



# The Dual Epidemic Experience: Psychosocial Impact of COVID-19 on Ebola Survivors among Australian- Based West African Migrants

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## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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## ABSTRACT

**Introduction:** Improvements in transportation has increased the risk of rapid infection transmission within communities and globally during outbreaks. Examples are the Ebola virus disease (EVD) epidemic in West Africa in 2014-2016 and the global COVID-19 pandemic in 2020-2022, that devastated and impacted the lives especially in low- income communities and hard to reach regional areas in high income countries such Australia.

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**The Objective:** of this study is an initial exploration of the psychosocial impact of the COVID-19 pandemic on West African migrants now living in Victoria Australia who experienced the EVD while residing in West Africa.

**Methodology:** This was a narrative description of proposed cross-sectional mixed methods study. Qualitative component was designed to be individual interviews, while the quantitative would utilize SurveyMonkey®. The study population was focused on West African migrants, over the age of 18 years, living in Victoria, who resided in Ebola affected regions of West Africa during 2014-2016. Statistical analyses are proposed to involve mixed methods.

**Data collection methods:** include an online survey which constituted closed ended quantitative component and qualitative text based open ended questions. Additional semi structured interviews will be conducted. Summaries from the Survey monkey will be further analysed utilising word cloud. Data from interviews will be transcribed with the aid of a computer and Yin's five stages of qualitative data analysis will also be utilised on both data analysis before triangulation of findings from text-based questions and interviews.

**Expected findings:** This study will provide a broad perspective of the impact of COVID-19, amongst West African migrants in Victoria who lived the 2014-2016 Ebola epidemic, an experience that can be valuable to migrants in similar situations globally. The expected findings will highlight how prior exposure to stressful situations and disasters such as what occurs in the case of many migrants and minority groups may influence the mental health, wellbeing and coping strategies of migrants when caught in similar disasters. Similarly, it will aid social support services interventions for mental health especially for similar cohorts during traumatic events. The implication of this study is addition of data to inform healthcare managers and public health authorities about the overlooked determinants of psychosocial distress.

*Keywords: COVID-19 pandemic; Ebola virus disease epidemic; psychosocial impact; vulnerability.*

## 1. INTRODUCTION

### 1.1 Synopsis of Literature

Infectious diseases outbreaks have occurred over past centuries and the frequency and scope have markedly increased in recent decades with far reaching impact (Baker et al. 2022), especially in low-income countries such as sub Saharan countries (Moyo et al. 2023). The outbreak of Ebola Virus Disease (EVD) 2014-2016 in West Africa reached epidemic proportions affecting several countries viz Guinea, Liberia, Sierra Leone, Guinea-Bissau, Mali, Nigeria, and Senegal (Flomo et al. 2023). Several severe coronavirus outbreaks including Middle East Respiratory Syndrome (MERS) and severe acute respiratory syndrome (SARS) also affected Middle Eastern and Asian communities (Peiris and Poon 2021). In late 2019, COVID-19 emerged evolving rapidly into a global pandemic.

During disease outbreaks such as COVID-19 pandemic, there are concerns about risk of infection, and loss of income (Hardship 2020) as well as deaths (Dolan et al. 2019) and these affect wellbeing. Wellbeing is defined as "a dynamic concept that includes subjective and

psychological dimensions and health-related behaviors" (Colomeischi 2015). External measures of contributors to well-being focus on the standard of living and may incorporate variables such as affordability of food, socioeconomic status and housing (Western and Tomaszewski 2016). Wellbeing is as reported by the individual and incorporates emotional experiences such as happiness, unhappiness, satisfaction and dissatisfaction with life in general (Li et al. 2021).

Coping strategies have been referred to as blueprints for resolving stressful situations (Li et al. 2021; Araya et al., 2007) such as those experienced during infectious diseases outbreaks. The scenarios to classify coping strategies include cognitive versus behavioral, approach versus avoidance and problem-focused versus emotion-focused (Roesch and Weiner 2001). West African migrants in Victoria who were in quarantine or lockdown possibly adopted some of the mentioned coping strategies to deal with the negative psychosocial effects of COVID-19. The choice being to actively confront the problems, which is considered healthy (Chao 2011) or pretend that nothing occurred, which is described as unhealthful (Thompson et al. 2016).

Globally, there have been reports of increased domestic violence associated with limitations to social functions and physical movement and treatments for health conditions negatively impacted (O'Neil et al. 2020). However, it has been suggested that, increased socioeconomic pressure due to separation of families as a result of the COVID-19 pandemic have been viewed from two angles (Smyth et al. 2020). These two perspectives represent alternative coping strategies as follows:

- Efforts to do something about the situation: proactively act in a way to preserve key relationships.
- Trying to come up with a strategy about what to do: rethink and resort to previous arrangements that may have been imperfect.

In Australia, there are reports of increased domestic violence during the current COVID-19 pandemic lockdown, which may emanate from boredom, reduced social liberties, drug use and restricted community activities (Hardship 2020). It is reported that the mental health effects of COVID-19 have increased the risk of suicide, especially in groups that are at risk (Bismark et al. 2022). Whilst concerns are raised about the mental health of Australians in general, little is mentioned about the long-term effects of the psychosocial impacts of COVID-19 pandemic on migrant groups (Liddell et al. 2021) such as West Africans living in Australia. For instance, Del Rio et al. (2020) noted that the physical sequelae of COVID-19 may not be the only impacts of the COVID -19 pandemic but also the impacts on mental health which according to them will last long into the future. Furthermore, Lenz et al., (2024) asserted that among the 80 long-term effects of COVID-19 pandemic it is likely that people will suffer from at least on in the long-term. West African migrants have varied cultural backgrounds with different definitions of trauma and coping mechanisms and have experienced wars and epidemic disease outbreaks. Hence, the research interests in assessing the psychosocial impact of COVID-19 on this group.

Before the 2014-2016 EVD epidemic in West Africa, social inclusion and community participation in development were encouraged amongst communities (Jolley et al. 2018). Some traditional, cultural, and complementary treatments for illnesses were symbols of respect

and kinship, further increasing social cohesion (Panda 2018, Richards et al. 2015). The emergence of EVD disrupted most aspects of community functioning, as efforts to reduce the spread of infection resulted in many socio-cultural activities stopped or altered. Necessary social and physical distancing and the banning of social, religious gatherings added to the distress of survivors and healthcare workers. The EVD epidemic affected countries that had endured civil wars. Such disruption further limited health services leaving communities ill-prepared to respond the EVD pandemic (Siedner et al. 2015). Outbreaks such as the 2014-2016 EVD in West Africa have a wide-reaching impact. In Sierra Leone, the impact on the survivors' mental health was reported to persist for 12 months post the epidemic and there were increased levels of PTSD, anxiety and depression because of fear of infection (James et al. 2019, Wirsiy et al. 2024).

Adverse mental and physical health impacts have been identified in survivors and healthcare workers are in some cases blamed for COVID-19 spread (Mental health and psychosocial considerations during the COVID-19 outbreak, 2020), such attitudes discourage people from participating in communal activities (McMahon et al. 2016). Survivors also experienced stigmatization, discrimination, isolation, and job losses (Van Bortel et al. 2016). These traumatic experiences added to the suffering by those who had experienced the epidemic who had witnessed friends, relatives and colleagues dying, losing personal belongings and enduring violence (Rabelo et al. 2016). For those returning from hospital and for orphaned children, social re-integration after being infected with EVD and receiving treatment was difficult (Rabelo et al. 2016).

Since the 2014-2016 EVD in West Africa, people from this region have settled in Australia (Cabinet 2018) and some are survivors of the EVD epidemic. There are reports of psychological distress and adverse psychosocial impacts in the population who lived through the EVD epidemic (Mohammed et al. 2015). A rapid review of the psychological impact of quarantine identified negative symptoms such as 'post-traumatic stress symptoms, confusion and anger' with potential long-term impacts (Butterworth et al. 2022).

Public health measures focused on reducing the spread of COVID-19 but there were losses of work or significant reductions in income,

restrictions on social interactions and alteration or cancellation of traditional rites and these impacted on mental health and well-being in communities (Brooks et al. 2020). This is because most Sub-Saharan African cultures view e.g., funeral rites as a way of paying last respect and according a dignified passage of the departed spirit and to prevent it from returning (Shah et al. 2021). Missing from the emerging research is consideration of the potential adverse impact on those who survived the 2014-2016 EVD epidemic.

Anecdotally, reports suggest that for some, this situation is reactivating traumatic memories of the 2014-2016 epidemic. Conversely, these reports suggest that others may potentially minimize the threats associated with the current COVID-19 pandemic as not so bad 'we have lived through worse'. Infectious disease epidemics such as the 2014-2016 EVD epidemic in West Africa have a long-lasting impact on the psychosocial well-being of affected communities (Wirsiy et al. 2024). For those with physical, psychological, and socioeconomic vulnerabilities, the risk of long-term adverse impact is increased. The extent of the current COVID-19 pandemic led to wide-spread implementation of quarantine and social distance policies as communities attempt to contain the spread of this virus. For countries such as Australia, the experience of an infectious disease pandemic is described as a 'once-in-a-lifetime' experience but for some this is not. West-African migrants, including African Australians who survived the EVD epidemic are now confronted with the COVID-19 pandemic. The potential impact on this already vulnerable population is yet to be examined.

### 1.2 Long-Term Impacts of Infectious Disease Outbreaks on Mental Health

The increased urbanization and rapidity of population growth has increased the risk of violation of basic hygiene rules which lay the foundation for infectious disease outbreaks (Zhang and Li 2024, Liu et al. 2023). Infectious disease outbreaks such as the 2014-16 Ebola epidemic and the COVID-19 pandemic are known for large scale morbidity, residual disability and mortality which causes high levels of anxiety and fear (Spatafora et al. 2022, Schindell et al. 2022, Autenrieth et al. 2024) among populations. Anxiety and fear are characteristic of negative psychosocial impacts of events. Though the psychosocial impacts of infectious disease outbreaks have been widely

reported, considering the rapid succession of the occurrence of large-scale infectious diseases outbreaks in the recent past, the main question is, how long will these negative impacts last on the mental health of people? Mental impacts of challenging events such as disease outbreaks increase the risk of conditions such Post Trauma Stress Disorder in the long term which has a wider implication for healthcare, public health and associated professionals. So, more studies need to be done to elucidate the long-term negative impacts of infectious disease outbreaks on people.

### 1.3 Statement of the Problem

Studies to date focusing on the impact of the COVID-19 pandemic in Australia concentrate on a broad range of impacts such as income, social cohesiveness, wellbeing, and psychological distress in the general population rather than on specific migrant communities such as the West African community. The diverse socio-cultural backgrounds and prior experiences of traumatic events e.g. war, political upheaval, and infectious disease outbreaks may influence responses to events occurring in the Australian context. An exploration of the psychosocial impacts of the COVID-19 pandemic on this community is needed to provide a nuanced understanding of the needs of communities that carry a heavy load of prior trauma. Such research can inform the development of focused support services rather than a one-size fits all approach.

### 1.4 Objective of the Proposed Study

Broadly, the objective is to undertake an initial exploration of the psychosocial impact of the COVID-19 pandemic on West African migrants now living in Victoria who experienced the Ebola Virus Disease epidemic in 2014-2016 while residing in West Africa. The specific objectives, which revolve around the question of '*How do people previously living in West Africa who experienced the EVD epidemic, now living in Victoria Australia report*':

1. their previous trauma experiences?
2. their strongest memory of events during the Ebola epidemic?
3. the influence that surviving the EVD has had on their lives since the epidemic?
4. the social support available during the EVD epidemic, and the COVID-19 pandemic?
5. the coping strategies during the EVD epidemic, and the COVID-19 pandemic?

6. their current level of psychological distress?
7. their current level of life satisfaction?

## 2. PROPOSED METHODS

As a research project focused on researching social reality for a specific population, this research is informed by the paradigm known as pragmatism. This paradigm arises from a proposition 'that researchers should use the methodological approach that works best for the particular research problem that is being investigated'. A mixed-methods research methodology has been adopted to investigate the research objective and questions. *Research design* is an exploratory, descriptive cross-sectional study utilizing several methods to collect data (Tashakkori & Teddlie, 1998).

*Study population* will include participants who will be recruited from West African migrants, over the age of 18 years, living in Victoria, who had resided in EVD affected regions of West Africa during 2014-2016. In addition to the questionnaire, participants may also choose to participate in a semi-structured Zoom or phone interview to further describe the personal impact of living through the EVD epidemic and COVID-19 pandemic. West African migrants (Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Nigeria, Senegal, and Sierra Leone) who experienced the 2014-2016 EVD epidemic now residing in Victoria, Australia will be invited to take part. Fig. 1 shows the geographical location of these countries while Fig. 2 shows the location of Victoria, Australia.

The State of Victoria is located in the South Eastern part of Australia (Cai and Cowan 2008).

**Sampling:** A non-probability convenience sampling method will be used to identify potential participants.

**Recruitment:** The study will be advertised on West African communities' social media forums where interested members can access an information sheet about the research and volunteer to anonymously participate. Invitations will be distributed through multicultural community groups, individual community social media groups, Church and Mosque Facebook accounts, WhatsApp groups and countries of origin organizational communication network systems. In addition to providing an information sheet to these groups, the information sheet will be accessible in the SurveyMonkey link for review before the participant commences responding to the questionnaire.

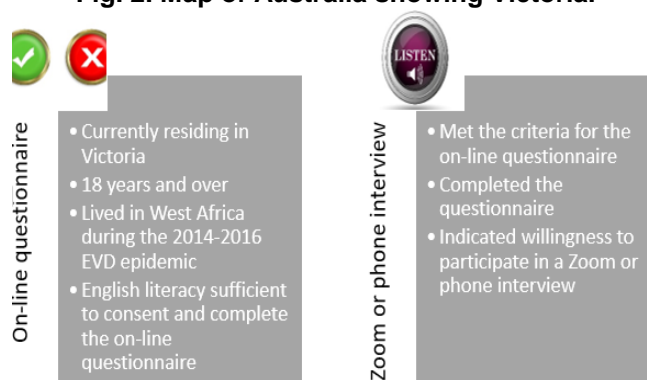
**Inclusion criteria:** Unfortunately, time and funding constraints preclude printing of information sheets and questionnaires in hard copy. Likewise, the large number of different languages spoken across the eight West African countries included in this study prevents translation of information sheets and questionnaires to allow for inclusion of participants whose English literacy is limited or non-existent (e.g., in Sierra Leone, English is the official language, however there are twenty-three living languages with four major languages).



Fig. 1. Map of West Africa showing individual countries.



**Fig. 2. Map of Australia showing Victoria.**



**Fig. 3. Inclusion criteria**

*Exclusion criteria* include under 18 years of age and /or did not live in West Africa during the EVD epidemic.

*Sample size* is determined by extraction of migrants' population as reported by the 2016 census, which reported 4,553 residents from fifteen West African countries residing in Victoria. Using the RoaSoft software calculator (RoaSoft Inc, 2004) sample size is determined as  $N = 256$  to achieve a 90% confidence level.

Due to the pandemic and restrictions, it was difficult to predict the numbers of participants for the second phase, i.e. interviews. The study targets a minimum of ten participants.

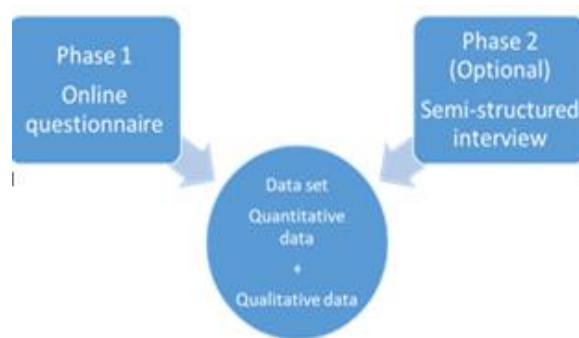
**Methods:** Data collection comprises two components/phases using an online questionnaire and an optional semi-structured interview.

*Development of the questionnaire;* The questionnaire has been developed after careful reviews of existing research and has been formulated to align with the study objective and research questions. Several consultations with

Gail Fuller, (Manager) Charles Sturt University Spatial Data Analysis Network (SPAN) have further informed the development of the questionnaire. Prior to implementing the questionnaire, it will be piloted with ten West African migrants who did not experience the EVD epidemic to determine readability, time required to complete and to identify any confusion in the questions. Demographic data will be captured using fields utilized in previous studies in West Africa (Mohammed et al. 2015, Betancourt et al. 2020, Keita et al. 2017).

*Data Collection, which includes* an online questionnaire, will be set-up by SPAN using the SPAN Gold Level Plan of SurveyMonkey©. The questionnaire is managed by Gail Fuller (Manager – SPAN) and will ensure privacy and confidentiality for all participants.

*Interview data collection;* A qualitative description methodology informs this component of the study to access a more in-depth understanding of participants' perspectives on the research questions from a small cohort of participants who completed the online questionnaire.



**Fig. 4. Data collection components**

- Interviews will be conducted via Zoom or by phone
- Audiotaped

Data analysis /Statistical Analysis; SPSS will be used for quantitative analysis, looking at descriptive and comparative analyses in terms of the demographic variables.

Responses to social support and coping strategy questions during EVD epidemic and now during COVID-19 pandemic, will be analyzed on an individual participant basis and overall cohort. *Qualitative Analysis:* The research will utilize content and thematic analytic strategies for responses for both short open-ended answers and responses to semi structured interviews.

Responses will be given codes, and further evaluated for precise explanation and interpretations of concepts, which will be put into clusters to create major themes (Vaismoradi and Snelgrove 2019). *Analysis of semi-structured interview transcripts;* Similarly, analysis of these transcripts will employ 5 stages of analysis (Fig. 5). Following interviews, the researchers will

listen to the recordings, read the transcriptions of the interviews, and make notes which will be read repeatedly to grasp contents and code. These coded concepts will be merged according to commonalities to develop themes.

An optional component of the study involves interviews and participants will be asked at the end of the online survey if they are interested in participating in an interview. Interviews will be at a time convenient for participants. An information sheet will provide contact details of the ethics committee office and principal researcher for questions or concerns.

**Risk minimization:** Given that the topic involves participants recounting unpleasant experiences from past epidemics, it is anticipated that some may experience painful emotions. Participants will be provided with contact details for mental health services and psychosocial support and encouraged to access these services if required. Details of the support services will be on the information sheet (World Health Organization 2018).

### 3. DISCUSSION

#### 3.1 Expected Results

**Table 1. Significance of RQ\* and expected result**

RQ	Significance of this research question	Expected Results
1.	Identify the 'load' of previous traumatic experiences participants bring with them	Participants' objective indications/list of past traumatic experiences
2.	Opportunity for qualitative data to provide a more nuanced interpretation of the quantitative data	Participants' own rating of the most unpleasant event/experience (RQ2); and influence of the 2014-2016 EBV pandemic.
3.	Difference between perceived level of social support during EVD epidemic and COVID-19 pandemic	Indicator of changes associated with context and time.



RQ	Significance of this research question	Expected Results
4.	Utilisation of a mixture of active (Approach) and Passive (Avoidant) coping strategies amongst various participants	Identify strategies used to manage the emotional and mental difficulties encountered during the EVD.
5.	Not a diagnostic test, however, can be compared with findings from Biddle et. al (2020). Can be correlated with other factors measured in this questionnaire	Identification of distribution and/or prevailing distress measures
6.	To ascertain whether they are satisfied with their mental wellbeing or not	Participants' own expressed level of dissatisfaction with their present situations.

\*RQ: research questions

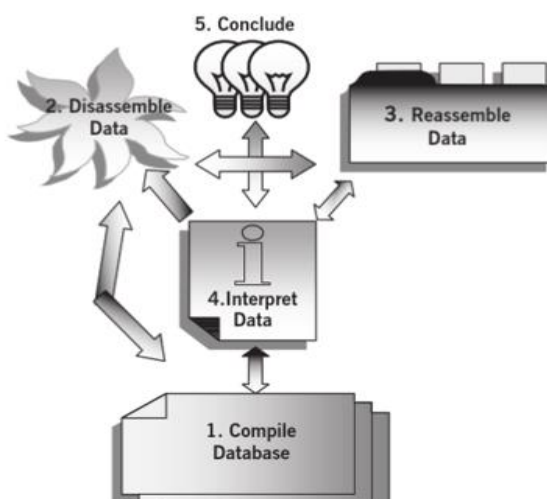


Fig. 5. Qualitative research approach to be adopted (Yin 2017)

### 3.2 Significance

**Health issue in focus:** The disruption which accompanies infectious disease such as COVID-19 and EVD outbreaks cause significant health problems. Such problems include trauma, dissatisfaction with life and poor wellbeing, coping with life challenges and manifestation of an array of negative psychosocial symptoms.

The significance of this introductory research is that it brings to the fore the problems which infectious diseases such as EVD and COVID-19 outbreaks trigger. For instance, community and family responses to EVD were identified as major experiences that impacted on post-EVD coping strategies (James et al. 2019). A decline in well-being and heightened emotional distress, depressed mood and strained relationships are negative psychosocial experiences while anxiety, depression and negative mood are identified as impacts of adverse experiences (Holder et al. 2015), which negatively impacts wellbeing.

### Educational advancement-re contribution to knowledge:

Though a lot of research is ongoing on various aspects of the psychosocial impacts among Australians in general, their impacts on West African who survived the 2014-16 epidemic and are now live in Australia have not been documented. Therefore, this study focuses on gathering information on the experiences gained during EVD epidemic and COVID-19 pandemic, both highly infectious diseases which could be useful in bolstering the database on this cohort. This study considers the mixed experiences of people which can be described in terms of what they witnessed or endured. As infectious diseases outbreaks in Australia are not as frequent as it occurs in other developing parts of the world, studies such as this one provides a vital source of reference for students as well as practicing nurses.

The impact of this pandemic can be stressful and distressing, triggering negative responses such as anxiety, depression and post-traumatic stress disorder (PTSD) that have the potential to affect



resilience and coping strategies (Parkinson et al. 2022). Coping strategies describe how people living in stressful situations such as the EVD epidemic and COVID-19 pandemic attempt to normalize the situation (Roesch and Weiner 2001). Research on this phenomenon could aid training of nurses and other healthcare professionals involved in providing care to survivors.

**Adaptability of new knowledge:** As humans respond to stress in diverse ways, and this differs among cultures, an individual's reaction to a changing situation, which can be a coping function (Daniels and Harris 2005) needs to be understood by everybody, hence the need for research such as this one. Knowledge generated from such research could be adapted to the needs of disaster survivors such as the EVD and COVID-19 outbreaks to enhance resilience and coping. West African migrants' ability to cope with a stressful situation such as those experienced during the lockdowns and quarantine periods during this COVID-19 pandemic perhaps will be enhanced by knowledge from studies reflecting on their experiences and their health enhancing behaviors during a crisis like the COVID-19 pandemic.

**Relevance to Practice:** Findings from this study will provide a knowledge base for practicing nurses who will eventually combine their experiences with this study's findings to make adaptations to infectious disease intervention protocols. The implication of this study is that it alerts managers, public health authorities about the scale of trauma and the mental health burden which such cohorts are living with.

#### 4. CONCLUSION

This study will provide a broad perspective of West African migrants in Victoria that could be like migrants in similar situations globally. It will also give an insight into how prior exposure to stressful situations and disasters in other parts of the world influence their wellbeing and coping strategies when found in similar situations. It will aid social support services for mental health for minority migrant communities universally and in hard-to-reach areas by sharing experiences gained from findings in this study through electronic and print media where required.

#### CONSENT

It is not applicable.

#### ETHICAL APPROVAL

Ethical approval will be sought from the Charles Sturt University Ethics committee. Participation in this study is voluntary and this will be emphasized in the information sheet. Since this is an online survey, completing and submitting the responses will constitute implied consent. The online survey is anonymous, and participants will do the survey in their own time within a specified period. Participants will be encouraged to respond to all questions but will be informed that they do not have to answer questions that they do not feel comfortable with.

#### DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

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#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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