in the late 1990s a senior traditional owner flown to hospital in Darwin with a subdural haematoma, told a doctor in my presence that she didn't trust him and "not to lie" to her. In the same period relatives of a nephew who had fallen on a broken wine flagon causing a large wound the size of his fist in his buttocks rang to ask for my help in calming *Ngangawadj* (nephew) who was afraid of the doctor. Senior relatives often questioned their medical treatment; a traditional owner with conjunctivitis told me she "didn't trust" the nurses that visited the outstation to treat her condition. Relatives in town often would not attend a medical practitioner unless I came as well.

The distrust was heightened by language difficulties. A relative who fell off a roof while adjusting a solar panel was suspected of having torn his spleen. Unable to understand the language of his attending doctor he was unsure of the seriousness of the injury, and he and his wife were scared. After I explain the misunderstanding to staff a senior nurse came to sit and chat with my relatives, and put their mind at ease.

Attitudes towards medical practitioners improved on the outstation of Kudjekbinj in 2005 after a couple of medical specialists from Sydney arrived with a group from the Australian Museum Society. In conversation with relatives, I mentioned the doctors, and a grandson asked me if they would be able to reassure him about a football injury he had sustained sometime previously. I conveyed his question to the male specialist who offered to examine his back, to which the footballer agreed. The examination triggered an avalanche of small children wanting sore fingers and knees looked at and bandaids applied. Then M., the female specialist asked if I could get permission for her to examine a girl who, so others had told her, had suffered an injury while riding a bike. M was very concerned, suspecting the girl had fractured her coccyx. I approached the girl's mother, grandmother and other female relatives and explaining M.'s concern, asked permission for the doctor to examine her, which they gave (it turned out to be just a nasty bruise). Another girl had a boil on her leg which again with permission from senior women the doctors lanced. Esther, a senior traditional custodian then happily engaged M. in a discussion about the conjunctivitis she occasionally suffered from. Her attitude was quite a reversal from the distrust of visiting she had previously expressed towards visiting nurses on a number of occasions.

But trust-building wasn't smooth sailing. A backward step occurred during the implementation of the Federal Government's 'National emergency response to protect Aboriginal children in the NT' in 2007 (Brough, 2007). While some of its goals were welcome, for example, the aim to improve housing, 'The Intervention', as it was called, introduced measures that were highly discriminatory (Freeman et al., 2022), and that didn't recognise Aboriginal mores, agency, and the need to consult (Roffee, 2016). For example, senior Kunwinjku women who had previously taken children from parents who drank alcohol to excess now refused to do so for fear of "getting into trouble" from the authorities (comments from several women in Gunbalanya, 2007).

The Intervention resulted in a high level of distrust in Government authorities (Freeman et al., 2022) and a reluctance to even seek health care. A doctor who had come to Gunbalanya under The Intervention complained when we met on a walk up Injaluk, the hill overlooking Gunbalanya, that in the three months since he had arrived, he had yet to see an Aboriginal patient.

Those feelings were probably exacerbated by the replacement of Aboriginal health workers with non-Aboriginal staff from interstate. I learned of this on a visit to Gunbalanya in 2014 with Professor Maurianne Reade and her partner, Craig. A doctor at the clinic who was asked to show us around, rushed us into his office and closing the door told us about the dismissal of the health workers. He was so distressed that he was shaking. A Kunwinjku relative who was a health worker later backed up the doctor's comment (personal comment, 2014) telling me that that situation had created much anger in the community and distrust of the new workers.

In 2019 the lack of trust in Western medicine (and an indication of the strength of the women's religious beliefs) could have had a tragic result when a child was electrocuted. According to messages posted on Facebook the women prayed over the boy instead of sending immediately for medical help. He recovered according to later messages in which they expressed the belief that their prayers saved him (12 January, 2020). These women refused to be vaccinated stating that God would protect them. One told me she had banned her vaccinated adult children from her house.

On a visit in late 2021 to Gunbalanya it seemed that trust was gradually re-emerging in the shape of friendships between medical staff and town residents, and that appeared to translate into a higher acceptance of vaccinations. A vaccination team had set up outside the main store, and while I was sitting with them a number of Kunwinjku men came up voluntarily to be vaccinated. Concerned, many inquired as to whether I, their *Maka* (grandmother), had been vaccinated as well, to which I replied that I had.

Soap plants and saponins

A solution to the unaffordability and accessibility of soaps, the concerns about hand sanitiser, and the lack of trust in western medicine, would be the promotion of traditional soap plants used by Aboriginal people across Australia, as cleansing agents and treatments for skin rashes and sores. Two commonly used species in the north-western Top End are *Acacia holosericea* (family Fabaceae) and *Alphitonia excelsa* (family Rhamnaceae). The pods and/or leaves of *A. holosericea* (and some other *Acacia* species) are crushed in the hands with a little water and the resulting lather spread on the skin. The leaves of *A. excelsa* produce a green lather which is wiped over the skin to cleanse it or to treat or prevent skin rashes and ringworm (Aboriginal Communities of the Top End, 1993, p. 50).

I had used these and other soap plants since the mid 1980s while carrying out surveys of flora and fauna in the Top End bush. Often working in temperatures of 35°C or more and in humidity greater than 70% I sometimes developed skin rashes, and soap plants were the most effective and accessible treatment, particularly when water was in short supply. I simply crushed leaves, or in the case of *A. holosericea,* the green seed pods, and added a little water. This was the species I mostly used because in much of the Top End it is more common than other soap plants.

I turned again to soap plants during the first lockdowns of the pandemic in 2020 when there was a rush on cleaning products and shelves in the nearest supermarket 65 kms away were often empty. Mostly, I used the leaves of *A. excelsa,* because it grew near the house. Using a coffee grinder, I powdered the leaves added hot water and then used the solution as hand and body wash, hair shampoo and in washing clothes. The only issue? Some greenish stains on white sheets and clothing!

Soap plants contain saponins, soap-like phytochemicals (Kregiel et al., 2016) with a range of pharmacological properties such as anti-inflammatory, anti-microbial, anti-fungal and anti-viral qualities. Soap plants grow on every inhabited continent and are widely used as soap, detergents and medicine. They are to be found in the oral traditions of Aboriginal people (Aboriginal Communities of the Top End 1993) and in ancient texts from other countries, for example the Ayurveda and Unani medicines of India (Goel & Sairam, 2002; Hamiduddin & Anees, 2018), and traditional Chinese medicine (Wang et al., 2020).

Traditional Aboriginal use of soap plants is mentioned in research papers, for example, on the Yaegl of New South Wales (Brouwer, 2006; Packer et al., 2012) and the people of the Tiwi Islands (Puruntatameri, 2001). Moreover, there are several general publications that mention the use of soap plants produced by various Aboriginal nations in conjunction with other organisations. For example, one was published by the Ngunnawal of the ACT region, in conjunction with Greening Australia.

Esther Managku, and I (under the name of Lawungkurr Maralgnurra) produced a chapter on medicinal plants for *The Lonely Planet Guide to Aboriginal Australia* (2001, p. 98) in which *Yabok* (older sister) mentions 'soap' in conjunction with the bark of Woollybutt, *mandjalem (Eucalyptus miniata).* "You cut hairy skin low down. You break (shred) the skin in little pieces and boil in water. Then it turn soapy and when it's cool you can use it for sores like prickly heat."

Aboriginal plant use in the NT is comprehensively documented in a publication produced by the Aboriginal Communities of the Northern Territory (1993) that covers several dozen communities. This appears to be the only publication that mentions the concentration of saponins (as well as other phytochemicals) and in which part of the plant they were found. Kutsana and Katerere (2021) also published such information but on plants found in Africa.

Saponins form part of the plant's defences against disease and herbivore activity (Mugford & Osbourn, 2012), and have been found in nearly one hundred plant families (Oleszek & Oleszek, 2019; Vincken et al., 2007). They are present in both monocots such as the Dioscoreaceae, Melanthiaceae and Asparagaceae (Li, et al., 2023), and in dicots, for example, Bombaceae, Capparaceae, Fabaceae and Rhamnaceae (Aboriginal Communities of the NT, 1993). Kunatsa & Katerere (2021, p. 4-7) in their comprehensive study of African plants containing saponins found 68 species belonging to 32 families, most of which were dicots.

To test for the presence of saponins an amount of the plant extract is shaken in hot water. If saponins are present a froth appears and persists for 5-30 minutes. In Aboriginal Traditional Medicines (1993), this is recorded on a scale of + - ++++. Concentrations of saponin are not the same for all parts of a plant as noted by Kunatsa and Katerere (2020, p. 8). For example, *Acacia auriculiformis* leaves may contain no saponins while the pods have a concentration of ++. The bark and leaves of *A. holosericea* register ++; the pods, ++++. The leaves and bark of *Alphitonia excelsa* both register a concentration of ++++. According to the publication produced by the Aboriginal Communities of the Northern Territory (1993) the inner bark of Woollybutt contains no saponins. However, Yabok used the rough lower bark to make a soapy solution, and to my knowledge this has not been tested for saponins.

There are a number of different ways of extracting saponins. Kunatsa and Katerere mention the use of different solvents, for example, ethanol or methanol, and mechanical methods of such as by microwave or ultra-sonic extraction. However, none of these are suitable for Aboriginal people living in remote areas, firstly because of the issues caused by the alcohol in hand sanitisers, and secondly the cost and maintenance of equipment in a remote area.

No lack of research

There has been much research on plant saponins, as cleansers and in mitigating health disorders or certain diseases. Saponins have been found to decrease blood lipids, and help protect against cancers (Desai et al. 2009; Elekofehinti, 2021; Kim et al., 2022; Mieres-Castro & Mora-Poblete 2023) and disorders of the central nervous system such as stroke, Alzheimer's disease, Parkinson's disease, and Huntington's disease (Sun et al., 2015). They have been shown to have analgesic effects, for example, in the treatment of neuropathic pain (Tan, et al., 2022). Saponins may relieve disease-related symptoms and clinical complications and improve the efficacy and safety of vaccines (Mieres-Castro & Mora-Poblete, 2023; Sharma, 2020). There is now some research on the potential use of plant saponins as nasal swabs and gargles in protection against COVID-19 (Navaneeth et al., 2023).

Methodology

A qualitative approach, namely participant observation, would normally be the choice of method for a study such as this. Participant observation is a formal approach that seeks to investigate the perspectives of a given group through involvement in their daily life (Franklin 2009; Tuli 2010). However, the present study differs from typical participant observation in that it was unplanned and I was involved as family. From that perspective I have included in this paper descriptions of relevant and personal experiences with Kunwinjku in order to aid the understanding of readers.

Unplanned studies such as this are not unknown. Berger (2017) writes of “conducting an unplanned participant observation” in his study of birdwatchers. A formal study would have been difficult. My relatives made their dislike of anthropologists known not long after my adoption in 1983 and therefore I dropped that minor from my degree. Some relatives were not happy to have an anthropology student staying at Kudjekbinj in the late 90s. As Linda Tuhiwai Smith (1999, p. 1) states in her book, “'Research' is probably one of the dirtiest words in the indigenous world's vocabulary” (Wilson, 2001). By the time I decided to do a PhD on the tourism project we started in the early 2000s relatives liked the idea, and we saw it as a way of involving them in tertiary study. However, the university made it impossible, committing a serious breach of cultural protocol that resulted in relatives insisting that I change relatives.

In participant observation it is essential that researchers develop trust, build rap- port, and reciprocate (Harrison et al., 2001; Kawulich, 2005), which I do, but as a family member. The level of trust has been demonstrated on several occasions (Goodfellow, 2022). For example, in 1997 after I had been approached by a representative of the NT Ombudsman's office to apply for a position in western Arnhem Land, elders sought a meeting with the Deputy Ombudsman, and told him that my employment would be “a good thing” as “everyone trusts *Ngalwamud*” (my ‘skin’ or subsection name).

My approach to this paper is also one of action research. Action research is a practical methodology that aims to research, identify, and take action to solve an issue or bring about change within groups and communities (Spickard, 2017). I took action in a number of ways. Before my adoption I sought to represent Aboriginal people as an alderman on Darwin City Council (1981-84). To test my resolve the president of Bagot, the local reserve, told me to catch her a snake, which I did, and was threatened with prosecution for interfering with protected wildlife. The president alarmed at the prospect of my going to jail adopted me, believing that if I was recognised as ‘black’, I could hunt legally. I exposed police abuse on a remote community at some risk to myself. Elders from across the Top End asked me to help them prevent ‘payback’ after the sudden and unexpected death of a young man. I did so with help from the Hon. Clare Martin, then a Member of the Legislative Assembly, and others.

At their request I worked with Kunwinjku elders to help them establish a little tourism project at Kudjekbinj (the Baby Dreaming Tourism Project) aimed in part at keeping people on their land and safe.

Actions taken in relation to soap plants

Actions on the issues surrounding COVID-19, Aboriginal people, and soap plants were largely opportunistic. For example, the senior women's early 2020 Facebook message on praying to stay safe spurred internet searches for ‘soap plants, aboriginal, Australia’ and ‘soap plants, covid handwash’ (or hand sanitiser) and other combinations. The first (‘soap plants, aboriginal, Australia’) yielded thousands of results (most recently 5,890 results on 12 July, 2023,) while the latter yielded none apart from an article I published in May, 2020 (Goodfellow, 2020).

Yet, it seemed to me most improbable that there could be no research on soap plants as hand sanitiser when tens of thousands of Aboriginal people living in remote areas were vulnerable to COVID-19 like billions of others throughout the world. Consequently, in mid-2020 I asked the question below of the BBC science program ‘The Naked Scientists’ presented by Cambridge-based virologist Chris Smith. My hope was that someone in the audience of a million and a half could point me in the direction of relevant research.

Question: "There are plants that contain saponins, and were used by Australian Aboriginal people as bush medicine. Aboriginal family members in remote areas are concerned about coronavirus but do not have access to hand sanitiser, or sometimes even soap. Is there any research on the antiviral properties of saponins in, for example, Australian acacia species or other plants?"

The reply (Higginbotham & Azizi, 2020) noted that, “a lot more research would be needed before we know whether saponins could actually act as a treatment or medicine for coronavirus”. In other words, they did not really answer the question.

In August 2021 I approached Charles Darwin University Vice-Chancellor, Scott Bowman on the university's lack of research on the potential of soap plants as hand sanitiser. CDU is built on Aboriginal land, and thus it might be supposed that its staff would grasp the importance of such research. Although initially Professor Bowman showed some interest there was no follow up.

Then, in May 2023, *The Conversation* (theconversation.com) published an article by Professor David Katerere and his PhD student, Yvonne Kunatsa, which led me to their original research (Kunatsa & Katerere, 2021). Their research came, not from the sites of learning or corporations of the western world, but from a university in a developing country, (International Monetary Fund, World Economic Outlook, 2023). The title of the paper says it all: ‘Checklist of African Soapy Saponin – Rich Plants for Possible Use in Communities' Response to Global Pandemics’. I sent Kunatsa and Katerere's article to a few academics, with little response, and to the NT Chief Minister, Natasha Fyles (email, 23st April, 2023), asking whether, for example, health workers were advising Aboriginal people to use soap plants. The reply on behalf of the NT's Chief Health Officer was that “we are unable to provide any information in relation to the use of soap plants” (email, 12 May, 2023). Moreover, national advice for Aboriginal people on hand hygiene mentions only the use of soap (Health Direct Australia, n.d.). The only newspaper to publish my letter on the topic, of the half dozen I contacted, was the NT News.

Yet, my nephew, a team leader in Aboriginal Health in southern Australia, thought Kunatsa and Katerere's research “amazing” and replied that he and his nursing staff were interested in planting a soap plant garden (12 May, 2023). I contacted government agencies and plant nurseries on his behalf, but none had any information on the best plants to use. A list of soap plants came through native plant enthusiasts, but apart from that one publication by the Aboriginal communities of the NT (1993) in collaboration with ethnobotanists and pharmacists, there seemed to be no research on concentration, nor on types of saponins contained therein.

The lack of interest appears to be structural. Mayes (2020) refers to the institutionalisation of racism in health care, and Thompson (2019) argues that Aboriginal health care and

health education is “assimilationist” albeit it, “unintentional”.

Bioethics is the study of ethical, social and legal issues that arise in biological and medical research (Resnick, 2023). It normally functions “as a source of regulation and critique of medicine”, but Mayes (2020) argues that it has been unable to respond to institutionalised racism”, and that, “a sudden embrace of empathy or compassion … will not alter the way in which social, political and medical institutions have been racially constituted.“

Kunatsa and Katerere (2020, p. 2) are kinder. They suggest that an assumption exists that soap is available to every person throughout the world. In the case of Australian authorities, I suspect that assumption has also been made about hand sanitisers, or that they are suitable for all individuals and every community, and access to health care. This attitude is akin to clinical trials funded by the US National Institute of Health that didn’t include women –not even when the diseases under study were more common in women than men (Willingham, 2022). Both demonstrate an inability to think outside the square.

Recommendations

Thompson (2019) suggests decolonising theory as a way of transforming the power relationship between researcher and participant. Decolonising theory aims “to give power to Indigenous people to define themselves and share their culture with others in the manner they see fit” (Smith 1999). But that was difficult for family members who had been labelled “primitive” (letter to NT News, Oct. 1983) and treated as if they were “stupid”.

A little tourism project that elders asked me to help them start at Kudjekbinj enabled interaction with international visitors giving residents more confidence in firstly their interactions in casual activities, such as swimming or eating together, as equals (Goodfellow 2022), and secondly their guiding abilities and knowledge. One example occurred while relatives and I were staying in Kakadu National Park with a group of American students. Two elders became worried about one of the accompanying academics who had had such an unpleasant experience on a previous tour that he became ill. Assuming his problem was not physical, they decided to put him through a cleansing ceremony, their concern for him over-riding any reluctance they may have felt about using traditional healing methods on a white man. The professor so treated recovered and later wrote: “I was, if fact, glad that P. had enough trust to help me. I think it was clear to him that I knew what he was doing was real.” (Jim Spickard, personal communication by email, 14 January 2021).

Strategies for change

That there has been so little interest in research on soap plants leaves Aboriginal people on remote communities vulnerable to chronic disease and hospitalisation. The lack of research will not be reversed quickly, and consequently, any change may have to be Aboriginal/community-led. There are several ways this can be achieved. Many of these ideas came from strategies used in the Baby Dreaming Tourism Project at Kudjekbinj.

Firstly, rather than focusing on the individual as western medicine tends to do, a family/community model should be used (Thompson, 2019). Here, peer-to-peer sharing of knowledge is essential particularly among senior women who pass on traditional health practices. This knowledge will be based on *phronesis,* a combination of “prudence, ethics, and practical wisdom” that enables an individual or group to know “what must be done” (Khan & Altaf, 2016, 264). *Phronesis* engenders “cognitive diversity”, that is, different perspectives drawn from “multiple ways of knowing” (Kassam et al. 2016, 6). Kunwinjku learn and practise *phronesis* from an early age. Within this model the traditional role of children as ‘little parents’ to other children and great grandparents (Goodfellow & Nganjmirra, 2019) is an important way of introducing and legitimising information in a culturally-appropriate and non-threatening manner.

McDonald et al., (2015) states that children, in particular girls (Thompson, 2019), are expected to encourage hygiene among younger children although they might not have developed such practices themselves. Yet, if they have accurate information ‘little parents’, both boys and girls, can demonstrate a highly developed sense of responsibility toward such practices. In that role they can even teach elders (Goodfellow & Thompson, 2019) as occurred with my son Rowan who became a *ngaba* (‘little daddy’) at the age of three. Aged five he pointed out to family members that putting soft drink in babies’ bottles was a grave risk to not only their teeth, but their health.

At Kudjekbinj children as young as four and five participated in computer lessons, where they helped elders who had difficulties manipulating the mouse and keyboard, and in guiding, where they sometimes took the initiative. At Kudjekbinj small children attended first aid and other courses, rather than just adults. To involve them in spreading health messages would be culturally appropriate among Kunwinjku and perhaps other First Peoples as well (Goodfellow & Nganjmirra, 2019).

Use methods that engage people. The first aid course run at Kudjekbinj used theatre and comedy and roleplay with both myself and relatives acting as rescuers and patients. It resembled a previous training course run with Jawoyn rangers employed at Nitmiluk Gorge, Katherine, 300 km south of Darwin. Professor Maurianne Reade of the Ontario School of Medicine and the Debajehmujig storytellers pioneered such an approach in their work with medical students in interprofessional learning sessions (email, 18 June, 2014).

Information needs to be easily available. Kunatasa & Katerere, (2021 p. 2) suggest a possible strategy to increase hand hygiene may be to make available a list of soap plants available to poor and rural communities. Thompson (2019) suggests that local people could “create their own documentaries about soap plants using videos, thus increasing their feelings of ownership and empowerment.

Information must be understandable. At one course on environmental studies held at Gunbalunya in 2014, the lecturer stood out the front talking in English and writing on a whiteboard, and at the end of the class handed out notes. The attendees, none of whom spoke English as a first language or who to my knowledge could read past a primary level, told me they didn’t understand most of what the class was about.

Odette Best (2018 in Mayes, 2020) writing on the history of Aboriginal women as nurses notes that In Australia, unlike in South Africa and India, “there was an overwhelming assumption that Indigenous women were not recruitable or trainable as nurses and midwives”. The information regarding the dismissal of health workers at the Gunbalanya clinic in 201 was anecdotal, but if so, may have led them to believe they were at fault, as with the students above and the Kudjekbinj residents who left school thinking they were “ignorant” or “stupid”.

Local government and community leaders should promote soap tree-scapes along roads and in parks and gardens and school grounds in remote Aboriginal communities, and also in urban areas. At large gatherings such as memorial services, bowls, soap and hand towels for hand washing should be supplied by the organisations involved.

It is important to generate social capital. The Organisation for Economic Cooperation and Development (OECD) defines social capital as “shared norms, values and understandings that facilitate cooperation with or among groups” (OECD, 2014). Components include trust, reciprocity (Fukuyama 1999; Morrow, 1999), “shared identity, norms, values, and mutual relationships” (Kenton, 2019), and respect (Seferiadis et al. 2015). Joint casual leisure activities can help generate social capital (Goodfellow, 2022; Stebbins, 2015) between Aboriginal and non-Aboriginal residents.

Finally, the Federal Government’s move to enshrine an Aboriginal voice in the Australian constitution and to give First Peoples the right to advise Parliament will give them the basic right “to participate in political decisions that affect their economic and social conditions” (Rice, 2023, p. 15). The Voice can be as simple as “getting a bus stop put outside an Aboriginal Medical Service”. More broadly it is about having some structure “that allows complex communities to communicate with several levels of government and be represented” (Tingle, 2023). Communities could advise Government directly on the need for universities and health authorities to change direction, to “think outside the box”, to begin urgent research on the role that soap plants could play in combating COVID-19 and the spread of other infectious diseases. Otherwise, Aboriginal people will continue to suffer and die needlessly.

Conclusion

The lack of research on the topical use of plant saponins suggests an assumption that all Australians have the facilities to practice good hand hygiene, that they all have access to soap and hand sanitiser and will safely use latter. This is not the case. That there is no Australian research on largely cost-free and common and trusted soap plants is, I think, appalling. Research must begin now, before more Aboriginal people die of COVID-19 or other preventable infectious diseases. Waiting until the next pandemic arrives is unthinkable.

An all-of-society change of attitudes is needed, an about turn from the policies of the past (Mayes, 2020) that whatever they are labelled inhibited the ability of scientists, health professionals, public servants and politicians, to see the world through the eyes of Aboriginal people. They need to develop phronesis, and here Aboriginal people treated as the experts can help them. After all, universities are well behind the eight-ball on such knowledge. Perhaps with Aboriginal help local health authorities and government, indeed the wider society will be better prepared for the next pandemic.

Western society needs to see the world through the eyes of others and act accordingly; to show they can meet Aboriginal people half-way. Indeed, that may help us all.

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- Known also as "The Intervention" this was a packet of measures that aimed to confront what was seen to be a national emergency concerning sexual abuse of Aboriginal children in the NT, an allegation which was not proved (Australian Human Rights Commission).