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Implications of Covid-19 Induced Lockdown Restrictions on Teenage Friendships: Insights from Carrick Creagh, Borrowdale, Harare

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Abstract

COVID-19 has wreaked havoc on people's lives all over the world. This study explored the effects of lockdown induced by COVID-19 restrictions on teenage friendships. The focus was mostly to elicit people's views of what exactly they experienced during lockdown and what impact that had on their bonds of friendship. A qualitative approach was adopted to explore and elicit in-depth individual experiences during the lockdown that had effects on personal friendships. Only three participants identified by way of snowballing took part in the study and a semi-structured interview online was used. The findings from the study indicated both negative and positive implications. While the participants missed an opportunity to have face to face physical meeting, hugs, pats on their backs and handshakes, they were able to connect through various social media handles like WhatsApp video calls, Instagram and conference calls. They also had special bonding time through religion as they engaged in bible study groups, which strengthened their relationships. Future studies should explore the implications of COVID-19 lockdowns on sibling relationships.

Keywords: COVID-19, teenagers, lockdowns, social distancing, friendship

Introduction

Coronavirus 2019 (COVID-19) which is caused by infection from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first identified in Wuhan City, Hubei Province, China, in December 2019 (WHO, 2020). Several countries of the world have been affected by this deadly virus (Dzinamarira, Mukwenha, Eghtessadi, Cuadros, Mhlanga & Musuka, 2019).

The outbreak of COVID-19 led government authorities in Zimbabwe to introduce an initial three-week lockdown on March 31, 2020. This was an attempt to curb the spread of virus. Unnecessary movements were curtailed, and 'unessential' businesses were shut down. Schools and tertiary institutions were also forced to close on March 24th. Around the same time, other countries such as Rwanda, Madagascar, Algeria and Benin also went under strict lockdown (Africa Research Bulletin, 2020). Several levels of lockdowns preceded in Zimbabwe as positive cases continued to rise. This has had a serious impact on people of all age groups.

The COVID-19 induced lockdown has affected various relationships across the globe, especially teenagers who value face to face friendships much more than any other form interactions. In relation to friendships, a world renowned psychologist Robin Dunbar (*Sunday Times*, 2021), pointed out that, due to COVID-19, most people missed out laughs, hugs, rub on the hand, singing, dancing, sharing a meal to mention a few forms of contact. All these are shared by friends and they trigger the release of endorphins, a happy hormone which has an effect of morphine, to relieve pain in a non-addictive way. They lighten our mood, make us feel good, and they give us a sense that all is well in the world. Dr Dunbar further expressed that, "Friendships can deteriorate very quickly if you don't invest in them – it probably only takes about three months" (Young, 2020). New ways have been adopted in order to keep the close ties. Video calls and messaging have been used, though this is not as effective as chatting face to face. Seeing the white of other people's eyes from time to time seems to be crucial to the way we maintain friendships (Bergland, 2016).

Friendships are "relationships that involve two very critical dimensions – interdependence and voluntary participation" (Diggs-White as cited by Hoyt & Edmonds, 2018). They often arise from a shared interest or hobby, and people are typically drawn together because they are in the same stage of life, like teenagers, new parents or retirees. People of similar backgrounds and cultures also tend to come together by bonding over shared lifelong experiences. Although most of these

relationships take time to get really deep, occasionally friendship is more like a lightning strike.

Research has shown that people with good friends often feel happier, less stressed and more like they belong than those without. Having a strong network of buddies also increases self-confidence, as they provide much-needed emotional support during trying times like illness, loss of a loved one or divorce (Mayo Clinic Staff, 2019)

According to Degges-White (as cited by Hoyt & Edmonds, 2018), there are four core types of friendship, namely acquaintance, friend, close friend and best friend. Degges-White explains, "The level of friendship deepens as the level of reciprocity and mutual respect and affection grow". Acquaintances are easy enough to categorise. They are the people who are not complete strangers, who you run into regularly at a place like the coffee shop or work cafeteria, fuel service station, grocer shop but you do not really know. Generally, they are people we know well enough to make small talk with on a regular basis, but not really people we would invite to a dinner party or call on if we needed assistance.

Now, in relation to teenagers, research findings clearly explain that teens with more friends had fewer symptoms of depression. In addition, teens with a friendship network felt a sense of belonging. As a result, those teens had more positive feelings about their relationships with other people in society.

Having friends is an important predictor of happiness and life satisfaction (Dermir, Orthel-Clark, Ozedemir, & Ozedemir, 2015). There is ample research that teenagers with healthy friendships enjoy several mental health benefits. These benefits include feeling more confident and more motivated in their lives. Teenagers with healthy friendships also experience less symptoms of depression and generally experience more positive feelings (Carmichael, Reis, & Duberstein, 2015). According to Rogers, Thao Ha and Sydney (2021), results from their study on teenage friendships indicated

that talking over the phone was not very effective, some felt like they were no longer loved by their friends while others wanted to really “hang out and chill together”.

In Zimbabwe, COVID-19 has affected populations by denying them access to their close circles (Muzariri, 2021). This also affected teenage friendships in the same way. Teenagers who were used to seeing each other more often were now forced to follow social distancing and therefore avoid physical contact.

Methodology

Qualitative research approach

The research adopted a qualitative research approach. This approach is a formal and objective systematic process of data collection which enabled the researcher to analyse, explore the rich data and identify the underlying inherent relationships. The design allowed the researcher to gather an individual’s lived experiences as reality is subjective. Its phenomenological characteristic enhanced the collection of hard to find, rich information about the deeper feelings of participants with regards to the effects of COVID-19 on their friendships. The government’s ban of social gatherings, closing of schools and imposition of curfew seriously impacted on the teenagers who were forced to avoid physical contacts.

The study adopted online interviews (WhatsApp platform) using semi-structured interview guide. The researcher chose to use interview guide questionnaire because:

- i) Interviewer could prepare questions beforehand to help guide the conversation and engage respondents on topic.
- ii) It allowed for open-ended responses from participants for more in-depth information.
- iii) Enabled the interviewer to explore participant thoughts, feelings and beliefs about a particular topic.
- iv) Provided space to delve deeply into personal and sometimes sensitive issues.

v) Encouraged two-way communication

The participants had not agreed to use of emails as they believed that emails were too formal and difficult to discard information compared to WhatsApp where they would delete immediately after completing the questionnaire. The data was easier to gather as chatting was made easier due to availability of participants who were home always due to lockdown. Access to WhatsApp was not a challenge because they all had Wi-Fi in their homes.

The research adopted purposive sampling which identified a student on lockdown, from Borrowdale and known to be involved with a group of close friends. This method of subjective sampling was convenient to the researcher as it allowed her to pick an individual who satisfied her judgement on individuals who qualified to participate. Only three participants were identified, two males and one female. In this study, three participants were ideal for the researcher to be able to conduct in depth interviews, organize data and review it so as to come up with codes which gave outstanding themes.

Ethical issues

The ethical principles were closely observed. The participation of interviewees was voluntary. No one was compelled to participate, and they were free to stop participating whenever they would feel like. They all consented to participation on a WhatsApp platform for one good reason, that information could be deleted anytime they so wished. Consent forms were sent to individual inboxes and they signed them. The three of them were not minors but eighteen years and above and there was no need for their parents or guardians to be involved.

No harm was done to participants, they were respected and given autonomy. The issue of confidentiality was ensured to participants by not identifying participants by

way of names, but they were identified by gender and age. Data was protected by labelling the file on the computer in a way that only the researcher would know.

Research questions

- 1) What are the commonest ways of associating with friends?
- 2) How has COVID-19 restricted lockdown affected your friendships?
- 3) What do you recommend for friends to remain close during lockdown?

Findings

The study followed a step by step process of coding and analysing data into themes. Common data identified from the three participants were clustered to form thematic ideas as explained by Gibbs (2007). This section highlights the findings from the interviews with participants and generally reflects what they experienced during the first three-week lockdown period in March 2020. It also expound the implication and results. Four main themes that emerged illustrate both negative and positive impact of the lockdown.

- 1) loneliness
- 2) emotionally distance from both friends and family
- 3) too much dependence on social media
- 4) bonding with family, and getting closer to God

1) Loneliness

Findings from this study indicated that teenagers were experiencing loneliness. One participant was the only child in her family, and she struggled to cope with lockdown restrictions as she was used to going out, meeting her friends and hang out, or always being close to them at school.

I have become more distant from my friends of the opposite sex as well as girls since we no longer spend much time together as we used to do at school. My mum rarely allows me to go out and hang with my friends as she is scared I might contract the virus. **Female, 18**

As boys we would chill on Saturday evenings, laugh and share a meal. I feel lost and bored spending my days in the house when I really know my friends are just in the neighborhood. **Male, 19,1**

This evidence clearly indicates that the participants felt grounded, and being confined in the homes had been the worst experience they ever faced. They were used to going out for movies, luncheons, braai parties and sports. That gave them ample time to share with their friends all those things that were either bothering them or that would have made their day.

Right now, I have no one to share my daily experience with in person. There are times when your parents or sibling bore you to the nerve and you feel like sharing with your “buddies” in person then she or he can give you a warm hug, pat you on the back and tell you it will be ok, but that person is nowhere to be found. **Male 19, 1**

With my friends, there are times when we would rush into each other’s rooms at school and play a game or watch a movie. Being in the company of people who understand you and accommodate you without judging or yelling at you is one thing I miss about my friends. At home, I rarely come out of my room because my family always talk about house chores, and that irritates me a lot.

2) Emotionally distance from both friends and family

The participants had this common observation from their lockdown experience that, being a teenager is a bit difficult when there is a significant generational gap with one’s parents. Participants believed parents failed to appreciate the importance of spending quality time with friends as they regarded this as prioritising friends over family, hence neglecting family. This caused emotional distress to the participants who, due to patriarchal systems in some of their families, could not explain properly what friendship meant to them and what value they bestowed on it.

As much as I enjoyed spending so much time with my mum, I realised that our relationship was so boring because half the time she would be grilling me with questions some of which I was not comfortable to respond to. She would want to

see me seated doing my personal stuff, and she would start giving me some work to do. This used to make me angry. **Female, 18**

Being the last born in a family of eight would make me enjoy my life at school. This is because all family members regard me as a child. Now with lockdown, I was confined, and none would ever allow me to go out and have time with my friends. My parents, being hypertensive and diabetic as well, made them vulnerable to COVID infections, so they were protected like babies. To ensure there were no risks, everyone was supposed to stay home unless an emergency occurred. Our groceries were shopped online, and deliveries were made home every week. I felt emotionally drained and I would lock myself up and cry. I used to wonder why they would never feel for me as child that I need some time to see my friends as they were the ones that brought most laughter and smiles in my life. **Male,19,2**

Somehow, I am just finding it cool to occupy myself in various other ways other than chasing my old friends. Recently, I started a blog on YouTube and that has kept me busy. I love cooking, I love food, so I have been posting my videos about my new recipes and the comments I have been getting are overwhelming, I started enjoying it more and, yes, I speak with my friends from time to time, but this is just good for me. **Male 19,1**

3) Too much dependence on social media

The study findings reveal that the participants resorted to social media handles in order to keep in touch with their friends. Before lockdown, they had never bothered to indulge in communicating on platforms like WhatsApp video calls, conference calls and others as they physically met. This group of participants were friends who, during weekends or holidays, would meet at one of the prestigious villages in Borrowdale and enjoy themselves having ice cream, watching a movie, shopping together or going to the gym. The COVID restrictions shut down the malls and all other public facilities. There was nowhere to go, and loitering was also disallowed. The only source of entertainment was the social media and this caused some kind of dependency as they could not lay their eyes off the screen. This had different effects on their relationships as some were carried away and forgot about their friends. Others were chatty and this also disturbed the routines of others. Others found this as a worthwhile opportunity that brought them together as they could see each other though from a distance.

At school, I rarely used my phone for communication. It was only during weekends when I would want to speak with my siblings and parents. Lockdown taught me new coping skills; when I longed to see my friends, I would video call them so as to revive in me the idea of physical meeting. The only thing I missed was the touch. Naturally, when you are talking to someone, laughter would be accompanied by a handshake, or a pat on someone's shoulder. This was normal with me every time I spoke with my friends, and I miss that. Just because I had no one to really talk to and laugh with at home, I ended up spending most of my time with my friends on WhatsApp and Instagram. This soothed me and it became part of me to a point of having been kind of obsessed with using my phone. My parents said I was addicted (laughing emoji) but no! They did not understand what I was going through. **Male 19,2**

Though I could not get to meet my friends as frequent as I would have wanted, social media enabled me, to a greater extent, to stay happy and emotionally balanced. I have all the time to chat, laugh and see my friends from a distance anytime I want because I have Wi-Fi and I have all the time to enjoy their company. Actually, lockdown has assisted me realise who my real buddies are; the extent of their commitment to our relationship has been tried and tested. My family think I am isolating myself but not really, am just trying to entertain myself avoiding boredom. **Male 19,1**

This experience is new to everyone. My parents are overwhelmed having us all around. Their definition of restriction is totally different from mine in that they think I must be grounded home to reduce risk of infection, yet they go out to work daily. I don't understand this because we are all restricted from too many interactions. Now, when I choose to lock myself up and chill with my friends virtually, they think I have a big problem, and cannot do without social media. They are even thinking of very weird things that I am not doing, which is creating a rift between us, and causing me to get deeply involved with different social media handles. **Female, 18**

4) Getting closer to God

It was interesting to find out that all the three participants were devoted Christians who were raised and nurtured by Christian schools. This study findings indicated that, though they yearned for physical meeting with their friends, being home and learning virtually helped them to develop strong bonds as friends through bible study and sharing devotions. This facilitated their spiritual growth as they rediscovered who they are as friends in Christ.

It is such a beautiful thing to learn the word of God together with your friends. I have seen some friends changing for the better even the way they speak and relate due to praying for each other and studying the word together. **Male, 19,1**

My mother is a serious Christian who loves God. Since my childhood, she would read me the bible and teach me how to pray. When I left for boarding school, she would keep sending me prayer items and we would do it together during holidays. At school we go to church but, because of school programs, we never had ample time to sit and discuss as friends. I am finding it exciting during this lockdown to have plenty of time to share the word of God together. I have also been able to help some of my friends to develop a culture of praying and reading the word. Lockdown has benefitted us in a way because we believe that we are accumulating our treasure in heaven. This has impacted our friendship from another angle and has taken us to another level. **Female, 18**

Discussion

The outbreak of COVID-19 and the resultant lockdown restrictions were unexpected phenomena in recent times. People of all ages have been affected differently in various aspects of their lives. Some teenagers felt hit hard as they experienced various restriction in their lives. To some, COVID-19 and these restrictions caused new life discoveries whilst to others these negatively affected their relationships.

The results from this study highlight the general experiences of teenagers in their friendships during lockdown. Friends play a significant role in promoting one's overall health. Adults with strong social support have a reduced risk of many significant health problems, including depression, high blood pressure and an unhealthy body mass index (BMI) (Mayo Clinic Staff, 2019). None from the study reported of health issues which suggest that their coping skills were healthy as they were emotionally and physically fit.

The COVID-19 induced lockdowns have affected various relationships across the globe, especially of teenagers who value face to face friendships much more than anything. Friendships take time to develop and being in confined environments affected people in their development of companionship and also the quality of relationships. Friendships can "deteriorate very quickly if you don't invest in them –

it probably only takes about three months” (Young, 2020). It emerged in this research that new ways have been adopted in order to keep close ties. Video calls and messaging are used though they are considered to be “not as effective as chatting face to face. Seeing the white of their eyes from time to time seems to be crucial to the way we maintain friendships” (Bergland, 2016).

Mayo Clinic Staff (2019) submits that friendship builds happiness in individuals, reducing stress and depression. This happens through sharing fears, worries, disappointments and victories as well. From video calls, the participants would observe true countenance from their friends’ faces and cheer them up, encourage them and help them navigate through their social problems. Same would happen with victories, friends would share their stories and celebrate together.

The lockdown restrictions that resulted from COVID-19 opened the eyes of parents who did not put themselves into their teens’ shoes. American Academy of Paediatrics (2020) reports that children need to be given more time to virtually hang up with their friends through the phone, video or social media but they ought to check on their private settings to avoid their private information from going viral. It was however noted from the study that too much use of gadgets and exposure to social media had a negative effect on the individuals. Some withdrew from their families and spent too much time with friends. This had a potential of widening the gap between parents and children thereby increasing conflicts and misbehaviour.

Conclusion

This study contends that teenagers experienced both negative and positive effects of restricted lockdown on their friendships. They have been able though, to adopt positive coping skills in-order to keep themselves closely tied with their friends. What also emerged from this study was personal development in a spiritual dimension, where they had time to introspect and reflect on who they were without the influence of others but helping each other achieve through virtual bible study. The parents

outstretched and loosened boundaries which initially were strongly tied which improved both participants' friendships as well as that of the participants and their parents. The support by parents of availing WIFI facilities and data bundle was an indirect but very important factor that enabled the friendships to grow stronger. According to the Organisation for Economic Co-operation and Development (OECD) (2020), loneliness has been the major risk factor to high depression and anxiety levels which are markers of poor mental health. This implies that, if parents had no resources or had denied access, then all these relationships could have died down or seriously distanced causing poor mental health of their teenage offspring.

Recommendations

Taking into cognisance the findings from the study, the following recommendations are made:

- In order for the teenagers to enjoy their friendships virtually, they need to distribute their time accordingly, that is, family time, household chores and personal time.
- Teenagers ought to avoid being rude to parents but explain intentions and preferences in an amicable way to maintain a healthy relationship with family members.
- Parents should consider that everyone needs some freedom, going out of gates to avoid suffocation, children need guidance on public conduct during the pandemic to reduce risk of infections.
- While it is generally acceptable that teenagers value their friends much more than any relationship, it is recommended that the government and policy makers may consider the effects of lockdown on children so that they respect their rights and meet their needs as well in their policy making.

Explorative research will help advance knowledge in teachers and policy makers on how to help teenagers when such circumstances as the pandemic arise.

Conflicts of interest declaration

The author has no conflicts of interest.

References

- Africa Research Bulletin (n.d.). *Political, Social and Cultural Series: List ...* Retrieved August 22, 2022, from <https://onlinelibrary.wiley.com/loi/1467825x>.
- Carmichael, C.L., Reis, H.T., & Duberstein, P.R. (2015, March). In your 20s it's quantity, in your 30s its quality: The prognostic value of social activity across 30 years of adulthood. *Psychology and Aging*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4363071/>
- Dunbar, R. (2021, February 24). Covid and friendships: The health cost of a year without socializing. *The Sunday Times*. Retrieved from <https://www.thetimes.co.uk/article/robin-dunbar-covid-friendships-health-impact-cxhbbgbqk>.
- FBI. (2020, March 23). School closings due to COVID-19 present potential for increased risk of child exploitation. *FBI*. Retrieved from <https://www.fbi.gov/news/press-releases/press-releases/school-closings-due-to-covid-19-present-potential-for-increased-risk-of-child-exploitation>.
- Gibbs, G.R. (2007). *Thematic coding and categorizing, analyzing qualitative data*. London: Sage Publications Ltd.
- Hall, J.A. (2019). How many hours does it take to make a friend? Retrieved from <https://journals.sagepub.com/doi/full/10.1177/0265407518761225>.
- The University of Kansas. (2018, April 3). It takes time to make friends. Retrieved from <https://news.ku.edu/2018/03/06/study-reveals-number-hours-it-takes-make-friend>.
- Mavhunga, C. (2021, April 16). Zimbabwe reports major rise in teen pregnancies during pandemic. *VOA*. Retrieved from https://www.voanews.com/a/covid-19-pandemic_zimbabwe-reports-major-rise-teen-pregnancies-during-pandemic/6204648.html.

Mayo Foundation for Medical Education and Research. (2022, January 12). The health benefits of good friends. Mayo Clinic. Retrieved from <https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/friendships/art-20044860>.

Sussex Publishers. (n.d.). Maintaining close friendships requires face-to-face contact. *Psychology Today*. Retrieved from <https://www.psychologytoday.com/us/blog/the-athletes-way/201601/maintaining-close-friendships-requires-face-face-contact>.

World Health Organization. (n.d.). *Coronavirus*. World Health Organization. Retrieved from <https://www.who.int/health-topics/coronavirus/coronavirus>.

Subdural Empyema: Role of Computed Tomography in the Diagnosis of a Rare Paranasal Sinuses Complication

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Abstract

Intracranial subdural empyema is a rare accumulation of purulent fluid between the dura and arachnoid membranes. Diagnosis of subdural empyema is difficult because the typical clinical and neuroimaging findings are non-specific. However, it can constitute a fatal neurosurgical emergency that leads to remarkable morbidity and mortality if not recognized and treated promptly. This case study highlights the importance of computed tomography as the first line imaging modality in confirming the clinical suspicion of subdural empyema. An 18-year-old female patient was admitted to the outpatient department due to a fever, severe headaches, vomiting and hemiparesis. With the aid of a non-contrast enhanced computed tomography scan of the brain she was diagnosed with a subdural empyema, which was successfully treated using Burr hole surgery and antibiotics. This case report underscores the importance of having clinical suspicion and use of neuroimaging in patients that have sinusitis presenting with neurological signs and symptoms. Computed tomography, in this case, was helpful in narrowing the differentials allowing for treatment to be commenced immediately.

Keywords: Subdural empyema, subdural hematoma, burr hole, computed tomography.

Introduction

Intracranial subdural empyema (SDE) represents a rare accumulation of purulent fluid between the dura and arachnoid membranes (Ricardo *et al.*, 2022). The prognosis of SDE is poor because the space between the dura and arachnoid membranes provides no anatomical barriers leading to swift disease progression (Watson, Post &

Camacho, 2018). Consequently, SDE constitutes a fatal neurosurgical emergency that leads to remarkable morbidity and mortality if not recognised and treated promptly. Diagnosis of SDE is difficult because the typical clinical presentation of vomiting, fever and headaches is non-specific. Furthermore, the neuroimaging presentation of SDE may mimic those of sub-acute or chronic subdural hematomas (SDH) in the early stages before encapsulation occurs (Kim *et al.*, 2018). We herein present a rare case of SDE in a young female patient that presented with sinusitis that was diagnosed on computed tomography (CT). This case report underscores the importance of having clinical suspicion and use of neuroimaging in patients that have sinusitis presenting with neurological signs and symptoms.

Clinical history

An 18-year-old female patient was admitted to the outpatient department due to a runny nose, severe headaches, photophobia and seizures. She also presented with fever (39.1°C), vomiting, left-sided hemiparesis and inability to communicate. The patient had received symptomatic treatment for presumed upper respiratory tract infection from a local clinic 2 weeks prior, but the symptoms had persisted and had become worse in the past three days. There was no history of head trauma. She was HIV negative and had no identified chronic diseases or allergies. The family history was unremarkable. On examination, the clinicians described her as ill-looking, not jaundiced or cyanosed. She had a depressed level of consciousness [Glasgow Coma Scale (GCS) = 11] and a stroke mimic. The blood pressure was 104/52mmHg, and a full blood count showed leukocytosis [White blood Cell Count (WBC) = 23.5 per cubic millimeter of blood] and moderate anaemia [7.5 g/dL]. Urea and electrolytes were normal. Due to the patient's neurological signs and symptoms, a non-contrast-enhanced CT scan was immediately requested.

Computed tomography findings

The uncontrasted CT scan demonstrated a right hypo dense interhemispheric subdural collection (Figure 1) running to the whole length of the interhemispheric fissure, with a maximal thickness of 8.2mm. There was also an associated mass effect as evidenced by a leftward midline shift of 9mm and obliteration of the right lateral ventricle. Bilateral hypo dense tentorial subdural collections (Figure 2) were also noted, with a maximal thickness of 5.7mm. A left mixed density subdural collection was seen over the right parieto-occipital convexity measuring 7.6mm in thickness and 5.4cm in coronal length. Diffuse sulcal and cerebrospinal fluid cistern effacement was noted but grey-white matter differentiation was preserved. Both maxillary antra, ethmoidal and frontal sinuses were opacified with mixed density material suggestive of extensive rhinosinusitis. This was clearly demonstrated on the bony window (Figure 3). In summary, the findings were suggestive of extensive rhinosinusitis and right interhemispheric, bilateral tentorial and right parieto-occipital empyema with signs of raised intracranial pressure.

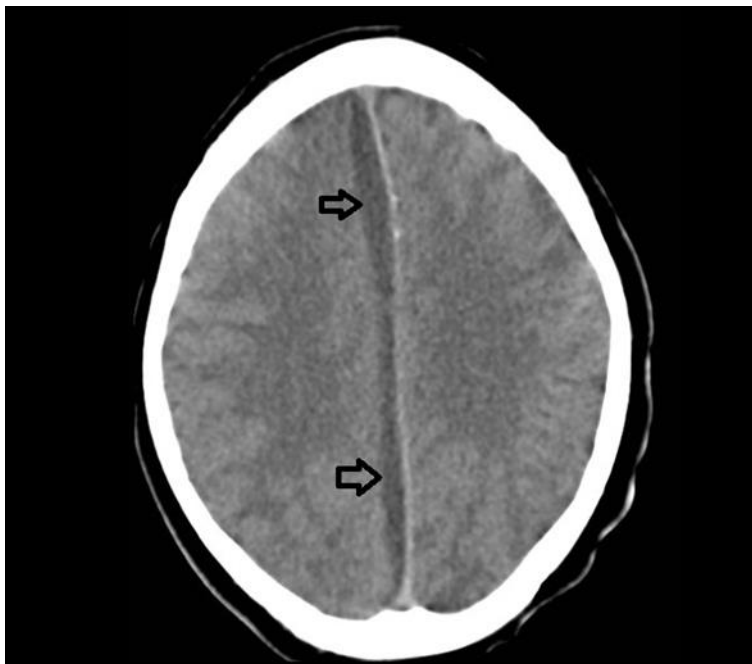


Figure 1: Axial non-contrast enhanced CT of the brain

This illustrates a right hypo dense interhemispheric subdural collection running to the whole length of the interhemispheric fissure.



Figure 2: Coronal non-enhanced CT of the brain

This illustrates the bilateral hypo dense tentorial subdural collections.

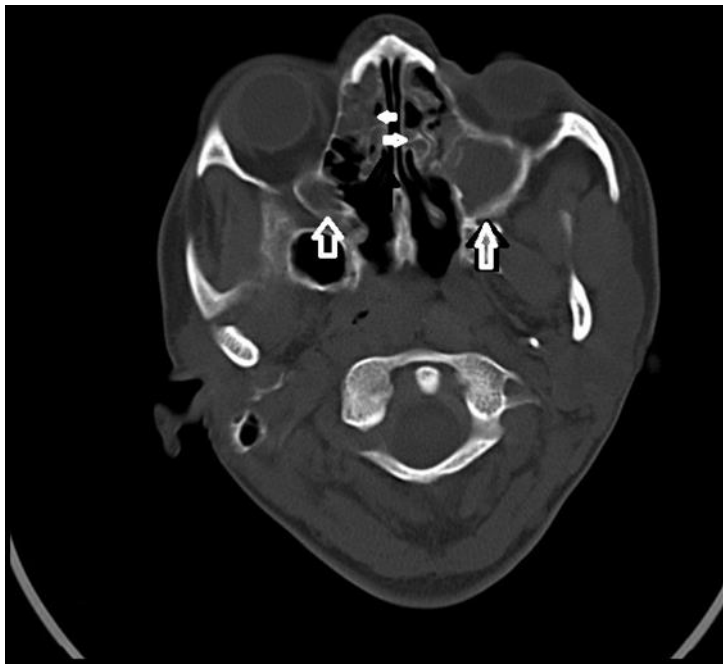


Figure 3: Bone window axial non-contrast enhanced CT of the brain

This illustrates the opacified maxillary antra, ethmoidal and frontal sinuses.

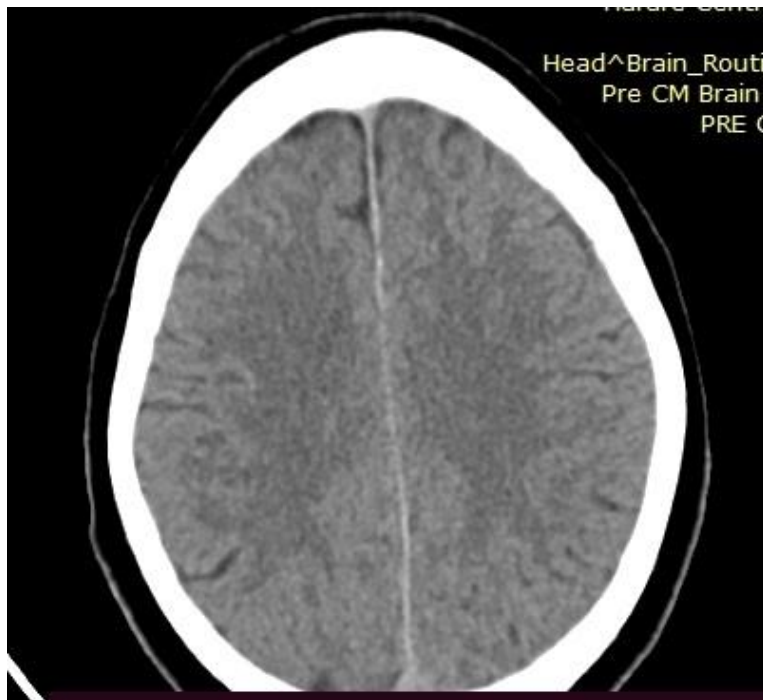


Figure 4: Axial non-contrast enhanced follow up CT scan after 8 weeks

This shows that the empyema had resolved.

Patient management

The patient was immediately commenced on a broad-spectrum antibiotic and admitted to the surgical intensive care unit for further observation. While under observation, the adolescent suffered from two episodes of convulsions and she was given anti-convulsion drugs. She was then transferred for burr hole drainage and at least 76cc of purulent fluid consistent with SDE was drained. A laboratory specimen was collected for culture. The species cultures were sensitive to chloramphenicol and ciprofloxacin meaning that the drugs were effective against the causative agents. She was encouraged to sit out of bed after the surgical procedure. Physical therapy was

requested to assist her to regain control of muscles while developing muscle tone. Seven weeks after drainage and antibiotic therapy, the patient was afebrile and had not suffered from more seizures. A follow-up CT scan after 8 weeks revealed that the empyema had resolved (Figure 4).

Discussion

Despite being rare, SDE accounts for 15-30% of all cranial infections and has mortality rates of 4.4 to 24% (Kim *et al.*, 2018). It is a neurosurgical emergency that demands a prompt response in treatment to minimise the likelihood of severe neurologic sequelae (Ricardo *et al.*, 2022; Musa & Gots, 2017). The prognosis of SDE is poor because the space between the dura and arachnoid membranes provides no anatomical barriers, leading to swift disease progression. The aetiology of SDE encompasses bacterial meningitis in children, while in adults sinusitis and otitis media are more common (Baek *et al.*, 2017). History of trauma and cranial operations including sinuses are further sources of subdural empyema (Yuksel *et al.*, 2016). The peak incidence of SDE is in the twenties and thirties with a male predilection (Chokkappan, 2016). According to Watson *et al.* (2018), the most common clinical symptoms of SDE are fever, headache and continuous vomiting. These symptoms are vague making it challenging to correctly diagnose SDE. The patient in this case study developed SDE from sinusitis, which is one of the most frequent causes described in the literature (Bayorogullari *et al.*, 2018; Yuksel *et al.*, 2016; Chokkappan, 2016). She also presented with the triad symptom of fever, vomiting and headaches which is commonly associated with SDE.

The majority of patients present with altered mental status (AMS) as in this case, making CT invaluable. Computed tomography is the primary imaging modality despite that 50% of all SDE cases may be normal (Watson *et al.*, 2018). Magnetic resonance imaging with gadolinium on the other hand has a 93% sensitivity making it the best modality for diagnosing SDE. Diffusion weighted imaging is also excellent

in distinguishing SDE and SDH (Musa and Gots, 2017). Computed tomography may be the only modality available in most circumstances, especially in low resource settings as was the case with this patient. A non-enhanced CT was the first imaging modality employed because the patient presented with left hemiparesis and seizures, i.e., a stroke mimic.

Laboratory findings in SDE typically include an elevated erythrocyte sedimentation rate and leukocytosis indicating inflammation. These laboratory findings were also consistent with results in this case. An important and vital phenomenon for distinguishing SDE from SDH is the attempt of the body to wall off any infection to prevent it from spreading. In the presence of empyema pathophysiologically, the body will form an inflammatory membrane to encapsulate the purulent fluid (Watson *et al.*, 2018). This membrane is capable of enhancing with contrast on imaging. The SDH will characteristically present with a hypodense collection in a crescent formation that does not follow the suture line contours. The enhancing membrane does not occur frequently with SDH. Furthermore, SDE presents with a thin low density collection over a cerebral convexity and has an enhancing membrane (Doan *et al.*, 2016).

Subdural empyema often requires surgical treatment unless the size of the pus collection is small and hence can be treated conservatively. The most common procedures are craniotomy or burr hole surgery with most reports favouring craniotomy (Ricardo *et al.*, 2022; Musa & Gots, 2017; Yuksel *et al.*, 2016; Chokkappan, 2016). Burr hole surgery has been shown to be useful with the initial diagnosis of empyema when the SDE is less viscous and relatively small. In this case, burr hole surgery would appear to be sufficient in the draining of the purulent fluid.

Conclusions

Subdural empyema normally causes permanent neurologic deficits if treatment is not commenced immediately. Consequently, precise and prompt diagnosis is crucial. This

case highlights the value of CT as an imaging modality in confirming the clinical suspicion of SDE. Computed tomography is fast, cheap and may be the only neuroimaging modality available especially in low resource settings. Computed tomography, in this case, was helpful in narrowing the differentials allowing for treatment to be commenced immediately. At the time of writing this case report, the patient had fully recovered and she had started training as an early childhood development teacher.

Ethical considerations

The permission to use the radiographic images was obtained from hospital management. Consent was obtained from the patient after assurance that neither her name nor initials will not be included in the case report.

Conflict of interest

No conflict of interest to declare from the authors.

References

- Baek, S.H., Choi, S.K., Ryu, J. & Lee, S.H. (2017). Subdural empyema treated by continuous irrigation and drainage catheter insertion in a young adult patient with hemiparesis: A case report. *The Nerve*, 3(2), 85–8.
- Bayorogullari, H., Kartal, I., Burakgazi, G., Yanmaz; R. & Aras, M. (2018). A rare complication of frequent sphenoid sinusitis is subdural Empyema: Case report. *Mustafa Kemal Univ Tip Derg.*, 34, 105-108. <https://doi.org/10.1016/j.inat.2018.04.002>
- Chokkappan, K. (2016). Rapidly developing subdural empyema in an adult with sinusitis: A neurosurgical threat alert! *Emergency Medicine: Open Access*, 6(02), 3–5.
- Doan, N., Patel, M., Nguyen, H.S., Mountoure, A., Shabani, S., Gelsomino, M., et al. (2016). Intracranial subdural empyema mimicking a recurrent chronic subdural hematoma. *Journal of Surgical Case Reports*, 9, 158.

- Kim, Y.S., Joo, S.P., Song, D.J., Kim, S.H. & Kim, T.S. (2018). Delayed intracranial subdural empyema following burr hole drainage. *Medicine*, 97(18), 10–4.
- Musa, G. & Gots, A. (2017). Subdural empyema: A case report from southern Zambia and a review of the literature. *Medical Journal of Zambia*, 44(2), 114–9.
- Ricardo, J., Thomas, F. & De Jesus, O. (2022). Subdural empyema. In *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK557829/>
- Watson, C., Post, N. & Camacho, A. (2018). Subdural empyema mimicking subacute subdural hematoma on CT imaging: Interdisciplinary neurosurgery. *Advanced Techniques and Case Management*, 13, 92–4.
- Yüksel M., Gürbüz M., Karaarslan N. & Caliskan T. (2016). Rapidly progressing interhemispheric subdural empyema showing a three-fold increase in size within 12 hours: Case report. *Surgical Neurology International*, 7(38), S872–5.

Implications of COVID-19 in Zimbabwe: An Expert Analysis

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Abstract

The main objective of this paper is to offer a variegated understanding of how a group of scholars from social sciences, applied sciences and life sciences view the technology, economic and social environment of Zimbabwe in the 'new normal' during and post the Coronavirus-19 (COVID-19) pandemic. This paper employed multi-perceptions and triangulation involving an adapted Delphic approach that engages literature review and expert interpretation to reveal COVID-19 implications in the Zimbabwean society. COVID-19 has proved that the globe is now one village, that human beings are social animals and businesses are integral in human socialisation particularly during lockdowns. It also disrupted education systems when lockdowns and social distancing were introduced to curb the spread of the virus. COVID-19 also brought various challenges such as disruption of social life. It also ushered in opportunities such as e-business in a number of sectors of the Zimbabwean society. This inevitably led to the need to adapt and embrace these various changes to mitigate the effects.

Keywords: Coronavirus, COVID-19, new-normal, social distancing, threats, opportunities

Introduction

The origins of the Coronavirus (COVID-19) are still contested. However, the virus has affected every part of the world, spreading like a veld fire and earning the title 'pandemic' since its discovery in China in December 2019 (Peng, Yang, Zhang, Zhuge, & Hong, 2021). By November 2021, 247 968 227 cases of COVID-19 had been reported across the globe, with 5 020 204 deaths and 3.1 billion people fully vaccinated (Worldometer, 2021). The hope to conquer the virus so far is hinged on taking COVID-19 vaccination, wearing of face masks, sanitisation and social distancing (WHO, 2020). Some unscientific protagonists claim that the disease will end after everyone had contacted the virus.

The highest numbers of COVID-19 cases in Africa have been reported in South Africa with 2.92 million cases and 89 251 deaths; and there were 12.6 million fully vaccinated people (South Africa Government, 2021). In Zimbabwe, 2021 COVID-19 cases had risen to 133 000 cases and 4685 deaths by November 5; and there were 2.64 million people who were fully vaccinated (WHO, 2021). At the onset of the pandemic, COVID-19 cases in Zimbabwe were associated with inbound travel. All cases now have no history of travelling outside the borders and are all classified as local transmissions. The government of Zimbabwe, like other governments, responded to the COVID-19 pandemic by enforcing health and legal instruments that imposed lockdowns in the country and compulsory vaccination of employees (MoHCC, 2021). The full lockdown of the country has been implemented for not less than three times since the outbreak of the virus, closing down business, restricting interprovincial travel and closing schools. The issues of infringement on human rights by government responses to COVID-19 were raised and courts of law upheld government responses (Mavhinga, 2021).

Despite all the efforts by governments and World Health Organisation, the wave of COVID-19 has shattered global economies. Working hours were lost, and over 97 million people have fallen into poverty (Mahler, Yonzan, Lakner, Aguilar, & Wu, 2021). In Zimbabwe, COVID-19 requires reflection as there are technological,

economic and social implications of this pandemic. Chirisa et al. (2021) examined the impact of COVID-19 in Zimbabwe taking cognisance of variables such as religion, demographics, political science, sociological, urban and regional planning. This paper is sought to examine the missing variables in their study. These include variables such as legal, agriculture, business, travel and tourism, human resources management, psychological, and information, communication and technology. The research examines the present and possible future effects giving recommendations and forecasts of a better Zimbabwe in post COVID-19 times. Experts proffered their expert opinions grounded on literature.

Methodology

The paper presents a multi-viewpoint and triangulation using the Delphic approach. The similar method was used by Chirisa et al. (2021) and presented notable conclusions. Data were gathered using a review of literature from published documents on agriculture, travel and tourism, business, information and communication technology, psychology, legal and labour management under COVID-19 environment. Experts involved in the study purposively selected published documents to ground their arguments from credible journal articles, newspapers and websites. Directed thematic content analysis was used to analyse themes emerging from the data. Six themes were broadly related to travel and tourism, agriculture, information and communication technology, human resources management such as employees' management, psychology and business management. Some of the themes were further linked with sub-themes related to COVID-19 epidemic such as women employees.

Results

Travel and tourism

Tourism and travel is one industry that has been growing worldwide surpassing one billion arrivals in 2011 and growing every year by more than 50 million arrivals (UNWTO, 2019). The phenomenon in the industry was evident in the country with one in every ten people employed in the tourism and travel industry and contributing 7% to the country's Gross Domestic Product (GDP) (Zimbabwe Tourism Authority, 2019). The advent of COVID-19 in the country led to almost total closure of the local travel and tourism industry. Some of the big hotels in the country, for example, Rainbow Towers, recorded 99% loss of business during second quarter of 2020 with small hotels recording 100% loss of business as the transport sector and tourism sites were completely closed during the height of the pandemic (Ncube, Chikuta, Basera, Baipai, Mazhande, & Tapfuma, 2021). The COVID-19 brought with it many challenges in the tourism and travel industry with many workers getting salary cuts or losing jobs, and many others were exposed to the disease due to the nature of the work (Nhamo, Dube, & Chikodzi, 2020). COVID-19 protocols introduced by World Health Organisation and implemented by the local health ministry brought a 'new normal' in conducting business as wearing of facemasks, sanitisation, temperature checks social distancing and vaccination became the norm for people (WHO, 2020). Businesses struggled to adhere to the health protocols as they affected hospitality ethics and increased operational costs, which demanded strategic and innovative aptitude from the business operators. With the implementation of the COVID-19 health guidelines and innovation in the tourism and travel industry, there was a glimpse of optimism in the industry.

The future of tourism is very promising and is likely to be brighter with a massive growth expected to create more jobs and new investments due to the travel boom. The relaxation of COVID-19 restrictions is going to increase the need for people to travel in search of recreation and leisure frontiers after lockdowns. Travellers are likely to increase their propensity to spend after experiences of witnessing terrible loss of

human life and some who were affected by the disease could have a new approach to life.

All workers in the travel and tourism industry are expected to be vaccinated against COVID-19 (Mavhinga, 2021). Travellers will be required to have vaccination certificates to access tourism sites and even to be granted travel VISA thus international travel documents have increased. The legality of vaccination will remain an issue of debate and of no choice if one is to enjoy tourism and travel products. Tourism sites are public places and to experience them one has to abide by these new travel regulations that demand vaccination.

Authorities ought to encourage domestic travel, creating travel bubbles for the sustenance of the industry since COVID has affected different parts of the world at different times. The mutation of the virus poses challenges in the freeing up of international travellers from the major countries supplying travellers.

The use of information communication technology has become more important than before. Business operators are likely to use discounts temporarily post COVID-19 and also likely to increase prices of their products higher than before as the travel boom. Best health practices and virtual visits are likely to be marketing tools even after COVID-19 ends.

The local travel and tourism industry will be influenced by international organisation like World Health Organisation (WHO) making the vaccine available in all countries (GAVI, 2020). It will also be influenced by the strategies of the International Monetary Fund and other financial institutions to resuscitate the world economy from negative effects of COVID-19 through economic stimulus packages being given to member countries (IMF, 2021). The provision of WHO vaccines to all countries and their uptake in the country will likely lead to ease of travel. Travel health policies will change with some demanding vaccination certification since borders of countries cannot be kept closed forever.

Agriculture

Agricultural activities across the globe have been hampered by the presence of COVID-19 pandemic. This has resulted in the melting down of economies which fully rely on the sector. The backbone of Zimbabwe's economy is supported greatly by agriculture as the main pillar (Maiyaki, 2010; Muvhuringi, Nyamuziwa and Ngavaite (2021). Zimbabwe Agricultural Society (2019) highlighted that 70% of the populace depends on it as the main source of livelihood contributor. Implementation of lockdowns positively reduced the outbreaks of the disease but negatively affecting the daily livelihoods of smallholder farmers. Movement has been restricted in a move to manage outbreaks hence resulting in reduced social capital and productivity. Falling incomes in the presence of this catastrophe has resulted in reduced food consumption amongst the population. Ndhlovu (2018) has noted that reduction in farm productivity was triggered by reduced harvesting due to reduced farm labour force.

OECD (2020) postulates that the effects of COVID-19 will continue to be experienced in the upcoming decade resulting in the collapse of agricultural markets. Furthermore, lowered economic growth will cause a decrease in the GDP, reduced trade, food insecurity and reduced greenhouse gas emissions (GHGs). OECD (2020) further reports that agriculture exports were expected to fall down by 1% due to decreased consumer demand thereby putting pressure on agricultural production and prices. The high unemployment rates in the presence of COVID-19 are expected to reduce global demand of agricultural commodities due to reduced income (Muvhuringi, Nyamuziwa, & Ngavaite, 2021). This will result in excess of agricultural commodities in the short term negatively affecting agricultural prices. Farm revenues are expected to decrease as influenced by reduced prices.

Parwada (2020) posits that COVID-19 adversely affected food supply chains due to restricted measures which were put in place by the introduction of SI 77 of 2020. The SI 77 of 2020 spearheaded the demolition of mostly urban agricultural markets for

farmers and vendors in the informal sector as indicated by Muvhuringi, Nyamuziwa and Ngavaite (2021). This move was meant to decongest market areas to reduce the spread of COVID-19. However, this reduced extension services, farm labour, supply and access of agricultural commodities for people who relied on buying and selling (FAO, 2020; Dzobo, Chitungo, & Dzinamarira, 2020).

From the above discussion, it is evident that COVID-19 has disrupted extension services, agricultural production and incomes, agricultural supply chains and markets, transport to ferry inputs, farm labour, prices, agro-processing, international trade, consumer livelihoods (OECD, 2020; Muvhuringi, Nyamuziwa, & Ngavaite, 2021)

To cater for the mentioned impacts of COVID-19, there is a need for a recovery plan for most smallholder farmers located in both rural and urban communities. This plan must incorporate digital technology so that there is better global involvement of farmers along the value chain. Farmers would then be able to make profits through elimination of middleman hence increasing their farm revenues. Improvement, efficiency and productivity would be realised through digital technology as indicated by Wolfert et al. (2017) in a review of literature on big data in smart farming. Haggag (2021) affirmed that digitalisation would also increase farm productivity through precision agriculture and access of information in the absence of extension workers as their mobility and interaction with farmers have been reduced.

FAO (2019) suggested that through digitalisation, smallholder farmers are exposed to a lot of support services such as extension, finance, adequate legal aid and wide market reach to their customers. This would result in better improvement of farmer's income, farm productivity and quality of agriculture produce.

Employment implications for Zimbabweans

The COVID-19 pandemic's ravaging effects are not only confined to unprecedented life losses (Mackworth-Young et al., 2020). The COVID-19 pandemic has also triggered untold economic stagnation and decline in industrial production (Majumdar, Biswas & Sahu, 2020; Demuyakor, 2020). The COVID-19 pandemic has caused havoc across the globe and, as for the already fragile Zimbabwe economy with feeble health systems, the situation became a lot more nightmarish (Ncube, Tsandukwa & Ndhlovu, 2021). The world of employment also had a fair share of problems as a majority of non-essential service providers were directed to remain at their homes for fear of spreading the pandemic. Social distancing and movement restrictions to curb spread of COVID-19 influenced the shutting of many small businesses (Farlie, 2020). The COVID-19 scourge has had devastating impact on the tourism and restaurant sector (Nhamo, Dube & Chikodzi, 2020). In face of these paralysing force of the COVID-19 pandemic on restaurant employment in Zimbabwe, a special COVID-19 restaurant businesses resuscitation allowance and financial assistance could go a long way in breathing life to restaurant operators whom, without this assistance, might not rise again. Cafeterias and food service retail businesses were some of the first economic activities adversely affected by the COVID-19 pandemic since dining in restaurants was effectively prohibited as social distancing procedures took effect (Sharma et al., 2020). The stoppage of business in the restaurants led to extensive financial losses, direct and indirect job losses bringing many restaurants into unprecedented liquidity challenges (Nhamo, Dube & Chikodzi, 2020). The restaurant business in Zimbabwe was categorised under non-essential services, thus could not offer services to customers (Gukurume & Oosterom, 2020). In trying to reduce the spread of the virus, governments implemented lockdowns that closed shops, theatres, restaurants and bars or allowed these to operate for a few hours (United Nations Development Programme: Zimbabwe Response, 2021).

The COVID-19 pandemic and women employees of restaurant business

The COVID-19 pandemic resulted in much more antagonistic and troubling times for workers (Ncube, Tsandukwa & Ndhlovu , 2021). Women are the hardest hit by the pandemic as they constitute the majority of informal workers (Gukurume & Oosteram, 2020). Women seem to suffer the most because they are dominant in the restaurant industry. At a more macro level an estimated 8 000 000 food service employees in Canada are either laid off or not currently working (Restaurants Canada Report, 2020). Sharma, et al. (2020) echoes the same sentiments as they bemoan that a significant number of employees were laid off in America due to the COVID-19 pandemic. This included a disproportionate number of employees of colour and women being displaced from their jobs. The situation could be worse in underdeveloped contexts, most particularly in Zimbabwe as the COVID-19 effects are exacerbated by failing economic situation that has forced employers to operate with a thin staff complement even afore the beginning of COVID-19 pandemic. Going forward, employee career advancement and multi-skilling approaches as well as human resource development initiatives (vocational training, polytechnics and university secondments) are the strongest options in circumvention of the above mentioned vulnerabilities experienced by women employees. The options improve employee mobility to more secure occupations. These suggested knowledge improvement initiatives could also enable women employee mobility to various different and more secure jobs offered by external markets in case of such unfortunate events. National policy initiatives can also enforce the reinstatement of women who have been retrenched. To absorb a greater percentage of the unemployed, it would be prudent to open up employment opportunities through women quota policies in national roads rehabilitation programmes and other National Development Strategy 1 activities. This would ensure food on the table to quite a large number of COVID-19 victims due to the closures of restaurant businesses.

Information, communication and technology

While the global economy is in recession due to the COVID-19 pandemic, information and communication technologies (ICTs) is one of the few sectors standing even stronger than ever. The government in Zimbabwe is encouraging its citizens to work and learn remotely and various technologies have gained traction. These include over the top (OTT) services, cloud gaming market, video on demand, mobile security, team collaboration software, video streaming platforms and video conferencing technologies that necessitated the application of virtual private network, data security and cyber security and other technologies which promote operation remotely (Abay, Tafere, & Woldemichael, 2020). Consequently, the penetration of techniques such as augmented reality, virtual reality and artificial intelligence (AI), machine learning (ML), among others, has propped the ICT industry. E-commerce has witnessed tremendous growth whereby digital shopping has become the norm of the day which is supported by digital payment options. An increase in the adoption of social media platforms, such as WhatsApp and Skype, even for formal government services and communication, has fuelled the growth of the voice over long-term evolution.

The aftermath of the pandemic sees organizations that have reinvented themselves toward the use of AI and data analytics standing strong. The application of AI and data analytics promotes the provision of flexible working arrangements and on-demand staffing models due to systematic shifts in customer behaviour and the need for an adaptation to organisational internal needs due to emerging of new opportunities and challenges (Baldwin & Tomiura, 2020). Also, AI simulates a live-work environment given that it is embedded with machine learning capabilities, and fosters the use of business intelligence and data analytics. Furthermore, the application of AI, in collaboration and communication platforms, is becoming smarter and more accurate. Enterprise information management is self-configuring and self-tuning through leveraging ML capabilities and AI engines. Thus, the coming for the ICTs industry is now, though only the innovative enterprises would bring it to its full potential.

Teaching and learning

The COVID-19 pandemic has affected the teaching and learning functions of all forms including applied sciences education. This has posed pressure to re-look at the methods of teaching anchored on ICT tools and coming up with ICT based educational models (Chatterjee & Chakraborty, 2021). Teaching of practical lectures has been the main challenge for applied science programs which require hands on pedagogical approach that employ interactive didactic hands on lectures.

The scalable capabilities of ICT have enabled e-learning evolution within the education industry and thereby transforming the classical design in the teaching and learning environments while posing challenges to the face of the vast opportunities that ICT can present (Shehzadi, Nisar, Hussain, Basheer, Hameed & Chaudhry, 2020). Students' perceptions reveal that they generally do not like to attend online lectures and examinations due to various reasons. These include the amount of commitment required in terms of internet connectivity and the online sessions are detached compared to face to face lectures which provide a seamless interface amongst learners and the instructor (Arias, Swinton, & Anderson, 2018).

In as much as some students want to participate in online educational activities, most of them come from underprivileged families and hence are disadvantaged especially if they are attending applied sciences classes that require equipment for laboratory experiments (Lorente, Arrabal & Pulido-Montes, 2020). Time and effort required to prepare online instructional materials should not be underestimated since online teaching and learning relies much on online content materials which require educators to invest time and resources in creating such online learning resources. This can be easily achieved if educators collaborate in the curriculum design to support development of materials relying on complementary areas of expertise (Sadler, Friedrichsen, Zangori & Ke, 2020).

The other challenge faced by students of applied sciences is the lack of compatible digital devices to support online learning programs and other resources. Some students have to share with family members in order to attend online practical sessions thereby taking turns to use a device with siblings who might not be having an equal need with them. It should be highlighted that a science student requires complex software to run experiments which cannot be done on a regular smart device or laptop (Maila-Rahiem, 2020).

The teaching and learning of applied science is largely experiment based and therefore not easy under lockdown situations. A lot of training is needed for the full integration of various technologies to be used for lectures in such a faculty. Lack of training in most developing countries has been a drawback to the full adoption of online teaching of applied sciences. Both learners and teachers therefore need proper training and orientation since some lack exposure to the new world order driven by ICT (Michael, Agyemang & Adarkwah, 2021). Studies conducted by Konig, Jager-Biela and Glutsch (2020) suggest that teachers who receive training regarding usage of instructional technology in teaching and selection of teaching materials maintain a better social contact, introduce new learning content, formative assessments and stimulate the learning experience through digital competence. This is unlike the untrained teachers who always find it difficult to create a smooth interactive interface with learners.

Mental health and wellbeing

As already highlighted, the ongoing COVID-19 pandemic has ushered in a plethora of psychosocial challenges in Zimbabwe. The experiences related to the pandemic have inevitably altered the people's perceptions about health, wellbeing, illness and death. In Zimbabwe, the twenty one days hard national lock down imposed by the government to contain COVID-19 resulted in a lot of negative emotions and thoughts among the citizens. The COVID-19 restrictions limited movements, increased separation from family and friends and negatively affected business, social, sporting

or entertainment activities resulting in anxiety, mental distress and depression among people of all ages in Zimbabwe (Mazwi, Seremani, Kaseke, & Lungu, 2020). While trying to adjust to the 'new normal' of social distancing, no handshaking, and staying at home, reports of people dying started making headlines in the media and within a single month three deaths out of a total of 14 were reported COVID-19 cases (Chirisa et al., 2021). These figures though somewhat low, exacerbated people's mental health challenges across all age groups. In their studies Chirisa et al. (2021) and Mazwi, Seremani, Kaseke and Lungu (2020) investigated emotional and behavioural issues that result from COVID-19 experiences. The two studies concluded that people in Zimbabwe experienced high rates of anxiety, depression and distress. Other mental health issues linked to COVID-19 in Zimbabwe include frustration and anger, boredom, nervousness, irritability as well as restlessness (Chirisa, et al., 2021). The findings of the two studies dovetail with results from studies carried out in Europe. For example, research studies in Spain and Italy found that there are emotional and behavioural changes that become evident in children during COVID-19 times such as signs related to difficulty in concentrating (76.6%), irritability (39%), boredom (52%), restlessness (38.8%), sense of loneliness (31.3%), nervousness (38%), worries (30.1%) and uneasiness (30.4%) (Saladino, 2020). The Zimbabwean statistics on these variables seem to be even higher due to the collectivistic nature of the Zimbabwean society. In collectivistic societies, the focus is on one's social obligations and responsibilities to others in the group and also relies on each other for support during difficult times (Senderayi, Tshababa, Mutanana & Nyati, 2020). People in collectivistic societies derive emotional and social support from each other, especially during times of difficulties. Sharing of information as families and friends has been found to be a sure way of coping with situations like COVID-19 and other pandemics and disasters.

On the positive side, families began to experience togetherness as they started spending long periods of time together. Strengthening of family bonds is another effect born of the COVID pandemic in the world in general and Zimbabwe in

particular. The restrictions on movements coupled with the work from home policies for adults and the online learning programmes for school children created a new situation in Zimbabwe. Most members found themselves spending the greater part of their times with their members of their immediate families. While spending time as families strengthened family bonds in most cases, in some cases it turned out to be the source of domestic violence and conflicts due to excessive worrying about lost opportunities, and loss of income due to the pandemic. Psychological abuse and physical violence have been found to be the end products of forced coexistence.

From the above discourse, there is a need for increased mental intervention strategies to deal with anxiety, stress and depression emanating from the pandemic. There is also a need to adopt a seeking mode which allows mental health practitioners to leave their offices and visit communities to offer psychological services to nip mental health problems in the bud.

Mandatory vaccination in the workplace

The COVID-19 pandemic has devastated the work place environment forcing employers to close or scale down businesses. Emergence of the COVID-19 vaccine has brought a sense of relief and a greater possibility of employers reverting to their usual business operations (ILO, 2021). However, World Bank (2021) reported that more citizens are unwilling to be vaccinated. This is stalling the possibility of achieving herd immunity and reducing the chances of possibly containing the virus thereby reducing transmission, severity of the disease and COVID-19 fatalities.

As employers risked reverting to lockdowns which affect the viability of their business, they opted to be proactive and enforced mandatory vaccination of their employees or the submission of weekly COVID-19 PCR test (OECD, 2022). The common law position, as presented by Tshoose (2011), indicate that the employer has a duty to maintain safe working conditions and environments for the employee and this compelled them to apply mandatory vaccination. The employer therefore

maintains that the COVID-19 pandemic is a public health emergency that requires special measures to avert it; such special measures may be the COVID-19 vaccine and or constant COVID-19 PCR tests. The COVID-19 PCR tests are both costly and highly likely to cause unnecessary inconveniences and employee anxiety, therefore, the vaccine is more efficient (WHO, 2021).

The employees however assert that they have the right to choose in matters related to their health care. They further view mandatory vaccination in the workplace as a violation of informed consent in health as well as discrimination based on their health care choice. Critics of mandatory vaccination are of the view that employee's rights are protected under the Constitution and should be respected at the workplace (King & Ferraz, 2022). This resulted in psychological disturbances among employees as they did not understand what to do. Whilst both employees and employers tussle in trying to balance these two competing interests, it should be understood that rights are not absolute and may be curtailed if there is a greater interests that is to be served. In this scenario, public health is more important, efforts must be made to fight the pandemic and adopt all necessary requirements that promote better health for the public (OECD, 2022). In that view, if it is proven that the vaccine is generally safe and the only way to reduce the raging effects of the pandemic, then employers should be able to implement the common law. This is the right to maintain safe working conditions and environment for all employees by mandatory vaccination.

Management of business

The COVID-19 crisis is more complex with severe effects than the 2008 crisis. This is owing to its two-track nature linking both health and economics. However, it has the potential to produce drastically diverse outcomes across different jurisdictions, and impacting on national autonomy. It is now clear that the COVID-19 pandemic has dire economic costs. A pragmatic approach requires innovative policies that can better guarantee societies' resilience leading to their speedy and dynamic recovery once the

crisis is over. The obvious truth is that it will no longer be business as normal. CRS (2021) points out that the COVID-19 pandemic represents the second so-called 'global' crisis in slightly over a decade. Although the 2008 financial crisis is normally pronounced as 'global', its effects were much more severe in certain parts of the world than others.

The new COVID-19 has unquestionably brought a lot of interruptions into the world order affecting lives, livelihoods, national, and international economies, and forced what is now permeating as the 'new normal' in all facets of human undertakings. In Africa, the permutation of severe economic and health crisis has forced governments to alternatively issue different monetary and fiscal measures as they contend with the devastating effects of the COVID-19 pandemic on their economies. It has forced people to manage economic recessions and prepare for a post COVID-19. For businesses, the impacts have been more disruptive as the shocks and waves of uncertainties remain. As companies battle to survive and withstand business continuity, the rate of company bankruptcy mid and post COVID-19 remain uncertain and speculative. The considered roles of modern corporations in the socio-economic development of society, given the sheer volume of their economic resources alone, is something that now makes some corporations more economically powerful than some states.

Ebrahimi, Igan and Martinez-Peria (2020) opine that governments' financial response to the supply shock caused by the COVID-19 crisis would certainly lead to higher inflation in the recovery period. Herbert and Marquette (2021) point out that COVID-19 would not be a short-term crisis, and they nonetheless recognise that it would also generate a range of opportunities for invention and corporate acquisitions. Companies like Simbisa Brands recently posted an after tax profit of 3 million USD which presents it as the best performing listed company in Zimbabwe. This is followed by Econet Wireless which also accrued a profit of 2 million USD. The subsequent lockdowns encouraged consumption of data and live streaming. These companies are well

positioned for takeovers since they are strong financially after the lockdown. However, not all companies in Zimbabwe are flourishing. The majority of companies are swamped in debt and government support is overwhelmed.

In the context of healthcare, for example, Kevin McCann on GCG (2021) state 'cancer doesn't stop because of COVID-19'. What happens when one highly visible health problem crowds out other continuing health problems? Prioritisation issue will inevitably be government decisions as to which companies should and should not, be bailed out in the aftermath of the crisis. It was noted that the sustainability and benefits to the community of particular businesses would be key reasons for government bail-out decisions.

The predicament of start-ups SMES in a time of crisis should also be reflected. Start-ups are left particularly exposed and characterised as weak, risky, and statistically the least likely of business classes to survive. Furthermore, decreased valuations make them easy targets for takeover by larger, cash rich and high tech companies. Diana Bonfim on GCG (2021) note that SMEs primarily face liquidity risk, which, if not addressed, could manifest itself in insolvency. While larger firms are better equipped to handle liquidity risk as they have higher cash reserves or better access to credit, SMEs are less integrated within the global supply chain. However, they are more flexible and; thus, more apt at capturing new opportunities. There is therefore a strong need to extend central government policy actions like expanding the asset purchase programme of the government, fine-tuning the collateral framework to allow banks to post more collateral to the RBZ (central bank) including loans given to SMEs, and adapting the regulatory and supervisory framework to avoid a collapse in lending to SMEs. Impact of the COVID-19 crisis on small and medium enterprises (SMEs) illustrate business response to the pandemic with special focus on nature of ownership; and short-term and long-term legal and regulatory changes. Although they typically have lower cash reserves and reduced access to credit than larger firms,

they are also more flexible and less integrated in the global supply chain and therefore provide the low hanging fruit to get out of COVID-19 complications.

There is a need for businesses to increase transparency in dealing with public funds. Mayer (2018) emphasises that businesses should act responsibly with the public funds they receive for their revival and recognise their social license sufficiently. Good corporate governance practices are required as companies need to recapitalise and retool. To attract investments and boost capital, strong corporate governance institutions should dominate company boards. Gender diversity also emerged as one of the sub-themes pointing to the evidence that women have more empathetic traits towards other stakeholders. Viehs (2018) recommends the introduction of profit measures to capitalise investments into critical human, social and natural capital, and positively impact share prices, while accepting a notion of materiality that is dynamic and closely linked to a corporation's purpose. Furthermore, businesses should recognise their social responsibility.

Conclusion and recommendations

Using a modified Delphic approach, this paper concludes that Zimbabwe needs a holistic COVID-19 recovery strategy that is not fragmented along industry specific lines. The paper discussions also reveal that the advent of COVID-19 in the country led to almost total closure of many industries with the hardest hit being the local travel and tourism industry. With the implementation of the health, guidelines and innovation in the tourism and travel industry the future is very promising and is going to be brighter with a massive growth expected to create more jobs and new investments and a travel boom. The aftermath of COVID-19 is going to stimulate high spending increasing the need for people to travel in search of relaxation and new leisure frontiers post the lockdowns. Travellers may be required to have vaccination certificates to access tourism sites and even require to produce VISA thus increasing international travel documents.

In the agriculture value chain, COVID-19 adversely affected food supply chains due to restricted measures which were put in place by introduction of SI 77 of 2020 in Zimbabwe. Reduced global demand of agricultural commodities increased unemployment rates. Plummeting incomes during the COVID-19 pandemic resulted in reduced food consumption amongst the populace. There is a need for a recovery plan for most smallholder farmers located in both rural and urban communities. This could include incorporating digital technology so that there is better global involvement of farmers along the value chain. Standardisation of data costs and connectivity by service providers could also assist to avoid disparities and enable poor farmers to participate in the digital technologies. The world of employment had also enough share of problems as a majority of non-essential service providers were directed to remain at their homes for fear of spreading the pandemic. Every service is essential in its own and mechanisms ought to be in place to allow all workers to work and get income. Women were the hardest hit by the pandemic as they constitute the majority of informal workers. The paper recommends that the government ought to speed up formalisation of the informal sector in Zimbabwe. This would empower and protect women in times of adversities.

Information and communication technology (ICT) industry is surpassing the growth of other industries and encompassing them despite global economy recession due to COVID-19 pandemic. The aftermath of the pandemic could see organisations that have embraced the use of AI and data analytics growing stronger. The future of teaching and learning is going to be based online and the country need to invest in online infrastructure.

Also, the authors highlighted the negative experiences due to the pandemic and how these have inevitably altered the people's perceptions towards health, wellbeing, illness and death which increased mental health issues. There is a need for increased mental intervention strategies to deal with psychosocial issues.

This paper further examined the implications of COVID-19 for corporate governance, SMES as well as the responses of corporations in Zimbabwe to deal with, support, and complement governments' efforts in combating the pandemic's menaces. In the perspective of business management, the paper recommends more capital injection in the SMES due to their flexibility and low capital requirements to kick start their operations. Struggling SMES can quickly gain their competitive advantage as a result of the economies of scale and scope. This could reduce the cost of doing business in the firms. The 'new normal' ought to encourage good corporate governance like transparency, accountability and stakeholder approach in all institutions so that investors can be attracted into funding and retooling business entities.

References

- Abay, K.A., Tafere, K., & Woldemichael, A. (2020). Winners and losers from COVID-19: Global evidence from Google search. *World Bank Policy Research Working Paper*, 68-92.
- Ahsan, T., Mirza, S. S., Al-Gamrh, B., & Bin-Feng, C. (2020). How to deal with policy uncertainty to attain sustainable growth: The role of corporate governance. *The International Journal of Business in Society*, 21(1).
- Amponsah-Tawiah, K., & Dartey-Baah, K. (2011). Corporate social responsibility in Ghana. *International Journal of Business and Social Science*, 2, 107-112.
- Arias, J.J., Swinton, J., & Anderson, K. (2018). Online Vs. face-to-face: A comparison of student outcomes with random assignment. *e-Journal of Business Education & Scholarship of Teaching*, 12(2), 1-23.
- Ayogu, M.D. (2001). Corporate governance in Africa: The record and policies for good governance. *African Development Review*, 13, 308-330.
- Baldwin, R. & Tomiura, E. (2020). Thinking ahead about the trade impact of COVID-19. *Economics in the Time of COVID-19*(59).
- Chirisa, I., Mavhima, B., Nyevera, T., Chigudu, A., Makochekanwa, A., Matai, J., et al. (2021). The impact and implications of COVID-19: Reflections on the Zimbabwean society. *Social Sciences & Humanities Open*, 4, 1-10.

- CRA. (2020). *Impact of COVID-19 devastates restaurant industry*. Ottawa: Canada Restaurant Association.
- CRS. (2021). *Global economic effects of COVID-19*. Congressional Research Service.
- Demuyakor, J. (2020). Corona virus (COVID-19) and online learning in higher institutions of education : A survey of the perceptions of Ghanaian students in China. *Online Journal of Communication and Media Technologies*, 3.
- Dzobo, M., Chitungo, I. & Dzinamarira, T. (2020). . COVID- 19: A perspective for lifting lockdown in Zimbabwe. *Pan African Medical Journal*.
- Ebrahimi, E., Igan, D. & Martinez-Peria, S. (2020). The impact of COVID-19 on inflation: Potential drivers and dynamics. *International Monetary Fund Research*, 1-14.
- Fairlie, R.W. (2020). The impact of Covid-19 on small business owners: Evidence of early-stage losses from the April 2020 current population survey. *NBER Working Paper No. 27309* , 16-26.
- FAO. (2020). *Digital technologies in agriculture and rural areas. Briefing paper*. FAO.
- FAO. (2020b). *Extension and advisory services: At the frontline of the response to COVID-19 to ensure food security*. FAO.
- GCG. (2021). The Covid-19 crisis and its aftermath: Corporate governance implications and policy challenges, conference report. *Global Corporate Governance Webinar*. Global Corporate Governance .
- Gukurume, S. & Oosterom, M. (2020). *The impact of the Covid-19 lockdown on Zimbabwe's informal economy*. London: Institute of Development Studies.
- Haggag, W.M. (2021). Agricultural digitalization and rural development in COVID-19 response plans: A review article. *International Journal of Agricultural Technology*, 17(1), 67-74.
- Herbert, S. & Marquette, H. (2021). *COVID-19, governance, and conflict: emerging impacts and future evidence needs: 4kd Emerging Issues Report*. Brighton: UK: Institute of Development Studies.
- ILO. (2021). *The impact of the COVID-19 pandemic on jobs and incomes in G20 economies*. Geneva: International labour Organisation.
- King, J. & Ferraz, O. L. (2022, January 3). *Legal, Constitutional, and ethical principles for mandatory vaccination requirements for Covid-19*. Retrieved January 3, 2022, from Lex-Atlas: Covid-19: <https://lexatlas-c19.org/vaccination-principles/>

- Lateef, M.A. & Akinsulore, A.O. (2021). Covid-19: Implications for Corporate governance and corporate social responsibility (CSR) in Africa. *Beijing Law Review*, 12, 139-160.
- Mackworth-Young, C.R., Chingono, R., Mavodza, C., McHugh, G., Tembo, M., Dziva, C., et al. (2020). *Here, we cannot practice what is preached': early qualitative learning from community perspectives on Zimbabwe's response to COVID-19*. Bulletin of the World Health Organization. Geneva: World Health Organisation.
- Mahler, D.G., Yonzan, N., Lakner, C., Aguilar, A.C., & Wu, H. (2021). *Updated estimates of the impact of COVID-19 on global poverty: Turning the corner on the pandemic in 2021?* Washington: World Bank.
- Majumdar, P., Biswas, A. & Sahu, T. (2020). COVID- 19 pandemic and lockdown: cause of sleep disruption, depression, somatic pain and increased screen exposure of office workers and students of India. *The Journal of Biological and Medical Rythm Research*, 37(b).
- Mavhinga, D. (2021, November 5). Lockdown laws draconian, excessive. Harare, Harare, Zimbabwe: Independent.
- Mayer, C. (2018). *Prosperity: Better business makes the greater good*. Oxford: Oxford University Press.
- Mazwi, N., Seremani, B., Kaseke, T. & Lungu, C. (2020). Psycho-social experiences of youths during the Covid-19 lockdown: Insights from Harare, Zimbabwe. *Business Excellence and Management*, 10(5).
- MoHCC. (2021, November 5). COVID-19. Retrieved November 2021, 2021, from Ministry of Health and Child Care: <http://www.mohcc.gov.zw/>
- Muvhuringi, P.B., Nyamuziwa, T.K. & Ngavaite, C. (2021). The impact of COVID-19 on agricultural extension and food supply in Zimbabwe . *Cogent Food and Agriculture* , 7(1).
- Ncube, F.N., Chikuta, O., Basera, V., Baipai, R., Mazhande, P. & Tapfuma, M. (2021). Economic impacts of the Covid-19 pandemic on the hotel business in Zimbabwe. *Journal of Tourism, Culinary, and Entrepreneurship*, 1(2), 190-207.
- Ncube, F., Tsandukwa, R. & Ndlovu, P. (2021). Right at the eye of the storm: Human resource management challenges amid Covid-19 outbreak in Zimbabwe. *Africa Development and Resources Research Institute Journal*, 7, 1-15.
- Ndhlovu, E. (n.d.). Relevance of sustainable livelihood approach in Zimbabwe's land reform programme. *Africa Insight*, 4, 72-87.

- Nhamo, G., Ncube, K. & Chikodzi, D. (2020). Restaurants and COVID-19: A focus on sustainability and recovery pathways. In: Counting the cost of COVID-19 on the global tourism industry. . Springer, Cham.
- OECD. (2020). *The impact of covid-19 on agricultural markets and GHG emissions*. OECD. (2020). .
- OECD. (2022, January 3). *Strengthening health systems during a pandemic: The role of development finance*. Retrieved January 3, 2022, from Organisation for Economic Co-operation and Development: <https://www.oecd.org/>
- OECD. (2022, January 3). *Tourism Policy Responses to the coronavirus (COVID-19)*. Retrieved January 3, 2022, from Organisation for Economic Co-operation and Development : <https://www.oecd.org/>
- Parwada, C. (2020). COVID-19 outbreak lockdown and its impacts on marketing of horticultural produces in Zimbabwe. *International Journal of Horticultural Science*. 26, 38-45.
- Peng, L., Yang, W., Zhang, D., Zhuge, C. & Hong, L. (2021). Epidemic analysis of COVID-19 in China by dynamical modeling. *arXiv*, 63-65.
- Response, U.Z. (2021). *Immediate Socio-economic response to Covid – 19 In Zimbabwe : A Framework for Intergrated Policy Analysis and support*. Harare: UNDP.
- Rukasha, T., Nyagadza, B., Pashapa, R. & Muposhi, A. (n.d.). Covid-19 impact on Zimbabwean agricultural supply chains and markets: A sustainable livelihoods perspective. *Cogent Social Sciences*, 7(1).
- Saladino, V., Algeri, D. & Auriemma, V. (2020). The psychological and social impact of Covid-19: new perspectives of well-being. *Frontiers in psychology*, 25-50.
- Senderayi, P., Tshababa, M., Mutanana, N. & Nyathi, C. (2018). Big Five personality traits and job burnout: Testing a collectivistic teachers college lecturer sample. *Thematics Journal of Social Sciences*, 2(2).
- Sharma, A., Noone, B., Lee, S., Yu, C., Lin, M., Jung, I., et al. (2020, June 18). *Restaurants and foodservice businesses during COVID-19: Helping them continue operations*. Retrieved January 3, 2022, from Penn State Social science Research Institute: <https://covid19.ssri.psu.edu/>
- South Africa Government. (2021, November 5). *COVID-19 online resources and news portal*. Retrieved November 5, 2021, from sacoronavirus: <https://sacoronavirus.co.za/>

- Tapfumaneyi, R. (2020). *Zimbabwe: African Sun cut employees' salaries by 50 percent as Covid-19 affects operations*. Harare: The Zimbabwe News.
- Tshoose, I. C. (2011). Employer's duty to provide a safe working environment: A South African perspective. *International Journal of Law and Information Technology*, 6(3), 165.
- UNWTO. (2019). *International tourism highlights, 2019 edition*. Madrid: World Tourism Organization.
- Viehs, M. (2018). *Guidance and case studies for ESG integration: Equities and fixed income*. Virginia: CFA Institute.
- WHO. (2020). *Coronavirus disease health guidelines*. Geneva: World Health Organisation.
- WHO. (2021). *Evaluation of COVID-19 vaccine effectiveness*. Geneva: World Health Organisation.
- WHO. (2021, November 5). *global/zimbabwe*. Retrieved November 5, 2021, from World Health Organisation: <https://covid19.who.int/region/afro/country/zw>
- Wolfert, S., Ge, L., Verdouw, C. & Bogaardt, M.J. (2017). Big data in smart farming - A review. *Agricultural Systems*, 69-80.
- World Bank. (2021). *The drivers of COVID-19 vaccine hesitancy and how to address them: Evidence from Papua New Guinea*. World Bank.
- Worldometer. (2021, November 5). *COVID-19 Coronavirus pandemic*. Retrieved November 5, 2021, from Worldometers: www.worldometers.info
- Zimbabwe Tourism Authority. (2019). *Tourism trends and statistics report*. Harare: Zimbabwe Tourism Authority.

Lived Experiences of COVID-19 Survivors: Insights from the Manufacturing Industry in Harare, Zimbabwe

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Abstract

The Covid-19 pandemic has had devastating mental health effects due to measures being used to contain it. These measures include self-quarantine, self-isolation and social distancing. This study sought to explore the lived experiences of Covid-19 survivors at a manufacturing company in Harare, Zimbabwe. The objectives of the study were to describe the psychosocial experiences of Covid-19 survivors, explore the coping mechanisms employed by the survivors and to come up with a psychosocial support model for Covid-19 management. A qualitative research approach was used utilising a phenomenological research design. A total of 8 participants took part in the study. The researcher utilised purposive sampling to select study participants. Data was collected using semi-structured interview guide. Major findings of the study were that participants had near death experiences accompanied with grief experiences of shock and panic in the first three days post Covid-19 diagnosis. The study also revealed that Covid-19 diagnosis alters the mental state of individuals hence affecting the thinking process. Study participants bemoaned lack of counselling when receiving Covid results. In order to cope with these challenges, participants employed active coping mechanisms like praying, engaging in online games, exercising and watching television. Major support came from the family members. One major recommendation of the study is for companies to adopt a suggested psychosocial support model that calls for pre and post-test psychological counselling prior to testing Covid-19 suspected cases, and company psychosocial counselling when employees are in isolation. There is also need for organisations to spearhead the formation of a Covid-19 survivors peer group.

Key words: Lived Experiences, Covid-19, Survivors, Psychosocial Support, Manufacturing Industry, Coping Mechanism

Introduction

The first wave and second wave of Covid-19 wreaked havoc globally. The workplace was not spared as countries attempted to balance the demands of economies and containing Covid-19 hence companies categorised as essential service were allowed to operate.

Results from study in Kashmir India showed high levels of enacted eternalised stigma among Covid -19 survivors (Shabir Ahmad Dar, 2020). The survivors reported minimisation of social communications, losing friends, being unfriended on social media platforms, being verbally abused, and called names. In the same study, some Covid-19 survivors reported that they were mocked in their communities, others were asked to vacate the houses by their landlords, some were denied access to private transport while others were fired from their private sector jobs.

In the narrative studies for Covid-19 intensive care survivors done in China where the pandemic started, Sahoo and Mehra (2020) revealed mental agony among the survivors. Experiences of a 52 year old diagnosed with Covid-19 with comorbid of diabetes mellitus revealed extreme anxiety, worry and excessive sweating despite maintaining normal oxygen saturation (Sahoo & Mehra, 2020). The survivor revealed that, soon after being diagnosed with Covid-19, she developed severe anxiety and, after a few hours, had shortness of breath and started having recurrent thoughts that she was going to die. Another 40-year-old man in the same study indicated that he had recurrent thoughts of getting paralysed and die. He further reported that he was not afraid of death but was worried about the future of his family and would see images of his children crying whenever he goes to sleep.

A study on lived experiences of Covid-19 survivors among Arabic, Russian and Somali speaking migrants in Finland identified seven key themes that depicted psychological fears the respondents faced (Eerika Fibell, Marja Tiilikainen et al., 2021). The respondents indicated that they feared death most when they were ill and also

reinfections when they had been cured from the virus. The high stress levels among the migrant survivors were worsened by the fact that refugees background on its own can expose people to stress and psychological vulnerability.

Another lived experiences study done in Russia revealed that survivors experienced guilt, shame, stigma and anger feelings (Asian Journal of Psychiatry, 2020). One victim, a 49 year old man, developed feelings of guilt after realising that 38 persons from his village were infected and all were traced to him. He began to blame himself for “carelessness”, would feel shameful and guilty of his act. He would remain preoccupied with thoughts such as, “How would he face his friends, neighbours and fellow villagers?”. Another couple in the study developed acute stress reaction after they infected their parents following a visit to their home area. They would cry all day blaming self for infecting their parents.

A Covid-19 survivor in Lagos State, Nigeria, revealed that she went through mental agony as she realised that she had Covid -19 (UNICEF, 2020). The survivor, who is a registered nurse by profession, indicated that on the third day of being on oxygen she had to send text messages to significant others that they have to prepare for her death. After surviving the Covid-19, she learnt a lesson to be more careful in observing all precautions such as hand washing, wearing a face mask and keeping physical distance. According to Rosenberg (2017), repeated obsession with such practices may lead to obsessive compulsive behaviour hence the need for mental health attention to survivors of Covid -19.

The first Zimbabwean Covid-19 patient revealed that, although he had survived Covid-19, the experiences had psychological trauma. Narrating his experiences to Reuter’s news team, the survivor indicated that, even the medical staff would fear coming close to him. He had this to say, “the way they dispersed was as if there were 10 hungry lions being released from the ambulance, imagine, yet am just a human being.” Although he was cleared of the disease after two weeks, friends and relatives

would not visit him or talk to him, even from a distance. He went on to say, “I heard one person referring to my road as corona road and some people now avoid the road altogether. It hurts, but I have to be mature and accept it” (Reuters News, 2020).

Past studies on Covid-19 and mental health revealed that the disease had psychosocial effects on the survivors of the disease. A psychiatrist survived Covid-19 and revealed that his experiences were that of fearing death to the extent that he had to write his will as he was convinced that death was imminent. Upon recovery from the disease, his colleagues at the Ministry of Health and Child Care in Zimbabwe would still avoid him. Speaking from a personal experience, he stated that even your friends would be scared to get close to you for their own safety. He went on to say that he had numerous thoughts and friends who brought supplies of medication would literally throw the medication over the gate (Ministry of Health and Child Care, 2020).

Whilst studies on lived experiences of Covid-19 survivors have been done in Europe and Asian countries, very few are linked to the workplace hence the need for this study to explore narratives of survivors of Covid-19 at the workplace in Zimbabwe. The majority of Covid-19 studies are quantitative in nature and most have a bias to the disease process, treatments and management. It is important that narratives of those who experienced the disease are taken into consideration hence the need for this qualitative study.

Aim

The study sought to explore the lived experiences of Covid-19 survivors from a beverage manufacturing industry in Harare, Zimbabwe.

Objectives

- i) To describe the psychosocial experiences of Covid-19 survivors.
- ii) To explore the adaptive and maladaptive coping mechanisms employed by Covid-19 survivors.

- iii) To come up with a psychosocial support model for Covid-19 management.

Research questions

- 1) What are the psychosocial experiences of Covid -19 survivors?
- 2) What are the adaptive and maladaptive coping mechanisms being employed by Covid-19 survivors?
- 3) What psychosocial support model can be utilized for Covid-19 management?

Methodology

Research approach

The study assumed a qualitative research approach which, according to Mack, Woodsong, Macqueen, Guest and Namey (2005), contributes to the culturally specific and contextually rich data. Qualitative research is essential in obtaining culturally specific information about values, opinions, behaviours and social context of populations. It makes use of open ended questions that have the ability to bring to mind answers that are meaningful and offers participants to respond in their own words. It gives the researcher the chance to prompt study participants responses by asking “how and why” questions.

The qualitative research approach was preferred as it offered a frame in which lived experiences of Covid-19 survivors can be interpreted hence a rich understanding of the experiences. This approach offers a frame in which participants lived experiences can be interpreted hence a comprehensive understanding of lived experiences can be achieved. The expression ‘lived experiences’ refers to phenomenological tradition concerning experiences of everyday lifeworld. Such experiences from our everyday world are pre-reflective and usually less available to our conscious (Zihavi, 2019; Gallagher & Zihavi, 2012; Ricoeur, 1984). Lived experiences cannot be captured

through objective scientific methods but rather through narratives of those who experienced the phenomena (Missel & Birkelund, 2019; Gallagher & Zahavi, 2012).

Research design

The study adopted a phenomenological research design. Phenomenological research design focuses on individuals' lived experiences within the world (Groenewald, 2014). Phenomenological research design endeavours to understand what a group of people felt during a phenomenon. In this study, the researcher was concerned with the lived experiences of Covid-19 survivors, their perceptions of the trajectory they went through with Covid-19. Through phenomenological research design, one is able to understand how humans perceive an event and a detailed understanding of human subjects' perceptions and experiences is gathered. Rich data on the experiences of Covid-19 survivors was gathered as the researcher further explored and probed their experiences with Covid-19.

Sampling

The study adopted a homogenous purposive sampling technique as this was seen as the most appropriate to gain insights on a wide range of perspectives relevant to the study. In this case, the study focused on lived experiences of Covid-19 survivors at a manufacturing company in Harare, Zimbabwe. The homogenous purposive sampling enabled the researcher to identify Covid-19 survivors who could participate in the study. The researcher was motivated by the psychological problems emerging from survivors of Covid-19.

Sample

A total of 8 participants who were purposively sampled took part in the current study. All the participants were from a manufacturing industry in Harare, Zimbabwe. The study targeted survivors of Covid-19, both males and females. Interviews were conducted using an open interview guide.

Data collection tools

In this study, the researcher utilised in-depth interview schedule to collect data. In-depth interviews are open ended discussions that involve conducting research thorough individual interviews with a small number of respondents. The main objective is to discover their perspectives on a particular situation, idea and program (Boyce, 2006). In-depth interviews are used to explore and understand a person's thoughts, ideas and behaviours. The researcher developed the in-depth interview schedule that sought to explore the psychosocial experiences of Covid-19 survivors as well as adoptive and maladaptive coping strategies employed by the survivors.

Since the researcher was interested in the narratives of Covid-19 survivors, in-depth interviews had an advantage of allowing participants to share opinions. The researcher could then elicit more information and uncover greater insights through probing hence rich data could be obtained.

Data analysis

In the study data was analysed using qualitative approach of manual thematic analysis. Manual thematic is a method for identifying, analysing and reporting patterns (themes) within data and it interprets various aspects of the research topic. Rubin and Rubin (2005) claim that analysis is exciting because you discover themes and concepts embedded throughout the interview. Common phenomena were identified and grouped into themes

Results

Theme 1: Diagnosis as death sentence

Sub-theme 1: Near death experience

After being diagnosed with Covid-19, all participants felt that it was the end of the world, they were going to die. This theme was prominent soon after diagnosis with Covid-19. They also described how watching worldwide news of people dying from Covid-19 strengthened the belief that they were going to die from the disease. One participant mentioned that he went to the extent of writing a will and calling his family

that he was going to die. Participants revealed that feelings of death were more prominent in the first three days of being diagnosed with Covid-19. The fears of death were accompanied by nightmares during the night with some having lack of sleep. These sentiments were expressed during the interview as highlighted below:

Fear of death gripped me soon after being diagnosed with Covid-19 given the statistics of death that were being reported worldwide. I suffer from hypertension and news had it that people with chronic diseases have a high chance of dying from Covid-19. I was quite sure that I will not make it. **Participant 1**

The first two days was hell on earth for me. I felt death was on my doorstep. This was worsened by being kept in isolation. I could not sleep for two days fearing that I will die whilst sleeping alone. **Participant 2**

The first three days were crucial for me to decide whether I was going to die or make it, The lord communicated to me that if I remain in bed I was going to die so I decided to come out of my bed and do activities. The advice I give you is that if you are diagnosed with this disease don't remain in bed because you will surely die. **Participant 3**

This disease kills. The first thought that came to my mind was that I was going to die. The thought fades as time moves on and as you hear testimonies of people who recover from it. **Participant 4.**

I was so terrified and feared death so much soon after being told that I had Covid-19. **Participant 5**

I went into deep sleep for three hours soon after being told I had Covid-19. When I woke up I wrote a will because I was convinced that I was going to die from this disease. **Participant 6**

I had just lost my father from Covid-19 and when I was told that I had Covid-19, I feared to die also. This was also worsened by statistics coming from the media. **Participant 7**

I almost died my brother. This disease is serious. In my neighbourhood people are dying. I was frightened when I received the results. **Participant 8**

Theme 2: Grief experiences

Sub-theme 1: Panic and shock

The research discovered that, soon after being diagnosed with Covid-19, participants indicated that they went through a stage of grief, panic and shock; as well as a state of disbelief and numbed feelings. These experiences were worsened because of the way the results were delivered. In their recommendations, participants expressed that counselling is required before one is tested and when getting results. This theme is illustrated in the following interview extracts:

I tried not to panic but I could not contain it, I felt a sharp pain in my chest soon after being told of the results. I did not like at all the way the Doctor told me the results. I felt isolated.

Participant 1

I was so frightened soon after being told of the diagnosis. My heart beat started pounding. I have never felt like that in my life. **Participant 2**

I was so terrified and shocked with the results; I started to sweat a lot. I tried to ask the health workers what's next but no one gave me satisfactory answers. **Participant 5**

I was shocked when I received the news that I have Covid-19. I started to experience nightmares in the first three days of diagnosis. **Participant 3**

Theme 3: Altered mental state

Sub-theme 1: Effect on the thinking process

The study discovered that that being diagnosed with Covid-19 has a bearing on the mental state of individuals. Participants narrated that they had episodes of confusion and some had episodes of experiencing hallucinations with one participant indicating that, "... it is as if the brain is full of water that one cannot think properly". This is worsened by being told to isolate from others. This was shown in the below interview extracts:

Am convinced that there is something this disease does to the brain. I cannot explain it but there is definitely something it does. You will no longer be thinking normally as you used to do. I was no longer mentally stable. **Participant 1**

I was not thinking properly. It was as if my brain had water now. I cannot explain it, but was not thinking properly. **Participant 6**

I had hallucinations especially when having difficulties in breathing, maybe it's because the brain would be deprived of oxygen. **Participant 8**

Theme 4: Attitude of health workers

Sub-theme 1: Need for counselling

The study revealed that there is a need for professional counselling before testing, when giving results, and continuous follow up of those diagnosed with Covid-19. These sentiments were shared by all participants of the study. Some participants felt that they were neglected by health workers in terms of their mental health care. This is revealed in the below interview extracts:

I did not like at all the way the doctor told me the results, I felt isolated. He just said let's go outside, your results are positive. I did not receive any counselling. I felt confused. I

had so many questions to ask the Doctor but he just walked away. It was as if the Doctor also feared to contract the disease. **Participant 1**

Follow up from the health team is very essential, especially in the first three days. You know what, when my mother phoned me on day 3, I felt so relieved and that's when I started eating. **Participant 3**

I could not get any information from the health workers. I asked what is next and I was told to go and drink water for 10 days. If those who are supposed to assist you treat you like this it affects you mentally. There is a need for counselling and information dissemination just like what is done for HIV/AIDS. **Participant 6**

I missed the counselling part when I received my results. They just told me that the results are positive. I did not know what to do after getting the results. **Participant 8**

Theme 5: Strengthening family bonds

Sub-theme 1: Family support

One of the positives that came out of the study is that participants had family support during their experiences with the disease. Support from the family was mainly through moral and financial support. This strengthened family bond and family relations. This was revealed in the below interview extracts:

The major support was from my family .They supported me financially and also moral support. This lifted my spirit very much. **Participant 5**

I only got support from my family and pastor. It is important that the human resource department make a follow up on people diagnosed with Covid-19 especially during the first three days. There was no communication from my workplace. I felt neglected. **Participant 3**

I was supported by my family. They gave me encouragement and were available for me. All my medication was bought by family members. **Participant 6**

My family and friends supported me with food items. Am forever grateful to them. **Participant 7**

Sub-theme 2: Need for support groups

One participant suggested the need to form survivor support groups led by survivors to offer emotional support to victims of Covid-19.

There is need for a support group led by volunteers who survived the disease. Am willing to initiate this. We have first-hand information hence we are in a better position to give information. **Participant 2**

Theme 6: Coping activities at home

Sub-theme 1: Keeping entertained

In a bid to cope with the psychological effects of isolation and quarantine, the participants turned to home activities as coping strategies. These activities relieved boredom as some participants were restricted from enjoying spare time activities. The most pronounced coping strategies included reading the bible, online games, gardening, exercising, watching television and confronting the virus. This was revealed in the below interview extracts:

I turned to watching television a lot especially movies and I avoided watching news on Covid-19 as the news disturbed me a lot. **Participant 5**

I played online chess game to occupy myself during the days I was in isolation. **Participant 5**

The time gave me an opportunity to read books and exercise a lot. **Participant 6**

Sub-theme 2: Prayer

Some participants turned to prayer, reading the bible, listening to online sermons from their pastors.

Prayers and videos from my church minister encouraged me a lot. **Participant 4**

Prayer gave me strength to cope with the disease. **Participant 1**

I prayed a lot and watched church sermons. This helped me to cope with the disease. **Participant 8**

Theme 7: Confronting the virus

Sub-theme 1: Talking to the virus

One survivor resorted to what she termed confronting the virus by talking to it so that it does not kill her. This, she said, gave her strength whenever she talked to it.

I constantly talked to the virus that it does not kill me. **Participant 1**

I also told myself that I should not die from a mere virus. This gave me strength to live. **Participant 1**

Discussion

The study revealed that diagnosis with Covid-19 induces feelings of death. This is strengthened by watching news of people dying from Covid-19. One participant

revealed that these feelings subsided when he heard testimonies of people who had recovered from the virus. The findings from this study concur with similar studies in China where Sahoo and Melina (2020) reported that survivors had recurrent thoughts that they were going to die. However, new findings from this study is that these feelings were more prominent in the first three days post Covid-19 diagnosis as indicated by all eight participants. It is therefore important that psychological counselling be intensified during these days and for employers to communicate with the sick employee during such times. One participant revealed that he only started to take food on day 3 after his mother checked on him. It uplifted his mood and gave him strength. Participants of the study bemoaned lack of follow up from the workplace and hence felt neglected. This has a higher chance of igniting feelings of being neglected and unwanted. Lack of follow up also brings uncertainty to employees whether they are still wanted at the workplace. Semo and Frissa (2020) suggest that this uncertainty may bring stress and fear of job loss worsening mental health issues that are prevalent when people are isolated from others. Fears of death were also accompanied with experiences of shock and panic due to the diagnosis of Covid-19. Similar findings have been found in lived experiences of Covid-19 survivors among Arabic, Russian and Somali speaking migrants in Finland. These experiences were also found in a qualitative study in which Isaac and Miracle (2020) revealed that participants felt negative mental health experiences of being scared and panic accompanied by moments of worry and anxiety as they attempted to recover.

The study also revealed that Covid-19 diagnosis as well as self-quarantine and isolation affected the mental health of the survivors including their thinking process as revealed by one participant who indicated that, “there is something that this disease does to the brain, I don’t know what it is but it affected my thinking”. Such experiences may have been worsened by the feelings of abandonment by health workers. Participants in the study expressed the need for counselling which they were not afforded. Similar experiences have been found in the first Zimbabwean Covid-19

patient in 2020 who expressed that, "... the way health workers dispersed was as if there were 10 hungry lions being released from the ambulance". Lack of counselling affect future adjustment post recovery. However, the study could not agree with Isaac and Miracle (2020) who found that alteration in mental state was also accompanied with suicidal thoughts. It is important therefore that there is psychological preparation from the moment one is suspected to have Covid-19 and prior returning to work.

In order to cope with traumatic experiences of being in isolation, the study revealed that participants employed active coping strategies which included engaging in online games at home, exercising, turning to prayer and also confronting the virus by talking to the virus as something that can listen to a conversation. The study could not identify any passive coping strategies from the survivors of Covid-19. The research findings do not concur with a study by Jacqueline Galicia and Zivei Lici (2020) that found utilising online platforms to be tiring overtime. According to Chen (2020), people in China coped well when they share their experiences with the rest of the world. In this study, one participant suggested the formation of a survivors support group led by survivors of Covid-19 as no expertise can replace their lived experiences. The study also identified the theme of using prayer in order to cope with Covid-19 whilst in isolation. According to O'Leary (2016), people in sub-Saharan Africa often turn to faith and religion in order to cope with psychological problems.

In terms of psychosocial support, the study revealed that survivors mainly got support from family members. Diagnosis with Covid-19 has its own positives of increasing family bond. This finding is similar to the findings by Tinashe and Zirima (2020) which revealed that Covid-19 lockdown had positives on family unification. Participants in the study revealed that they got support from family and friends during the times of illness. However, the study could not support the narratives of the first Zimbabwean Covid-19 patient who indicated that relatives shunned him when he was diagnosed with Covid-19 (*Reuters News*, 2020). It could be because at that time the disease was fairly new in the country. Some of the participants revealed that the

workplace only contacted them to clear their return to work. One participant also suggested the need to have a survivor support group to complement efforts of organisations to reintegrate survivors of Covid-19 back to work. According to Leech and Littlefield (2021), survivor social group support would lead to many different positive outcome for survivors by helping them to develop positive coping skills.

Conclusion

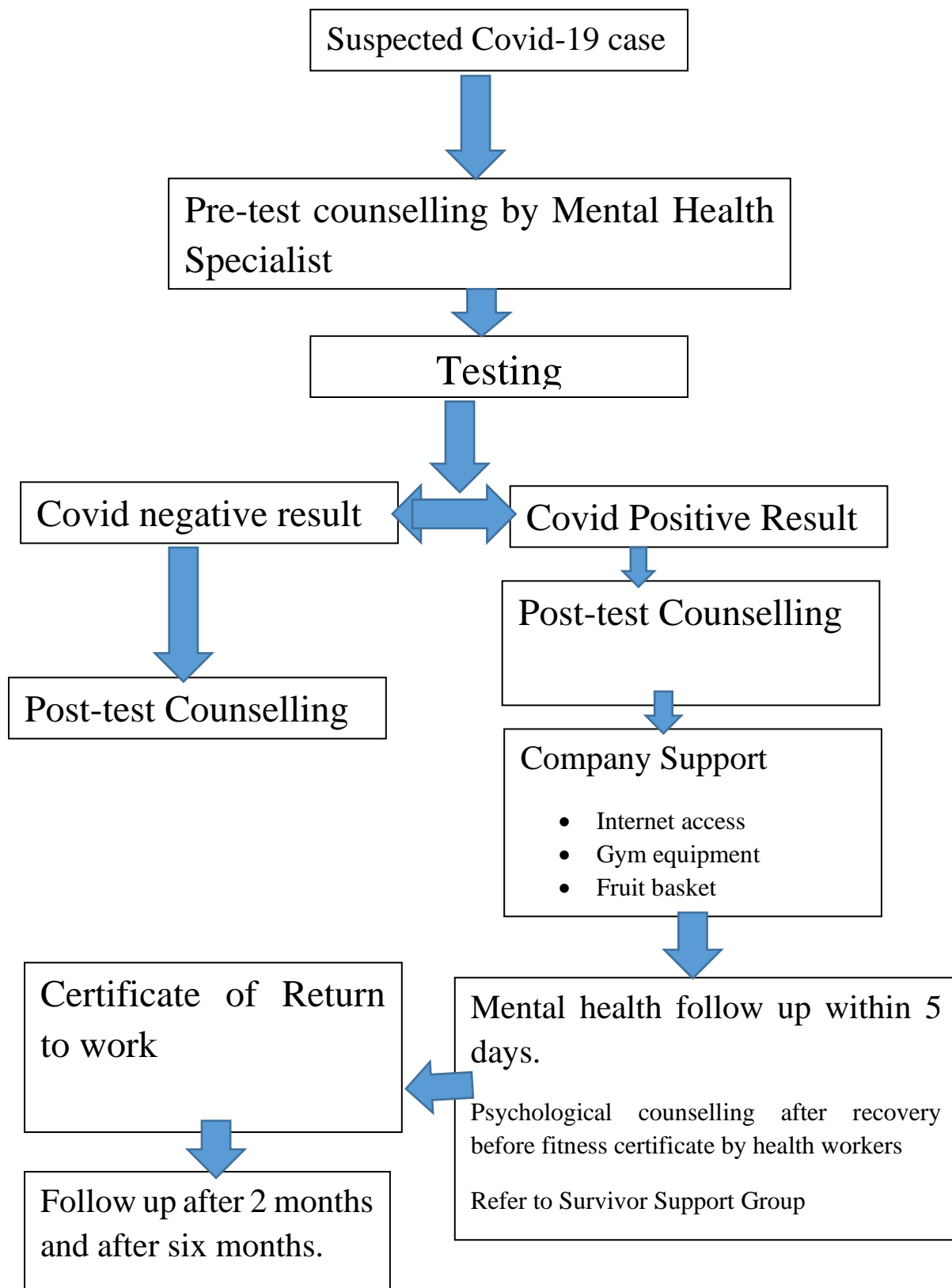
No expertise can substitute lived experiences of survivors. Diagnosis with Covid-19 has mental health effects from the moment that one is positively diagnosed. The study revealed that soon after being diagnosed with Covid-19 survivors experienced near death experiences which is accompanied with experiences of shock and panic. These experiences are heightened by watching devastating news about Covid-19. The study revealed that these experiences are more prominent in the first three days hence the need to intensify psychological support during this time. Participants in the study recommended counselling when receiving Covid-19 results and this is something essential that they were not afforded. Participants in the study also indicated that the journey with Covid-19 has mental health effects especially on the thinking process. In order to cope with the disease trajectory survivors employed active activities like exercising, reading the bible, praying ,watching television, playing online games and with one participant indicating that she employed what she called confronting the virus. Support for the survivors mainly came from family members hence bringing the positive of increasing family bond. One participant of the study suggested the need for formation of a Covid-19 survivor support group to complement efforts of the company to support survivors psychologically.

Recommendations

Based on the findings of the study, the following recommendations have been suggested:

- Organisations need to invest in mental health for effective management of Covid-19 survivors. This might call for the engagement of a full time counselling psychologist to prevent devastating mental health effects brought by Covid-19
- Organisations need to spearhead formation of Covid-19 survivor support groups that will assist in reintegration of employees post recovery from Covid-19.
- There is a need for organisations to support with access to internet through provisions of data bundles and gym equipment as people diagnosed with Covid-19 turn to online games, prayer, online church activities, exercise to cope with Covid-19 whilst in isolation.
- Fitness to return to work post Covid-19 infection should incorporate the mental health aspects of the survivors before they are certified fit to resume work.
- Private and state owned national television and radio stations should complement efforts of preventing mental health breakdowns during isolation by broadcasting religious services as the study indicated that majority of participants turned to prayer to lessen psychological burdens.
- A suggested psychosocial support model for the management of Covid-19 is illustrated below which organisations may adopt in psychosocial management of Covid-19 management.

Suggested Psycho-social Support Model for Covid-19 Management



References

- Basic Psychosocial Skill. (2020). *A guide for Covid-19 responders*. IASC.
- Busby, M. (2020). Covid-19 recoveries: “It was the most terrifying Experience of my life”. *The Guardian*.
- Creswell J.W. & Creswell J.D. (2018). *Research design* (5th edn.). Sage Publications.
- DarSA Khurshid, S.Q. & Wani, Z.A. (2020). *Stigma in Corona virus disease-19, Survivors in Kashmir India: A cross sectional exploratory study* Plosone 15 (11):eo240152 <https://doi.org/10.1371/journal.pone.0240152>.
- Chirisa, I. (2020). The tale of a Covid-19 recovered health worker. Retrieved from mohcc.gov.zw/index.php.
- Finell, E., Tiilikainen, M., Jasinka Lahti, I., Hasan, N. & Muthan, F. (2021). Lived experiences related to the Somali speaking migrants in Finland. *Int, J Environ. Res Public Health*, 18. Retrieved from <https://doi.org/10.3390/ijerph18052601>.
- Guest, G. (2012). *Applied thematic analysis*. Thousand Oaks, California: Sage Publications.
- Hua, Y., Mingli, & Zhixiong, L. (2020). Coping style: Social support and psychological distress in general Chinese population in the early stages of Covid-19 pandemic. *Journal of BMC Psychiatry*. Retrieved from <https://doi.org/10.1186/s12888-020-12826-3>.
- Hye, Y.P., Jongtalk, J., Hye, P., So, H.L., Eu, S.K., Hong, B. & Kyoung-Ho, S. (2020). Psychological consequences of survivors of Covid-19 pneumonia 1 month after discharge. *Journal of Korean Medical Science*. Retrieved from <https://creativecommons.org/licenses/by-nc>.
- Galica, J., Liu, Z. & Kain, D. (2020). Coping during Covid -19; a mixed methods study of older cancer survivors. Retrieved from <https://doi.org/10.1007/s00520-020-05929-5>.
- Jun, Z., Weili, W., Xin, Z. & Wei, Z. (2020). Recommended psychological crisis intervention response to the 2019 novel coronavirus pneumonia outbreak in China: A model of West China Hospital. *Precision Clinical Medicine Journal*, 3(1), 3-8.

- Lancet Psychiatry. (2020). *If not when Covid-19 lived experiences and a moment for real change*. Accessed on 4.07.2021.
- Li, W., Yang, Y., Liu, Z.H., Zhao, Y.J., Zhang L., Cheung, T. & Xiang, Y.T. (2020). Progression of mental health services during Covid-19 outbreak in China. *Int. J Biol Scie*, 16, 1732-1738. doi 10.7150 lijbs:45120.
- Mack Woodsong Macqueen, K.M., Guest, G. & Namey, (2005). *Qualitative research method: A data collectors field*. USA: Family Health International.
- Maxime, J. & Siera, L. (2021). *Bidirectional association between Covid-19 and psychiatry disorders: Retrospective cohort studies of 62 354 Covid-19 cases in USA*. *Lancet Psychiatry Online Journal*. [https://doi.org/10.1016/s2215-0366\(20\)30462-4](https://doi.org/10.1016/s2215-0366(20)30462-4).
- Malene, M. & Camilla, B. (2021). *Lived experiences of people diagnosed with Covid-19 Infection in Denmark*. Retrieved from journals.sagepub.com/home/qhr.
- Al Jazeera. (2021). Nigeria Covid-19 survivor: An experience I don't wish on anyone. *Coronavirus pandemic/News/Al Jazeera*. Accessed 07.04.2021.
- Sahoo, S., Mashra, A. & Suri Malhotra, P. (2020). Experiences of Covid-19 ICU survivors: Are these different from non-Covid ICU survivors? *Indian J. Psychol. Med.*, 42(4), 387-390.
- Schwerdtle, P.M., DeClerck, V. & Plummer, V. (2017). Experiences of Ebola survivors: Causes of distress and sources of resilience. *Prehosp. Disaster Med.*, 32(3), 234-239.
- Tinashe, S. & Zirima, H. (2020). Qualitative study on positives implications of Covid-19 lockdown in Zimbabwe: A Parent's perspective. *Global Journal of Psychology Research*, 10(2), 189-200. <https://doi.org/10.188844/gpr.vio12.4788>.
- UNICEF Nigeria. (2020). Covid-19 survivor stories: I was on oxygen for five days. Retrieved from <https://www.unicef.org/nigeria/stories/covid-19-survivor-stories-i-was-oxygen-five-days>.
- Weiliu, J. (2020). Living with Covid -19: a phenomenological study of hospitalized patients involved in a family cluster transmission. Retrieved from <https://bmjopen.bmj.com/content/11/2/e046128>.
- WHO Organization. (2020). Mental health and psychosocial considerations during Covid-19 outbreak. Google scholar.
- Yaser, M., Farzin, M. & Karim, P. (2020). Psychological disturbance of survivors throughout Covid-19 crisis: A qualitative study. *BMC Psychiatry Journal*. Retrieved from <https://doi.org/10.1186/s12888-020-03009-1>.

Zirima, H. (2020). Coping with the lockdown: psychological and social strategies.
News Day Press.

Application of Kingdon and Hall Models to Analyse Agenda Setting for Maternal Mortality Reduction in Zimbabwe

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Abstract

Zimbabwe is still grappling to reduce high maternal mortality that is considered as unacceptable death in modern societies. Maternal mortality ratio is a key sentinel indicator and a reflection of women's health in any nation, hence, it is important to give due attention to this health indicator. Sub-Saharan African countries are framing policies to roll back the problem of maternal mortality. For this, the Kingdon and Hall are two distinct models formed to articulate this health challenge. The Kingdon model includes problem, policy and politics stream and the Hall model includes legitimacy, feasibility and support of health policies. This study aims to integrate the Kingdon and Hall models with maternal mortality reduction policy agenda in Zimbabwe. The researcher used the existing frameworks of the models as the guiding principle. The frameworks of the two models were applied as an important consideration to interlink policy agenda to a specific health problem. The researcher described existing scientific literature about maternal mortality. After thorough analysis, possible policy inputs were included with a brief discussion of literature. The two models are considered to be important in setting the maternal mortality reduction agenda. High maternal mortality rate problem was illuminated by publications. Both political will and policies to reduce maternal mortality (MM) were considered present. Involvement of international world bodies makes MM problem legitimate. Availability of a functional health system makes the policy feasible, notwithstanding inadequate, demotivated and overloaded health workforce. There is no seamless care between primary and secondary care, hence, expecting mothers incur user fees once referred to the next level of care. Community support in the context of results based financing (RBF) is overwhelming. The integration of policies within policy frameworks contributes to key health policies. Thus policy specialists have the burden and responsibility to address the challenge of policy integration through policy evaluation researches.

Keywords: Agenda setting; maternal mortality reduction; models; policy; Zimbabwe

Introduction and background

Zimbabwe's maternal mortality ratio (MMR) stood at 90/100 000 live births at independence, but gradually rose to 960/100 000 in 2010 (UN, 2013). With the aid of global health financiers, a raft of health systems strengthening interventions has been implemented since 2011. Despite all these high impact strategies, Zimbabwe missed the MMR Millennium Development Goal target of 174/100 000 live births in 2015 (NHS, 2016). To date, Zimbabwe's MMR is still unacceptably high at 462/100 000, indicating that it is yet to beat the 2015 target of 174/100 000. Zimbabwe therefore risks missing the 2030 health related SDGs if the health challenge of MMR is not addressed.

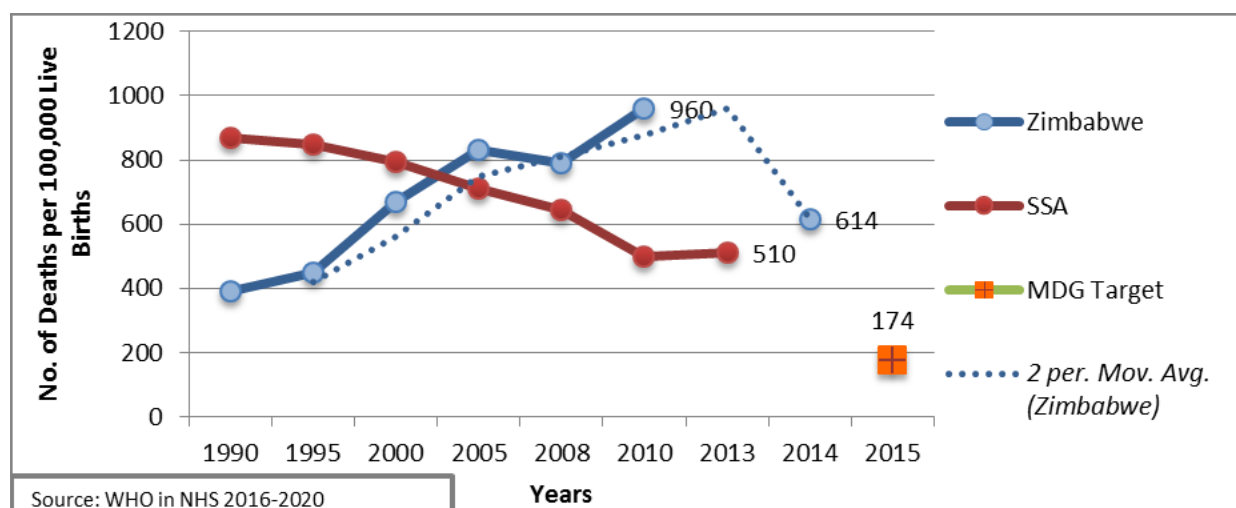


Figure 1: Number of Deaths per 100 000 Live Births in Zimbabwe

Methods

The researcher used the existing frameworks of the Kingdon and Hall models as the guiding principle. The frameworks of the two models were applied as an important consideration to interlink policy agenda to a specific health problem. The researcher discussed existing scientific literature about maternal mortality. After thoroughly reviewing, possible policy inputs and country context were included with a brief

discussion by comparing different kinds of literature. A maternal mortality problem in the Kingdon model is conceived as a result of health systems inadequacy. A health policy in a Kingdon model is defined as a system to curb maternal problems. Politics is conceived as dimensions where the government is diffusing actions regarding maternal mortality. For the Hall model, legitimacy means the legality of the implementation of the maternal reduction actions at community level. Feasibility is the ability of the community to curb maternal mortality problem given the socio-economic conditions. Support refers to the action of the communities to reduce maternal mortality problems. After thoroughly reviewing, possible policy inputs and country contexts were included with a brief discussion by comparing different kinds of literature.

Objectives

- To analyse maternal mortality reduction policy agenda setting using the Kingdon and Hall models
- To generate recommendations based on findings in this study

Results

Kindon model's problem stream

The findings of this study show that international bodies such as the World Health Organisation (WHO) have played an important role in highlighting the challenge of maternal mortality rate (MMR) through Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) targets in the agenda setting process. The problem has been highlighted since 1990. Multiple key factors strengthened the illumination of MMR in Zimbabwe, for example, publishing the MGDs progress report at country level. Nationally, Zimbabwe Demographic Health Survey (ZDHS) and Multiple Indicator Cluster Survey (MICS) have published progress regarding MMR, thus illuminating this health challenge. Finally, academic and formative research has also illuminated the MMR problem (Hogwood & Gunn 1983).

Kingdon model's political stream

The approach to shaping the political stream within this study refers to political stability, will, key person's contribution and commitment. Generally, Zimbabwe is in state of peace for agenda setting. Furthermore, the first lady is playing a key role in tackling MMR through her work in MNCH and cervical cancer. Political commitment to health for all, increases access to health care, thus helps to address MMR.

Kingdon model's policy stream

An assessment of the policy stream looks at availability of international, technical, financial and material support and local policies. UNICEF, through the Chief of Child Survival and related departments, is providing technical and material support to fight against MMR. HDF is providing funding to GoZ to fight MMR. Additionally, World Bank is providing funding and training of health workers to address MMR. Zimbabwe is a signatory to international health policy, for example, MGDs and SGD (Buse, Mays, Walls, 2005).

Hall model's legitimacy of the case

The involvement of international world bodies such as WHO and UNICEF gives MMR authenticity. Moreover, availability of credible statistics on MMR strengthens the legitimacy of the MMR case. Government commitment to the MMR case gives it credibility. Ratification of Zimbabwe to international health policy, for example, MGDs and SGD, gives the MMR case strong legitimacy.

Hall model's feasibility of policy reform

The presents of organisational structures within MoHCC provides a bedrock for policy reform. Availability of HRH is key in policy reform notwithstanding inadequate and demotivated health staff. Availability of medicines and sundries, inadequate in some cases, ensures service provision, in which case provides opportunity for improvement, as opposed to cases where the service is not available at all.

Hall model's support for policy reform

The use of community structures and actively involving communities in their health care system, such as the creation of health centre committees, generates support for reform. Adoption and scaling up of the RBF policy to tackle MMR reflects a government support position. Furthermore, the provision of medicines and sundries, financial and technical support by donors in support of better MNCH services is a sign of good will and support to the reform agenda, (Buse, Mays, Walls, 2005).

Window of opportunity

In this study, the window of opportunity refers to activities or occurrences that happen thereby presenting an opportunity for agenda setting. For example, the launch of The Angel Of Hope Foundation presented an opportunity to focus on women health, thus advancing MNCH issues in the process. Furthermore, the restructuring of the MoHCC in 2020 led to a directorate designated for MNCH to focus on perinatal issues, thus strengthening the structure needed to fight MMR. Development of the Health Strategy 2021-2025, presented an opportunity to strengthen MNCH policy. Publishing maternal mortality statistics presented an opportunity to adopt RBF (Hogwood & Gunn, 1983).

Discussion

This paper sought to insights on the dynamics surrounding maternal mortality in Zimbabwe. The efforts of several organisations, including world bodies, international health policy, and publishing MMR monitoring trends were pivotal in illuminating the MMR problem faced by Zimbabwe. Furthermore, political instability threatens maternal health by destroying health infrastructure, displacing HRH and affecting transport system to and from health facilities. However, currently Zimbabwe is enjoying relative peace and this is conducive to advancing policy reform. Government commitment is critical in promoting maternal health. The impending 2023 elections could provide an opportunity for government to commit and accelerate health care

reform, especially for the benefit of women who are the majority of the electorate (Fisher, 2003).

Global ratification to international policy has a bearing on health systems. Zimbabwe is a signatory to the past MDGs, SGDs, Abuja declarations. It is therefore better poised to implement health care reform in its quest to prove to the international community that it upholds basic human rights, and the right to health, life and dignity. Evidence shows that involvement of global health institutions such as UNICEF and WHO increases credibility of interventions. Hence Zimbabwe, with the involvement of HDF and World Bank in the reform agenda, entrenches credibility (Buse, Mays, Walls, 2005).

Additionally, literature posits that the availability of organisational structure, HRH and service delivery are key health systems pillars. Hence health care reform is largely feasible within the current context, given the existing health system (Hogwood & Gunn, 1983). However, health workforce is inadequate, demotivated and overloaded with work (Nyabani & Ramukumba, 2019). Improving working conditions for health workers would improve retention, motivation and reduce work load, thus improving quality of care, and inadvertently accelerate maternal mortality reduction in Zimbabwe. Increasing availability of sundries would improve quality of care and significantly contribute to maternal mortality reduction.

Active participation of communities create ownership and therefore generates the much needed support for reform. MOHCC uses community cadres from the community to conduct client satisfaction survey, extend health care services to the community and to form health centre committees which oversee health facilities under the RBF programme. The cadres include village health workers, behaviour change facilitators and community health workers. The health system reform agenda therefore enjoys grass root support, in addition to international support coming from

HDF and World Bank, and bolstered by the government of Zimbabwe's commitment to addressing maternal health issues.

Conclusion

Although maternal health has been placed high on the reform agenda, more still needs to be done to further reduce MMR to 174 per 100 000 and this includes. This could be through scaling up the RBF health care financing policy from primary care facilities to district, provincial and referral/central hospitals for seamless care and to close the gaps that exists in referral path ways. Furthermore, civil society and activists could take advantage of the window of opportunity presented by the impending elections to optimise the issue of maternal health. A combination of both the Kingdon and Hall models have been useful in analysing influential factors in agenda setting and this experience can be applied to the analysis of other policies. It is notable that generating evidence and publishing the same is key in drawing the attention of public health policy authorities and planners, hence the culture should be further cultivated and propagated. Finally, based on the findings of this study, this reform agenda is likely to succeed, however, balance and checks are key in tracking and reporting progress. Both models were useful in describing the maternal mortality reduction setting agenda.

References

- Bauserman, M., Lokangaka, A., Thorsten, V., Tshefu, A., Goudar, S.S., Esamai, F. et al. (2015). Risk factors for maternal death and trends in maternal mortality in low- and middle-income countries: a prospective longitudinal cohort analysis. *Reprod Health*, 8(12), 1742–4755.
- Buse, K., Mays, N. & Walt, G. (2005). *Making health policy*. Maidenhead: Open University Press.
- Fischer, F. (2003). *Reframing public policy*. Oxford: Oxford University Press, Chapter 1
- Ha, B.T.T., Mirzoevm T. & Mukhopadhyay, M. (2015). Shaping the health policy agenda: the case of safe motherhood policy in Vietnam. *Int J Health Policy Manag.*, 4(11), 741–6. prospective <http://dx.doi.org/10.15171/ijhpm.2015.153>

- Hogwood, B.W. & Gunn, L.A. (1984). *Policy analysis for the real world*. Oxford: Oxford University.
- Ministry of Health and Child Care. (2021). *National health strategy (2021-2025)*. Harare: Government Printers.
- Nyabani, P. & Ramukumba, M.M. (2019). The implementation of a results-based health care financing model in Zimbabwe: Nurses' perspective. *African Journal for Physical Activity and Health Sciences*, 25(1), 122-137.
- UN. (2018). Human rights: Issues affecting women. Retrieved from <http://www.chchr.org>.
- United Nations. (2015). *The Millennium Development Goals Report: Progress and transition of health related MDGs to SDGs in Lao PDR*. Lao PDR.
- Walt, G. & Gilson, L. (2014). Can frameworks inform knowledge about health policy processes? Reviewing health policy papers on agenda setting and testing them against a specific priority-setting framework. *Health Policy and Planning*, 29(3), 6-22.
- WHO. (1948). *Constitution of the WHO*. Geneva: WHO.
- World Health Organization. (2015). *Success factors for women's and children's health Rwanda*. Geneva: World Health Organization.

Emotional Intelligence among Single Mothers during Covid-19 Pandemic: Insights of Women in Masvingo Urban, Zimbabwe

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Abstract

Emotional Intelligence (EI) is imperative in maintaining equipoise between mental health and physical health. The EI of single mothers has been understudied for years, especially in low-and-middle income countries (LMIC) adversely affected by the COVID-19 pandemic. In light of this background, this study sought to qualitatively explore the EI of single mothers in Zimbabwe during the pandemic, with special focus on the urban settlement of Masvingo City. The research adopted a phenomenological research design and a total of seven (7) single mothers ranging from 35 – 45 years of age were conveniently and purposively selected for in-depth interviews. Qualitative data was thematically analysed and the findings revealed that single mothers faced a lot of emotional challenges during the COVID-19 pandemic, which affected their levels of EI and emotional reactions towards their children. Some of the emotional experiences included anger, frustration, sadness and distress. The study also established that single mothers were resilient and capable of regulating their emotions within their parenting skills. Most participants mentioned that they tend to be optimistic and practice self-control when facing an emotionally demanding situation. The study recommends that psychologists and social workers do community engagements where they offer knowledge of emotional intelligence, stress management, resilience, coping and effective parenting. The government must also try to assist single mothers by providing other forms of assistance depending on individual needs .

Keywords: Emotional intelligence, single mothers, COVID-19, Masvingo City.

Introduction

The Coronavirus (COVID-19) struck China's Wuhan City in 2019 and quickly spread around the world, engendering a global health crisis of immense proportions. As an upshot of the deadly virus, many folks found themselves forced to cope with new emotional challenges, particularly feelings of stress, fear and uncertainty. COVID-19 has become a real living threat to both physical and emotional health (Levkovich, & Shinan-Altman, 2021). The COVID-19 pandemic has affected several families, but a greater impact was felt by single parents who have a greater need to manage children at home due to closure of leisure centres (Pichdara et al., 2022). As a result of the pandemic, the family structure and duties towards parenting have shifted abruptly (Li et al., 2021). Universally, a nuclear family is believed to comprise a couple and dependent children, and both parents playing very crucial roles and giving relevant support in the upbringing of the children (Keller, 2018). The forms of support include psychological, social, physical and emotional support to the child. As trajectories of human life change, one of the spouses is likely to stand as both the father and the mother as a result of death, divorce and other uncertainties. Limited studies have been carried on the emotional intelligence of single mothers, especially during the COVID-19 pandemic.

EI includes the ability to engage in sophisticated information processing about one's own and others' emotions and the ability to use this information as a guide to thinking and behaviour. This implies that individuals high in emotional intelligence pay attention to, use, understand, and manage emotions, and these skills serve adaptive functions that potentially benefit themselves and others (Mayor, Salovey & Carusso, 2008). According to the Terengganu Family Development Foundation (as cited in Mohamad et al., 2020), a single mother is defined as: (1) a woman whose husband dies and is responsible for the care of the child; (2) a divorced woman who has custody of the child; (3) a woman whose husband is not given custody of the financial maintenance or child support; and this the definition employed in this research; (4) a

woman who is in the process of divorce (which may last up to four years); (5) a woman whose husband is ill and requires intensive care, unable to provide financial support.

However, EI is not limited to one's gender. The popular belief is that women are not more emotionally intelligent than men. However, women are emotionally intelligent in their own way which is different from that of man. They are, however, emotionally intelligent in different ways. An analysis of EI was found in thousands of men and women which showed that, on average, women are more aware of their emotions, show more empathy, and are more adept interpersonally (Ahmad et al., 2009). Great focus has been placed on mothers for several reasons. According to Bianchi (as cited in Meier *et al.*, 2016), mothers are much more often single parents than fathers, and there is greater variation in their employment hours, each of which is associated with greater demands at home.

Single mothers have faced a lot of challenges during the COVID-19 pandemic, especially in the first phases of lockdowns which negatively and positively affected their emotional reactions. According to Matewe (2021), emotional intelligence is not limited to the focus of emotions alone and trying to wipe them off in our daily living, but rather managing and understanding those emotions. This is done to help individuals to balance their emotions and thoughts, thereby thinking rationally without making emotionally driven decisions. As a result of COVID-19, most single mothers, workmates and others whom we knew as experts in navigating change easily and coping with others, found it difficult during this period. Failure to manage emotions in periods under lockdown is a part of human nature and a psychological normalcy (Matewe, 2021), which one should not worry much about.

According to Trivedi, Sareen and Dhyani (as cited in Mohamad et al., 2020), the death of a spouse and divorce affect men and women differently. According to Bernett, Smith and Hughes (as cited in Mohamad et al., 2020), death of a spouse is considered an adverse event. After the death of a spouse, childcare work becomes a complex and

challenging experience (Glazer, Clark, Thomas & Haxton, 2010). Death of a child or spouse is considered an adverse event. According to Sukhsarwala and Mansuri (2015), with the cutting of the umbilical cord, physical attachment to our mother ends and emotional and psychological attachment begins. Considering both parents, the child is closer to her mother. There is an influence of mother's nature, personality, competencies and others.

As a result of this COVID-19, people found themselves forced to cope with new emotional challenges and particularly with feelings of stress, uncertainty and fear. COVID-19 poses a real threat to physical and emotional health (Levkovich & Shinan-Altman, 2021). Good parental emotional intelligence has always been the key to good parenting. Alegre (2011) submits that four main dimensions of parenting that are relevant to the study of emotional intelligence can be identified as parental responsiveness, parental positive demandingness, parental negative demandingness, and parental emotion-related coaching. Parental responsiveness, parental emotion-related coaching, and parental positive demandingness are related to children's higher emotional intelligence, while parental negative demandingness is related to children's lower emotional intelligence. Although it is known that the "human world is constructed and lived through the emotions" (Anderson & Smith, 2001, p. 7), this emotional component of the space-time path has for the most part remained external to time geographical analyses (Kwan, 2007). There is ample evidence that the way people feel and anticipate feelings in certain places or situations can assert great influence on their behaviour.

It is likely that single mothers are not inherently inferior parents relative to cohabitating mothers, rather their parenting styles are often compromised by a myriad of demands and stressors (Daryanani et al., 2016). In their studies McLanahan et al. (2013) and Waldfogel et al. (2010) describe the detriments to children associated with living with one versus two parents. While little is known about the causal processes involved, many studies also show that single parents are less well-off emotionally

than married parents; for example, single parents have higher levels of depression (Evenson & Simon, 2005; Nomaguchi & Milkie, 2003), and very low levels of happiness (Margolis & Myrskylä, 2011). In another study, Meier et al. (2016) discovered that single mothers report less happiness and more sadness, stress and fatigue in parenting than partnered mothers. This study concentrated on those single mothers who were not employed. Employed single mothers were said to be happier and less stressed than single mothers who were not employed.

Single mother parenting has never been easy, and this is attributed to a lot of factors, all disturbing their emotional wellbeing. Research shows that transitions into and out of relationships are associated with increased parenting stress and changes in parenting behaviours (Cooper et al., 2009; Beck et al., 2010), and single mothers experience more relationship instability than partnered mothers (McLanahan & Beck, 2010). Less emotional and social support is received by single mothers, with greater strain experienced as compared to married others. This undiluted burden may leave single mothers with less room to enjoy parenting.

In their study Meier *et al.* (2016) discovered that single mothers, especially non-employed single mothers, experience significant emotional detriments in parenting compared to other mothers even after accounting for key socio-demographic differences and factors that we posited would be endogenous, such as sleep and leisure, solo parenting, and family income. Their study added that, additional analysis showed that non-working single mothers are usually in a worse emotional state than other mothers; however, in raising children, they feel better emotionally than in other activities.

Objectives

- To analyse the influence of COVID-19 pandemic on single mothers' emotional reactions towards their children.

- To assess single mothers' understanding of their children's emotional experiences during COVID-19.
- To suggest emotional regulation strategies to be adopted by single mothers in parenting.

Materials and methods

Research approach

The study was informed by a qualitative research methodology. The qualitative research paradigm focuses on exploring judgments, perceptions and emotional state of participants (Belotto, 2018). Ideally, this paradigm facilitated an understanding of emotional intelligence of single mothers parenting during COVID-19 pandemic in their specific contexts.

Research design

Following some inquiry, the researchers chose phenomenology research design as they needed an apt explorative study design that would avert or curb biases. Accordingly, phenomenology was favoured because individuals may be sure about how facts unfold or present themselves to their awareness (Khan & Khan, 2018).

Population and sample

The target population of this research were single mothers who were raising their children alone. These single mothers ranged from 35 – 45 years. The target group was selected regardless of the circumstances which led to their state. The selection of the sample was based on the researchers' judgement and the purpose of the research (Singh et al., 2021). The respondents selected had experience of the phenomenon to be studied. The research sample had seven (7) participants, that is, single mothers domiciled in Masvingo urban.

Data collection procedure

In-depth interviews were used as a data collecting tool. In-depth interviewing is identified as a qualitative study technique that requires conducting detailed

individual interviews with a small number of respondents to gain insights of a specific notion (Mataruse, 2021). Interviewers were chosen because they give an opportunity to do follow-up investigations for additional information. The interview guide was prepared in English and the researchers employed back-to-back translation of the instrument into vernacular. Translation was done to necessitate easy comprehension and better expression of views by some participants who lacked proficiency in English. The interviews were collected verbatim, some were done physically and others were done online. All interviews were audio-recorded with the consent of the participants. After data collection, the interview transcripts were transcribed within 48 hours.

Data analysis

This study was informed by thematic analysis to scrutinise data. Ideally, thematic analysis is a method used to sift data which involves scanning across a data set to establish and assess recurrent patterns (Braun & Clarke, 2019). The six stages of thematic analysis were followed in analysing the data for the study. This included familiarisation, coding, generating themes, reviewing themes, defining and naming themes and, lastly, writing up. Ideally, another strength of thematic analysis is more noticeable on its hypothetical freedom which can sometimes be inductive or theory-driven (Braun & Clarke, 2006). In addition to this flexible fashion of thematic analysis, the scholars employed methodical and rigorous procedures to attain meaningful and valuable results.

Findings

Summary of participant profiles

Seven (7) women living as single mothers were interviewed in this study. The table below summarises the participants' profiles. All the names used and presented are pseudonyms.

Table 1: Participants' profiles

| Pseudonym | Nature of Single Motherhood | Duration as Single Mother (in years) |
|-----------|-----------------------------|--------------------------------------|
| Tendai | Divorced | 5 |
| Patricia | Widowed | 12 |
| Makanaka | Divorced | 9 |
| Joanna | Abandoned | 9 |
| Tatenda | Divorced | 10 |
| Juliet | Widowed | 7 |
| Audrey | Divorced | 6 |

The study was guided by the research objectives, and three major themes emerged from the data analysis. The major themes and sub-themes are summarised in the table below:

Table 1: Major themes, sub-themes and examples of participants' narratives

| Major Theme | Sub-theme | Participant Narratives |
|---|-----------------------|---|
| Theme 1: <i>The influence of COVID-19 pandemic on single mothers' emotional reactions towards their children</i> | Anger and frustration | <i>'The pandemic made me very moody towards my children especially when it started. Things were not balancing so I would vent my anger on my children. Their father who used to assist here and there was not co-operating at all so I was so frustrated'</i> (Tendai) |
| | Sadness and Distress | <i>'I was saddened every time I thought of the safety of my children'</i> (Makanaka) |
| | | <i>'Financial challenges due to restrictions made me suffer a lot of stress'</i> (Patricia) |
| | Fear | <i>'I was also afraid of contracting the disease but I could not stop my vending activities as that was my only source of income. The business went down due to movement restrictions so I became very harsh towards my children'</i> (Tendai) |

| | | |
|--|-----------------------------------|---|
| | Loving and Bonding | <i>'I remained the same loving and caring mother towards my children' (Joanna)</i> |
| | | <i>'I became closer to my children and felt emotionally bonded and attached to them' (Patricia)</i> |
| Theme 2: <i>Single mothers' understanding of their children's emotional experiences during COVID-19</i> | Withdrawal and distancing | <i>'I became distant and harsh towards them which made them distance themselves from me' (Tatenda)</i> |
| | Loneliness | <i>'My children seemed distant and lonely. Maybe they missed their usual friends and play activities' (Patricia)</i> |
| | Hostility | <i>'...they became hostile and unwelcoming towards others' (Juliet)</i> |
| | Happy and balanced | <i>'My children did not change emotionally' (Tendai)</i> |
| | | <i>'My children are mostly in a happy mood. I can say they are easy babies' (Makanaka)</i> |
| Theme 3: <i>Emotional regulation strategies adopted by single mothers in parenting</i> | Religiosity | <i>'I try to control my negative emotions through prayer. I get in my bedroom and pray until I feel a bit better to be with my children again' (Joanna)</i> |
| | Social engagement and Vacationing | <i>'I try to surround myself with positive people' (Joanna)</i> |
| | | <i>'...visiting my friend so as to move away from the precipitating environment' (Tendai)</i> |
| | | <i>'Sometimes I change environment as a way of regulating my emotions' (Audrey)</i> |
| | Crying and venting | <i>'I cry it off, usually in the shower or in bed away from my kids' (Audrey)</i> |
| | | <i>'Usually I vent my anger by shouting towards others when I am under pressure' (Tatenda)</i> |
| | Optimism | <i>'Being optimistic and exercising self-control' (Patricia)</i> |

Discussion of findings

As portrayed in the previous section, the study yielded several findings that reflected how single mothers managed their emotions in relation to parenting during a period characterised by a lot of demands. A myriad of emotions was associated with how this group of people tried to manage their emotions during a disastrous situation. The emotions were both negative and positive however they were not uniform. They varied according to individuals. Related to this, Meier et.al. (2016) state that parenting can be regarded as a mixed bag of joys and strains though parents' everyday experiences with children has been neglected in research.

One of the positive findings is that, despite the presence of COVID-19 and its restrictions and demands, some single mothers remained loving and bonded to their children. The mothers emphasised that such positivity helped in reducing children's anxiety toward the pandemic since they could find comfort in the love of the mothers. In relation to this, Senior (2014) notes that parenthood comes with great joy regardless of the marital status of the person. Other scholars state that parenting bears potential costs and rewards which vary with parents' characteristics (Aassve et al., 2012; Margolis & Myrskylä, 2011). Some study participants claimed that they utilised the time they had with their children during COVID-19 lockdowns to strengthen their emotional bonds, and this finding is contrary to views from other scholars. For instance, in their study Carlson and Berger (2013) found that single mothers' parenting behaviours differ from those of married ones since the former report less parental engagement in comparison to the latter.

The current study found that most of the participants who reflected positive emotions towards parenthood were formally and gainfully employed. This variable has been noted by other researchers as a determinant of positive emotional wellbeing of single mothers when parenting. Meier et.al. (2016) submit that maternal employment provides financial security which is crucial in single-mother families. In support of this, maternal employment has been regarded as a source of fulfilment that also

provides exposure to a social network outside the family (Blair-Loy, 2003), and such networks may serve as a source of ideas about parenting and social support (Augustine, 2014). Therefore, formally employed single mothers in some instances show positive emotions towards their children as the financial burden is lessened.

The study also found that COVID-19 caused a lot of negative emotions in single mothers that further affected their parenting in a negative manner. Some mothers reported that the pandemic brewed anger and frustration which they vented on their children. Such negative emotions were experienced due to economic and financial challenges which came as a result of the COVID-19 restrictions. The travelling restrictions adopted as a way of containing the pandemic impacted negatively on many people's economic activities. The majority of the participants relied on non-formal economic activities for survival hence disruption of those activities also affected their emotional well-being. In their study on economic hardships faced by single parents, Stack and Meredith (2017), also found that such hardships contribute to emotional instability in some of those individuals. Meier et.al. (2016) also found that economic and social disadvantages faced by non-employed single mothers caused emotional detriments in their parenting. In this regard, it can be noted that it is not just single parenting that affects single mothers in their parenting but the demands associated with their marital status. Such women engage in solo parenting which has been found to be more stressful and difficult than double parenting (Folbre et al., 2005). Hence in the face of COVID-19, the emotional wellbeing of single mothers was bound to be compromised.

Other negative emotions that were cited as emanating from demands of the pandemic included sadness, distress and fear. These emotions were expressed as the pandemic was now a threat to the safety of both the single mothers and their children. There are a number of researchers who also associated single mothers with the mentioned negative emotions in general without relating to a specific precipitator like COVID-19. Meier et.al. (2016) mention that single mothers are less happy and sadder, stressed

and fatigued than partnered mothers though the scale weighs heavily on non-employed single mothers. In relation to this, Edin and Kefalas (2005) and Villalobos (2014) concur that single parenting is demanding to an extent that it may result in less joy and greater strain in time with children; however, if single mothers get much time with children, it may provide a great source of intimacy, fulfilment and security. Single parents have also been associated with high levels of depression (Evenson & Simon, 2005, Nomaguchi & Milkie, 2003), and less satisfaction in parenting and lower levels of happiness (Margolis & Myrskylä, 2011). Basing on these findings from various researchers, it can be noted that the demands of single motherhood, in general, make them experience negative emotions mostly and, if they become exposed to stressful pandemics like COVID-19, their situation becomes worse.

The other finding was on the strategies that can be adopted by single mothers in regulating their emotions. They pointed out that they find comfort in engaging in religious activities, social engagement, vacationing, crying or emotional displacement as well as being optimistic in life. Most of the strategies pointed to seeking social support when emotionally overwhelmed. Edin and Kefalas (2005) pointed out that single mothers receive less social support and experience greater strain than married ones. Augustine (2014) states that employed single mothers are less stressed than unemployed ones as they have a platform to create social networks at work which can offer them the social support they need in raising children alone. Jeanne (2003) emphasised that culturally appropriate emotional support offers single mothers an opportunity to mobilise their agency and be active in decision making. Hence providing psychosocial support for single mothers becomes a priority.

Conclusions

The researchers of this study concluded that single parenting is, in general, a demanding responsibility which weighs heavily on single mothers as women have many roles in parenting even in married couples. Though single mothers are generally emotionally strained with parenting duties, unemployed ones with erratic sources of

income, experience more emotional instability in their parenting. Individual differences also determine the emotionality of single mothers towards parenting. It can also be concluded that the emotions experienced by single mothers are not always negative, instead they show a myriad of emotions. The negative ones can be exacerbated by unfortunate circumstances like COVID-19. In addition, various factors precipitate negative emotions of single mothers in parenting such as economic demands, social stigma, unemployment, disasters and lack of parenting skills.

Recommendations

Basing on the findings of the study, the researchers proposed the following recommendations:

- The government must try to assist single mothers by providing many forms of assistance which depend on individual needs. Hence, after conducting needs assessment, the government may offer skills training, monthly allowance and free legal consultancy to deserving single mothers.
- It is also recommended that psychologists and social workers do community engagements where they offer knowledge on topics like emotional intelligence, stress management, resilience, coping and effective parenting.
- For future research, it is recommended that large scale quantitative studies be conducted in future so that findings can be generalised to many people. Areas of interest may include testing levels of emotional intelligence of single mothers and emotional intelligence of children raised by single mothers.

References

- Ahmad, S., Bangash, H. & Khan, S.A. (2009). Emotional intelligence and gender differences. *Sarhad J. Agric.*, 25(1), 127-130.
- Alegre, A. (2011). Parenting styles and children's emotional intelligence: What do we know? *The Family Journal*, 19(1), 56-62.

- Anderson, K. & Smith, S.J. (2001). Editorial: emotional geographies. *Transactions of the Institute of British Geographers*, 26, 7–10.
- Beck, A.N., Cooper, C.E., McLanahan, S. & Brooks-Gunn, J. (2010). Partnership transitions and maternal parenting. *Journal of Marriage and Family*, 72(2), 219-233.
- Belotto, M.J. (2018). Data analysis methods for qualitative research: Managing the challenges of coding, interrater reliability, and thematic analysis. *Qualitative Report*, 23(11).
- Bianchi, S.M. (2000). Maternal employment and time with children: Dramatic change or surprising continuity? *Demography*, 37(4), 401-414.
- Braun, V. & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589-597.
- Cooper, C.E., McLanahan, S.S., Meadows, S.O. & Brooks-Gunn, J. (2009). Family structure transitions and maternal parenting stress. *Journal of Marriage and Family*, 71(3), 558-574.
- Daryanani, I., Hamilton, J.L., Abramson, L.Y. & Alloy, L.B. (2016). Single mother parenting and adolescent psychopathology. *Journal of Abnormal Child Psychology*, 44(7), 1411-1423.
- Edin, K. & Nelson, T.J. (2013). *Doing the best I can*. University of California Press.
- Keller, H. (2018). Universality claim of attachment theory: Children's socioemotional development across cultures. *Proceedings of the National Academy of Sciences*, 115(45), 11414-11419.
- Khan, S. & Khan, A.M. (2018). A phenomenological study of education for sustainable development in higher education of Pakistan. *Pakistan Journal of Education*, 35(2).
- Kwan, M.P. (2007). Affecting geospatial technologies: toward a feminist politics of emotion. *The Professional Geographer* 59, ` 22–34.
- Levkovich, I., & Shinan-Altman, S. (2021). Impact of the COVID-19 pandemic on stress and emotional reactions in Israel: a mixed-methods study. *International health*, 13(4), 358-366.
- Li, J., Bünning, M., Kaiser, T. & Hipp, L. (2021). Who suffered most? Parental stress and mental health during the COVID-19 pandemic in Germany. *Journal of Family Research (JFR)*, (Early View Articles).

- Mataruse, I. (2021). Experiences of people Who Lost Spouses due to COVID-19 Complications: Insights from Masvingo Urban. *Humanities Southern Africa*, 1(2), 120-129.
- Matewe, B. (2021, March 10), Using emotional intelligence during the COVID-19 pandemic. *Newsday Zimbabwe*, <https://www.newsday.co.zw/2021/03/using-emotional-intelligence-during-the-COVID-19-pandemic/>
- Mayer, S. & Intelligence, C.D.O.E. (2008). Emotional intelligence. *Psychologist*, 63(6).
- McLanahan, S. & Beck, A.N. (2010). Parental relationships in fragile families: *The future of children*. Center for the Future of Children, the David and Lucile Packard Foundation, 20(2), 17.
- Meier, A., Musick, K., Flood, S. & Dunifon, R. (2016). Mothering experiences: How single parenthood and employment structure the emotional valence of parenting. *Demography*, 53(3), 649-674.
- Mohamad, Z., Sumari, M., Fenner, P. & Noor, S.A.M. (2020). Understanding Emotional Experiences of Single Mothers using Narrative Group Therapy, *International Journal of Management*, 11(6), 1687-1697.
- Pichdara, L., Monin, N., Marong, C., Sivmuy, D. & Saren, K. (2022). Challenges of targeting poor and vulnerable groups to reduce climate change vulnerability: The case of a Water and Sanitation project in Kampong Svay District, Cambodia. In *Financial Crises, Poverty and Environmental Sustainability: Challenges in the Context of the SDGs and COVID-19 Recovery* (pp. 155-169). Springer, Cham.
- Singh, P.K., Bashir, M. & Ahmad, A. (2021). Role of top management in business model innovation due to technological changes in emerging market. *International Journal of Economics and Business Research*, 22(2-3), 203-218.
- Sukhsarwala, B.H. & Mansuri, D.A.J. (2015). Mothers' anxiety and various aspects of emotional intelligence of adolescents. *International Journal of Social Science & Interdisciplinary Research*, 4(8).

A Snippet into the Psychosocial Distress Affecting Breast Cancer Patients at a Radiotherapy Centre in Zimbabwe

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Abstract

Breast cancer is the most diagnosed cancer in women, with approximately 2.3 million women diagnosed with the disease worldwide in 2020 (WHO, 2021). In Zimbabwe, breast cancer diagnosis and treatment presents unique psychosocial issues owing to the centralisation of the treatment services and inconsistent radiotherapy services. This study aimed at investigating the psychosocial impact of breast cancer diagnosis and treatment in patients presenting at a public health care facility in Harare, Zimbabwe. This cross-sectional study comprised 15 women aged between 24 – 54 years who were recruited over a 2-month period. Only patients with pathologically confirmed breast carcinoma were included. Patients with recurrent breast cancer were excluded from the study. Patients completed a set of validated questionnaires. Data was analysed using the distress thermometer, problem list and descriptive statistics. The average age in this sample was 39 years with 87% of the patients below 50 years. A mean distress level of 7 was observed in this cohort with 86.7% scoring above cut-off > 5 and 100% achieving criteria for intervention ≥ 5 . Younger age groups showed higher distress levels. Fear of death, uncertainty, distress, and shock were feelings reported by participants during the period encompassing diagnosis and treatment. Initial diagnosis of breast cancer caused considerable distress for younger in comparison to older women. Younger women worried more about implications of the disease to their livelihood, womanhood, motherhood as well as societal expectations. Feelings of distress persisted during the treatment trajectory due to financial costs, inefficiencies, and inconsistencies in treatment. In Zimbabwe, patients diagnosed with breast cancer must deal with a multitude of issues including the physical, social, and financial challenges associated with the disease, centralisation of services and an inconsistent availability of radiotherapy services. Timely access to and consistency of treatment must be improved.

Treatment facilities should strive to ensure access to psychosocial counselling both at diagnosis and during the treatment phase. The study also highly recommends the decentralisation of oncology and radiotherapy services.

Keywords: Radiotherapy, distress, psychosocial, breast cancer

Introduction

Breast cancer is the most diagnosed cancer in women, with a 2020 global estimate of 2.3 million women diagnosed with the condition (World Health Organisation, 2021). In Zimbabwe, breast cancer is the second most common cancer affecting women with an estimated 1848 women diagnosed in 2020 (Cluff-Elmore et al., 2021). A diagnosis of breast cancer is associated with a myriad of symptoms and distress (Iddrisu, Aziati, & Dedey, 2020). Cancer has long been known to cause significant disruptions of a patient's family, friendships, finances, and work life (Davis et al., 2008). The psychosocial issues that breast cancer patients in the western world face have been explored, but these findings may not be applicable to the non-western world due to cultural and economic disparities. Hence, there is a need to understand the psychosocial issues faced by breast cancer patients in our local settings.

Radiotherapy is one of the most effective means for local or regional control of breast cancer. Breast cancer patients receive radiotherapy either as their primary treatment option or as adjuvant treatment along with chemotherapy and/or surgery. Regardless of the stage of the disease, most breast cancer patients will pass through the radiotherapy department because radiotherapy can be employed for both curative and palliative treatment. Radiotherapy therefore presents an opportunity for identifying and intervening for patients with psychological distress. Early identification of these issues is important in health care professionals as it is the best way to provide optimal care and support for the patient (Peters, Brederbecke, Franzke, De Zwaan & Zimmerman, 2020).

Exploring the problems of breast cancer patients in Zimbabwe could help all stakeholders plan appropriate interventions to foster holistic and effective care of the patients. There have been some remarkable advances in biomedical care for cancer patients, however, these advances have not been matched by achievements in providing high quality care for the psychological and social effects of cancer (Adler & Page, 2008).

In Zimbabwe, the psychological effect of breast cancer can be compounded by several factors. Firstly, centralisation of oncology and radiotherapy services adds to the financial burden for those who do not reside in either Harare or Bulawayo, that is, the only cities in the country where oncology services can be accessed. Such patients are faced with additional travelling and subsistence expenses. Moreover, the inconsistent availability of radiotherapy services might render one to stay longer than anticipated in the city or to return to their areas of permanent residence without having been able to access the services.

Given the importance of psychological assessment of cancer patients, in Zimbabwe, studies related to the psycho-oncology in radiotherapy are very few. Most studies have focused on cancer survivors and awareness levels (Mandizadza, 2017; Zirima, Kasinamunhu, & Mabika, 2019). The importance of identifying distress among cancer patients can never be over emphasised. Breast cancer patients under psychological distress have reduced compliance with treatment and prolonged hospitalisations. Apart from being poor prognostic factors, high levels of stress tend to exacerbate certain symptoms (Moreno-Smith, Lutgendorf, & Sood, 2010).

Given the opportunity radiotherapy presents at early identification of high levels of distress among breast cancer patients, we aimed at assessing the levels of psychosocial distress among breast cancer patients at a public radiotherapy centre in Zimbabwe. Identifying cancer patients who maybe suffering from psychological distress over the cancer trajectory is essential for targeting the proper interventions and providing best care.

In this study we explored the psychosocial issues associated with the physical, social, financial and accessibility to treatment options for breast cancer in Zimbabwe.

Methods

In this cross-sectional study, we recruited women diagnosed with breast cancer whose treatment pathway included radiotherapy. The study was conducted over a 2-month period at a public radiotherapy centre in Harare, Zimbabwe. Patients were eligible if they were having treatment for a pathologically confirmed breast carcinoma. Patients with recurrent breast cancer were excluded from this study. Eligible patients were conveniently recruited by one of the researchers during outpatient radiotherapy treatment and were asked to complete a set of validated questionnaires. We used quantitative and qualitative approaches to data analysis. Quantitatively, data was analysed using the distress thermometer and problem list whilst a thematic analysis was employed for qualitative data.

Distress thermometer and problem list

The distress thermometer has been validated in numerous studies (Baken & Wooley, 2011; Patterson et al., 2015; Graham-Wisener, Dempster, Sadler, McCann & McCorry, 2021) and is recommended as a screening tool by the National Comprehensive Cancer Network (Ownby, 2019). We used a cut-off point of >5 to show the presence of stress and anxiety related to the diagnosis and treatment of breast cancer among our participants. A cut off point of >5 has been found to have high sensitivity and specificity for distress (Graham-Wisener, Dempster, Sadler, McCann & McCorry, 2021). Moreover, a cut-off point of >5 is more useful in routine care and easy to use (Ownby, 2019).

Ethical considerations

Research which involves humans raises ethical issues because people accept risks and inconvenience as a way of advancing scientific knowledge and to benefit others (Kapp, 2006). The identity of the respondents was not included to safeguard

confidentiality. The researchers reduced the risk and inconvenience of participants by allowing them to give their consent and arranging appointments that were convenient. Questionnaires were self-administered. The researchers were sensitive to patient needs and respected concerns from family members and carers. Respondents were assured of confidentiality and anonymity. It was made clear that respondents were allowed to withdraw at any time with no consequences at all.

This research was approved by the Medical Research Council of Zimbabwe, National University of Science and Technology Radiography Department Board and the Head of Department at the research site.

Results

Participant characteristics

15 participants all with pathologically confirmed breast cancer were recruited.

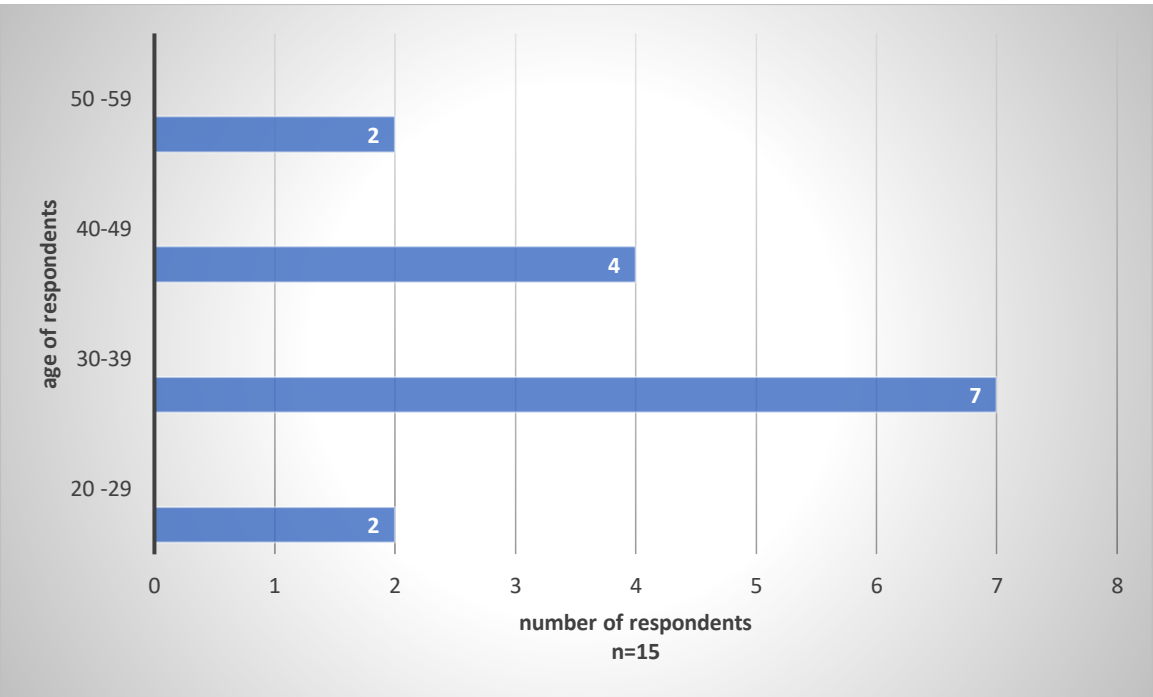


Figure 1: Age distribution of the participants

The age range of participants ranged was from 24 to 54 years with mean age of 39 and a median age of 32. 87% of the patients were below 50 years of age.

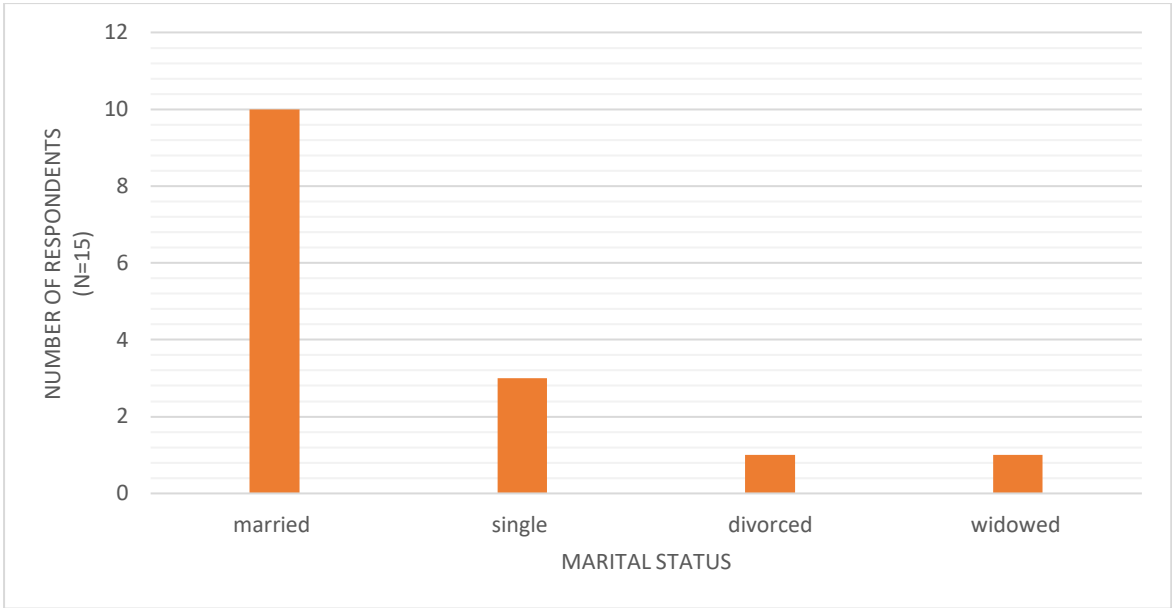


Figure 2: Marital status of the participants

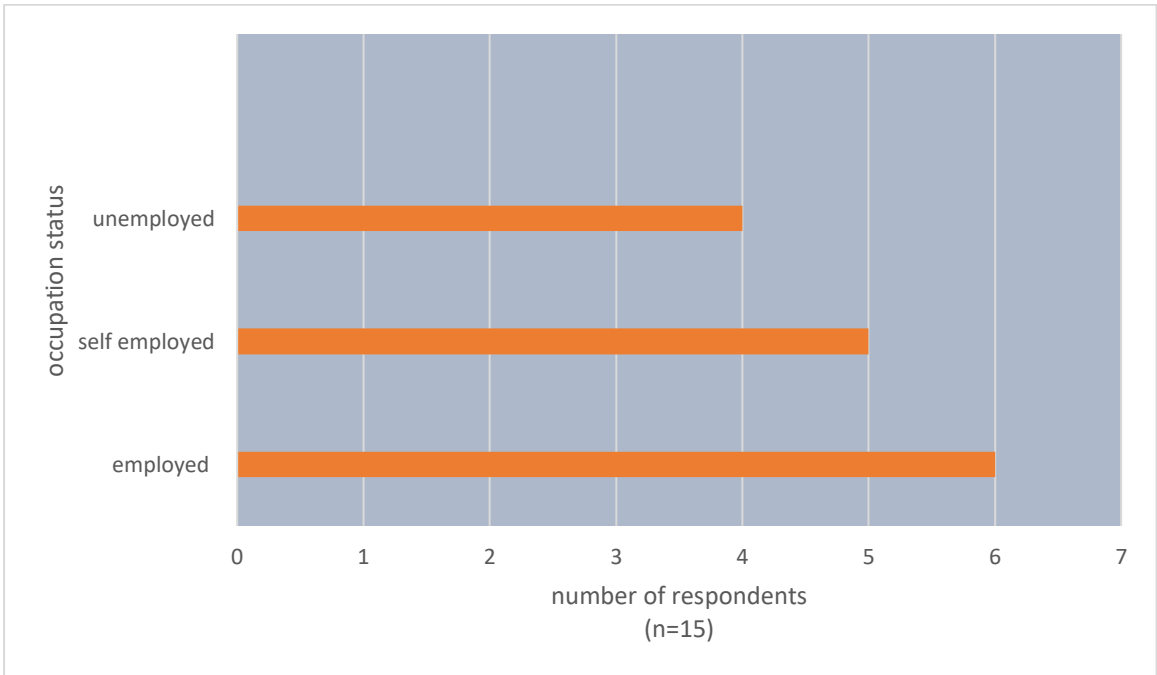


Figure 3: Employment status of the participants

All the participants had achieved secondary education as a minimum level of education.

Area of permanent residence

The majority (80%) of the patients resided outside Harare and were all in temporary accommodation, living with relatives (33%), paid private lodging (30%), whilst the rest were commuting to access the treatment services.

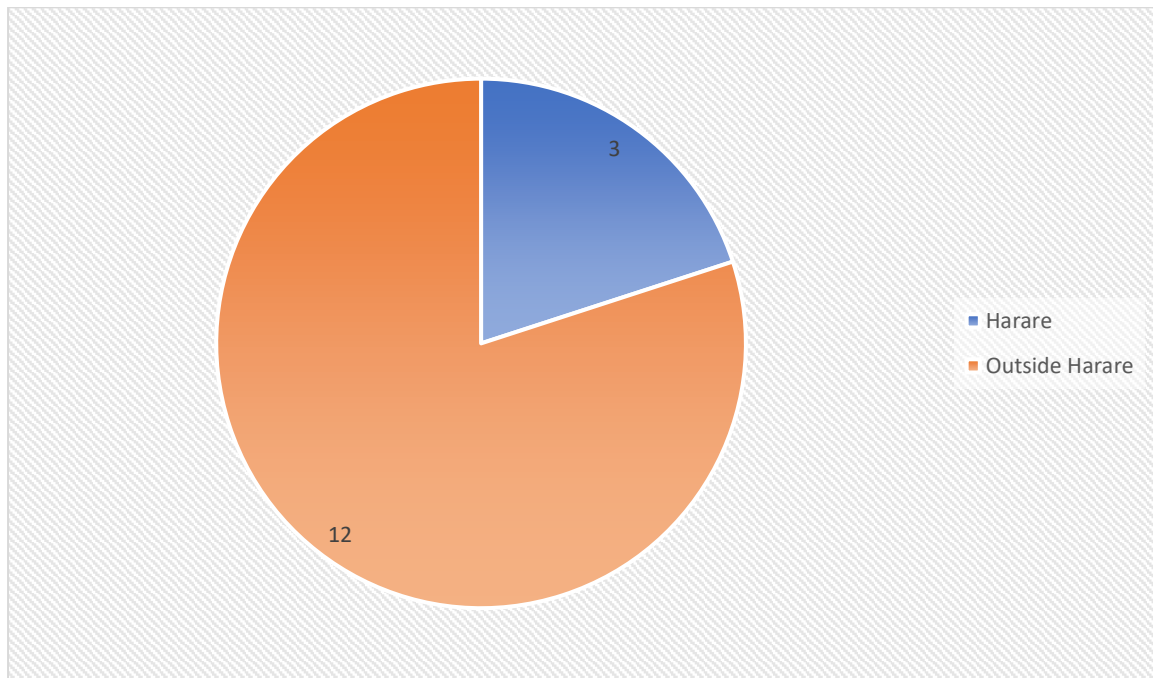


Figure 4: Area of permanent residence of the participants

Distress outcomes

Mean distress level was 7 with 86.7% scoring above cut-off >5 and 100% achieving the criteria for intervention ≥ 5 (Feiten et al., 2013). Younger age groups showed a higher distress level.

Table 1 depicts the results of the distress thermometer.

Table 1: Results of the distress thermometer

| Age | | Mean | % Above cut off |
|----------------------------|------|------|-----------------|
| 20-29 | n=2 | 8 | 100 |
| 30-39 | n=7 | 7.57 | 100 |
| 40-49 | n=4 | 6.25 | 75 |
| 50-59 | n=2 | 5.5 | 50 |
| Diagnosis | | | |
| Total | n=15 | 7 | 100 |
| Treatment | | | |
| Chemo | n=1 | 5 | 0 |
| Surgery | n=1 | 6 | 100 |
| Chemo/Radiotherapy | n=2 | 7 | 100 |
| Surgery/chemo | n=1 | 8 | 100 |
| Surgery/radiotherapy/chemo | n=10 | 7.2 | 90 |

Psychosocial issues

All participants entered a state of shock. Most participants reported fear of death, uncertainty denial, distress, and shock. Acceptance was reported by 3 participants of which 2 were older women, aged 51years and 52 years. Participants experienced more

than one thought upon getting the diagnosis. The 3 unmarried participants reported concerns about their future relationships and marriages. The other 2 participants who were breastfeeding when diagnosed reported concerns about their babies such as weaning the baby early and what if they had passed the disease to the babies through milk. Some 12 participants reported that they wondered where the disease could have come from.

Figure 3 shows the results of the psychosocial issues identified by the participants.

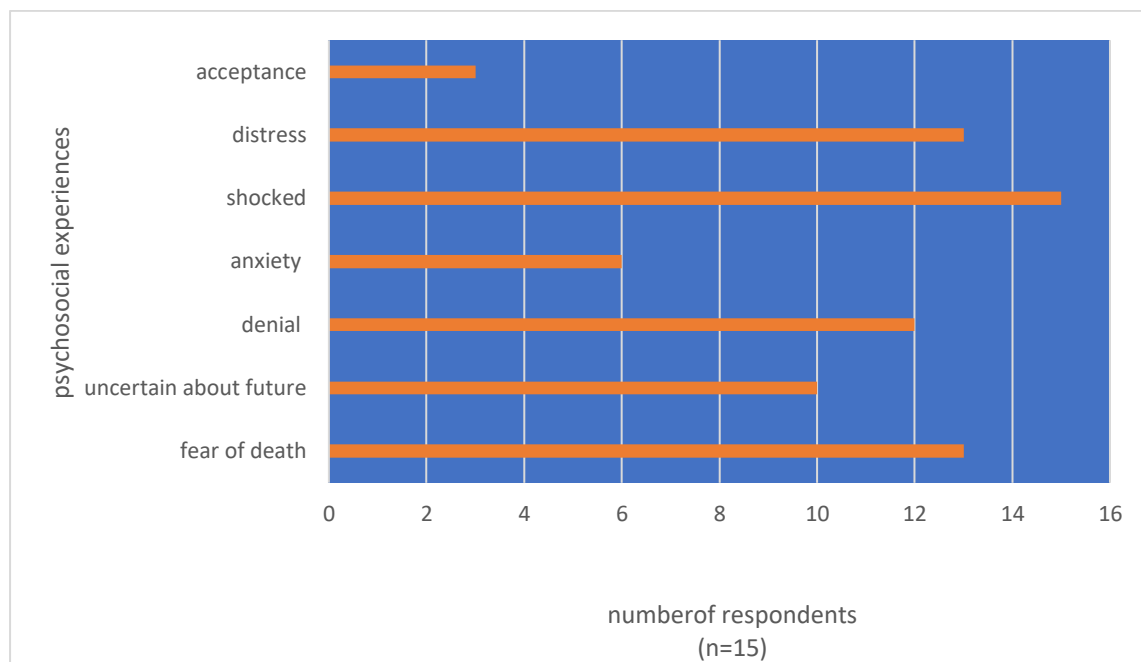


Figure 5: Results of the psychosocial issues identified by the participants

Problem lists (PL) results

The following problems were identified in the problem list of the participants; economic hardships (costs of treatment) (40%), workflow and treatment challenges (100%), medical personnel focussing more on technical issues (60%).

Several challenges were identified by the participants. Of the 15 participants who responded, 12 had challenges in commencing treatment and this was mainly attributable to the booking system in place at the research site. Participants often experienced more than one challenge in commencing treatment. Participants reported

time frames which ranged from 3 months to get immunoassay and histology reports to start chemotherapy and 4 to 5 weeks to commence radiotherapy. Some participants reported that they had already started treatment at the other public radiotherapy centre and their treatment was disrupted when they were transferred due to equipment and personnel challenges. Figure 4 below shows some of the challenges identified by the participants.

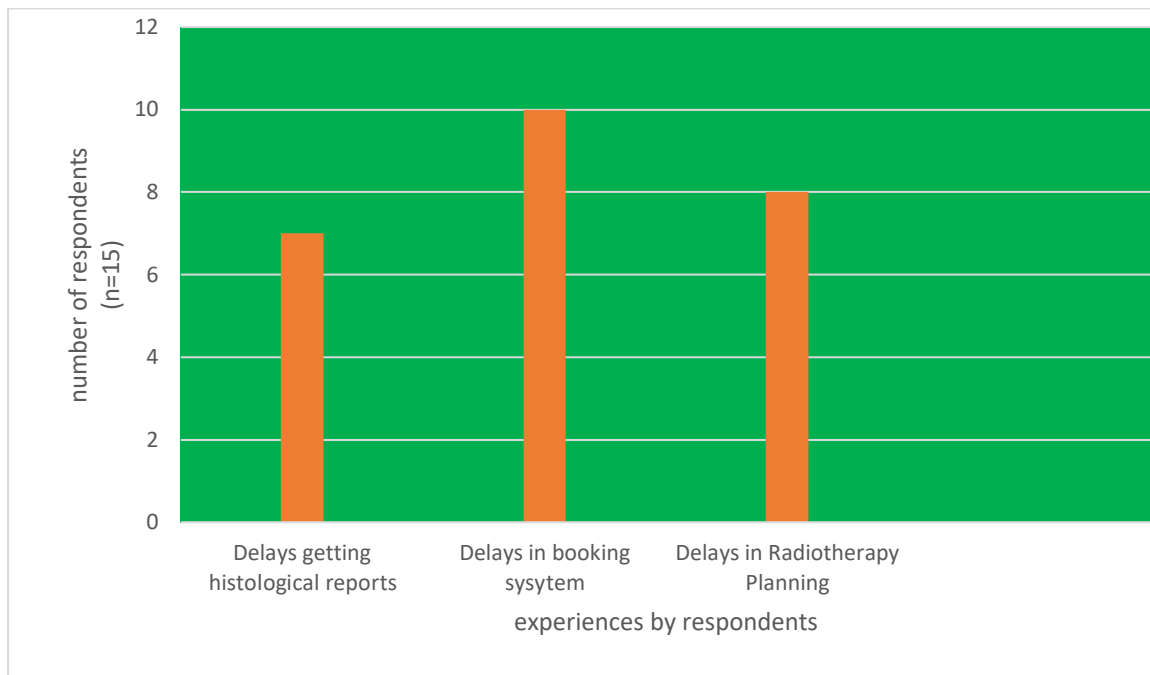


Figure 6: Some of the challenges identified by the participants

Thematic analysis

We used an inductive latent approach to develop some of the key themes. Three key themes were identified mainly associated with inconsistent availability of radiotherapy services, financial burden of the disease and challenges associated with the centralisation of the oncology and radiotherapy services.

i) Inconsistency in the treatment services

Patients perceived that the treatment services, mainly radiotherapy and histological services, are not timely and not always available when needed. The delays caused

increased anxiety and distress among the patients. There was high risk of patients defaulting the treatment plans.

I had mastectomy just after diagnosis. However, I had to wait for 4 months to get the histology report. After getting the histology report, the oncologist told me that it was not comprehensively done...the immunoassay report was missing. It's now 6 months and I am still coming to check for immunoassay results.... they are still pending". I am sure the disease is already spreading. I do not think I can keep on coming.... I am giving up.... **Respondent 11, aged 35 years**

When I came for radiotherapy, I had to book ...so I was told to wait until I receive a call.... the call came after I had almost given up...., I had a CT scan done and was told to wait for 3 weeks that is when they said the plan will be ready. However, after the 3 weeks came back.... only to find out that nothing was done.....so I had to come extra 5 days.... travelling daily to get my plan done..... that was very painful.....after all I thought home will be best. **Respondent 16, aged 37**

I was told that I must book for radiotherapy.....I was told that there is a back log and so I will have to wait until I receive a call to come and commence radiotherapy. I received the call after 5 months, that is when I came here and had a CT scan done. I was told that the plan will be ready in 3 weeks, but however the plan took more than 4 weeks.....I had to come here daily and everyday there was a different story..... **Respondent 8, aged 32 years**

ii) Problems with centralisation of services

Patients from outside Harare expressed distress due to increased financial burden. Some of the patients do not have relatives who reside in Harare who could offer them accommodation.

I stay in Masvingo.... that's where my family is. Here in Harare I am renting a one room....staying until I complete my radiotherapy...I don't have any relative here in Harare ... I wish I had one.... every weekend I must travel to Masvingo to check if everything is okay back home.....I can't help staying away from my children. **Respondent 14, aged 38 years**

Even for patients who have relatives in Harare, their distress also comes from the feeling that they have become a burden on the relative.

My home town is Kadoma.... currently I am staying with a relative until I finish my radiotherapy.....but the situation is not good such that I have to buy so many basics for them.....I don't want to be a burden to them..... at the same time I have to also travel to Kadoma every weekend when I am not coming for treatment

....I need to check on my kids and make sure they have everything.....literally I am taking care of two households at the moment. **Respondent 2, aged 39 years**

iii) Financial distress issues

Most participants cited financial distress as a major issue. The health insurance and any form of savings are rapidly depleted due to some hidden indirect costs associated with cancer treatment.

We had to sell 2 cars to pay bills, buy medicine because I did not have any medical coverage.....the money that I would have wanted to contribute to children's college funds. **Respondent 12, aged 52 years**

..... so I had to actually stop going because I just do not have the money. My public insurance could not cover, it only covered a small portion of my treatment. **Respondent 9, aged 48 years**

.... I was out of work for almost a year with the chemo.... I was really sick and then I went back against the doctor's orders because I needed to make money.... when I came back to work that's when they expected me to resume all of the duties full force and ... I got fired. The tests were just too much, expensive and tiring. I am now getting my financial support from relatives. **Respondent 3, aged 40 years**

Though sometimes I feel unwell I have to work to cater for my medical bills. We have children, we have bills to pay, therefore my husband cannot afford on his own. **Respondent 13, aged 46 years**

Right now,.....all my funds are exhaustedsome medications I have to purchase are so expensive and my insurer cannot cover for it.....I thought it's after I have my breast removed and I go for chemotherapy and I am done....there are always others costs.... What if other health problems arise due to radiotherapy...? I just feel like quitting. **Respondent 4, aged 34**

Discussion

Findings from breast cancer patients showed they were shocked and distressed with the diagnosis. Hong et al. (2020) also found that symptoms of anxiety and depression are usually seen in 30% to 40% of patients at the time of diagnosis and treatment, a rate that is approximately three to four times that found in the general population. This was evidenced by most participants relating diagnosis to a death sentence and being overwhelmed with the idea of their own mortality. In addition, women were

very curious about the cause of the disease, especially those who did not have a family history of breast cancer. To them, the disease seemed like a misfortune, just like some bad omen that had entered their lives. According to Bredart et al. (2013), there is a belief that women clearly vary in their responses to breast cancer diagnosis. This is because most of them, prior to being diagnosed, do not perceive themselves to be at higher than usual risk for the disease, in part, because most often (about 75 to 80 percent of cases) have no family history of breast cancer. Participants who had a family history of breast cancer feared death most as they referenced their relatives who succumbed to the disease and the struggle they went through. Younger women feared premature death, citing that they still had a lot to accomplish. They were so depressed by the diagnosis. Breast cancer has been known to affect women over the age of 40 years. However, recent breast cancer statistics have also been recorded in women who are in their 20s and these cases account for 5% of all cases (Azu, 2019). Women around the world have also experienced the same feeling of fear of death and have had to come up with several coping strategies in their personal and social lives accordingly (Al-Azri, Al-Awisi & Al-Moundri, 2014). High levels of distress from diagnosis were also noted as participants struggled to disclose the news to friends and relatives. Respondents feared that disclosing the news would destroy their relationships with friends, and relatives. They thought they would be judged and discriminated. In their study, McCutchan et al. (2015) found that disclosing symptoms to family and friends can either assist or hinder early presentation. However, in their study Hack and Degner (2004) found that participants who responded to breast cancer diagnosis with passiveness and resignation were likely to be at greater risk of poor long-term psychological adjustment.

Participants in this study were devastated by the costs of breast cancer diagnosis and treatment which were very expensive. Most participants were concerned about the costs of diagnosis and treatment and the economic situation in the country, where most are living in poverty and jobs are not paying enough. Some participants sold

their valuables until they had nothing left and some had to borrow. Participants with medical insurance reported not receiving full cover from their providers because of the cost burden. The tests needed for breast treatment were overwhelming. Some were assisted by family and relatives, however, some reported that their relatives became so distant because they were afraid that the burden of diagnostic and treatment costs would be shifted towards them. Other costs which worried participants included costs for treating other health problems which arose as side effects of chemotherapy and radiotherapy and costs of travelling and seeking accommodation in Harare. The majority of participants resided outside Harare. Sometimes the side effects of aggressive treatment can cause new health problems which might also require costly treatment (Dean et al., 2018).

Some participants had to travel to and from Harare during the course of treatment to check on their families. According to Bredart et al. (2013), the costs of breast cancer diagnosis, treatment and follow-up care can bring financial strain to a number of people and their families, even when there is access to health insurance. Costs can even be higher for patients who need treatment and/or management of long-term side effects such as lymphedema or peripheral neuropathy. Some participants reported a series of setbacks and loss of employment and, as a result, the majority of participants suffered loss of income. Some had to go against their doctor's advice and return to work when they were not supposed to in order to maintain an income. The costs of breast cancer treatment remain higher than any other malignancy (Ryan, 2015). Some participants reported being in and out of the hospital such that they could not keep up with their house chores and other usual responsibilities and activities such as child care which caused depression both in them and their families.

Side effects and worries about the future

Participants in this study were more concerned about the side effects of cancer treatment, especially chemotherapy. Sometimes the side effects interfered with the treatment plan and participants ended up having their treatment suspended. This

resulted in depression and feelings of demotivation. Fatigue was another reported consequence of length of the whole diagnostic and treatment process. The National Cancer Institute (2021) highlighted that fatigue is the most common side effect of cancer treatment. They were also worried that the cancer could spread to other distant organs of the body. Some young participants (single and married) were worried about their future including their marriages and also fertility (that is, whether they were going to be able to have children). Other worries included concerns about their career and whether they would still be able to engage in other activities done by their age mates. Young participants felt that having only one breast make them look unattractive. This group was also worried about hair loss. The African culture upholds the issue of childbearing and inability to have children attract social stigma. Hair and breast loss were not depressing factors in older women. However, they were more worried that their children would inherit the disease in future. Effects of mastectomy and side effects of chemotherapy, such as loss of hair, decreased libido and early menopause have been proven to be a serious threat to a woman's self-image and femininity. Permanent menopause equals the end of fertility, and this is an issue of concern in women who are still willing to have biological children (Shapiro et al., 2001). Participants who were diagnosed whilst breast-feeding were worried that their infants were going to suffer to experience stunted growth and they were going to lose an opportunity to bond with their infants. Breast feeding is believed by Africans to facilitate strong bond between a mother and her child and there is a belief that a woman has the ability to bless a child through the power of breast milk (Oyelana, Kamanzi & Richter, 2021). Studies have also shown that an infant that is not breast fed can experience both long- and short-term effects such as stunted growth and impaired cognitive ability (Ogbo et al., 2019).

Most study participants in this study did not receive adequate psychosocial counselling. Participants had a lot of fear concerning their disease and lots of questions which were left unanswered. The findings also show that health professionals are too

busy to ask patients questions pertaining to their experiences outside the treatment field. Patients generally do not open up to health professionals about their social life experiences if they are not asked. Some health professionals thought it was not their task to communicate with patients about such experiences. All health care professionals involved in breast cancer such as nurses, surgeons, oncologists and radiotherapists can offer psychosocial counselling (Schiel et al., 2013). However, the rush to clear pending worklists, associated administrative responsibilities and lack of motivation are probable causes of disengagement by health professionals from the patient's personal experiences during diagnosis and treatment. Kimiafar et al. (2016) suggest that information sharing, especially regarding to the importance of mental and emotional support by health care professionals must be improved. Oncology and primary care practitioners need to be prepared for the different psychosocial issues that may arise among their patients who are at various stages and points along breast cancer treatment continuum (Hege et al., 2006). The results also show that most participants had to put their trust in God as their helper to cope and adjust to their lives.

Limitations

There was one major limitation identified in our study, that is, our sample size was small. This limits generalisation of our results. Another limitation to our study was lack of an in-depth phenomenological qualitative data analysis approach which could have improved generalisation of the results from our small sample size study. However, although the sample size was small, this study gives a valuable snippet into the key psychosocial issues faced by breast cancer patients in Zimbabwe.

Conclusions and recommendations

The initial diagnosis of breast cancer caused considerable distress for younger in comparison to older women. Older women were more concerned about the real possibility of their offspring being diagnosed with the disease at some point in the

future, while younger women were worried more about implications of the disease to their livelihood, womanhood, motherhood as well as societal expectations. Ultimately, both the young and the old were unsettled by the thoughts of imminent death. Feelings of distress persisted during the treatment trajectory particularly due to financial costs, inefficiencies and inconsistencies in treatment arising largely from challenges currently faced by local radiotherapy treatment centres.

Timely access to and consistency of treatment must be improved, possibly through encouraging public private partnerships as well as support from non-governmental and international players. We highly recommend decentralisation of the oncology and radiotherapy services to every province. This will go a long way in dealing with the issues associated with a centralised service for a financially, physically, emotionally draining disease. Treatment facilities should strive to ensure access to psychosocial counselling both at diagnosis and during the treatment phase.

References

- Adler, N.E. & Page, A.E. (2008). *Cancer care for the whole patient: meeting Psychosocial Health Needs*. Washington DC: National Academies Press (US).
- Al-Azri, MH., Al-Awisi, H. & Al-Moundri, M. (2014). Coping with a diagnosis of breast cancer among Omani women. *Journal of Health Psychology*, 836-846. Retrieved September 3, 2021, from <https://pubmed.ncbi.nlm.nih.gov/23520353/>
- Baken, D.M. & Wooley, C. (2011). Validation of the distress thermometer, impact thermometer and combinations of these in screening for distress. *Psycho-Oncology*, 609-614.
- Bredart, A., Kop, J.L. & Griesser, A.C. (2013). Assessment of needs, health - related quality of life and satisfaction with care in breast cancer patients to better target supportive care. *Annals of Oncology*. Retrieved August 23, 2021, from <https://pubmed.ncbi.nlm.nih.gov/23567145/>
- Cluff-Elmore, S.N., Mushonga, M., Iyer, H.S., Kanda, C., Chibonda, S., Chipidza, F., . . . Bellon, J.R. (2021). Breast cancer in Zimbabwe: patterns of care and correlates of adherence in a national referral hospital radiotherapy center cohort from 2014 to 2018. *Cancer Medicine*, 3489-3498.

- Davis, H., Vetere, F., Ashkanasy, S., Dyson, Gavin, Schofield, P., . . . Thomas, D. (2008). Towards social connection for young people with cancer. *OZCHI* (pp. 319-322). Melbourne: ACM Digital Library.
- Dean, L.T., Moss, S.L., Ransom, Y., Frasso-Jaramillo, L., Zhang, Y., Visvanathan, K., . . . Schimitz, K. H. (2018). "It still affects our economic situation": Long-term economic burden of breast cancer and lymphedema. *Supportive Care in Cancer*, 1697-1708. Retrieved September 25, 2021, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6379148/>
- Graham-Wisener, L., Dempster, M., Sadler, A., McCann, L. & McCorry, N.K. (2021). Validation of the Distress Thermometer in patients with advanced cancer receiving specialist palliative care in a hospice setting. *Palliative Medicine*, 120-129.
- Hack, T.F., & Degner, L.F. (2004). Coping responses following breast cancer diagnosis predict psychological adjustment three years later. *Psycho-Oncology*, 235-247.
- Hege, M.T. Caroline, P., Moore, E., Collins, E.D., Kearing, S., Gillock, K.L., . . . Ahles, T.A. (2006). Distress, Psychiatric syndromes and impairment of function in women with newly diagnosed breast cancer. *Distress, psychiatric syndromes, and impairment of function in women with newly diagnosed breast cancer*. Retrieved September 10, 2021, from <https://pubmed.ncbi.nlm.nih.gov/17103381/>
- Hong, S.J., Goodman, M. & Kaphingst, K.A. (2020). Relationships of family history-related factors and causal beliefs to cancer risk perception and mammography screening adherence among medically underserved women. *Journal of Health Communication*, 531-542.
- Iddrisu, M., Aziati, L. & Dedey, F. (2020). Psychological and physical effects of breast cancer diagnosis and treatment on young Ghanaian women: A qualitative study. *BMC Psychiatry*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7336427/>
- Kapp, M.B. (2006). Ethical and legal issues in research involving human subjects: do you want a piece of me? *Journal of Clinical Pathology*, 335-339.
- Kimiafar, K., Sarbaz, M., Shahid, S., Sales, S.S., Esmaeili, M. & Ghazvini, Z.J. (2016). Breast cancer patients' information needs and information seeking behaviour in a developing country. *Breast*. Retrieved September 13, 2021, from <https://pubmed.ncbi.nlm.nih.gov/27318171/>
- Mandizadza, E.J. (2017). *Indigenous knowledge and social experiences on cancer in Zimbabwe: A case study of Harare*. Harare: University of Zimbabwe. Retrieved June 26, 2021, from <http://www.library.uz.ac.zw/bitstream/handle/>

10646/3535/

Mandizadza_Indigenous_knowledge_and_social_experiences_on-cancer_in_Zimbabwe_a_case_study_Harare.pdf?sequence=1&isAllowed=y

- McCutchan, G.M., Wood, F., Edwards, A., Richards, R. & Brain, K.E. (2015). Influences of cancer symptom knowledge, beliefs and barriers on cancer symptom presentation in relation to socioeconomic deprivation: A systematic review. *BMC Cancer*. Retrieved September 2, 2021, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4688960/pdf/12885_2015_Article_1972.pdf
- Moreno-Smith, M., Lutgendorf, S.K. & Sood, A.K. (2010). Impact of stress on cancer metastasis. *Future Oncology*, 1863-1881. Retrieved May 13, 2021, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3037818/pdf/nihms-269073.pdf>
- National Cancer Institute. (2021, September 23). *Fatigue and Cancer Treatment*. Retrieved from NIH National Cancer Institute: <https://www.cancer.gov/about-cancer/treatment/side-effects/fatigue>
- Ogbo, F.A., Okoro, A., Olusanya, B. O., Olusanya, J., Ifegwu, I.K., Awosemo, A.O., . . . Page, A. (2019). Diarrhoea deaths, disability adjusted life years attributable to suboptimal breast feeding practices in Nigeria: Findings from the global burden of disease study 2016. *International Breastfeeding Journal*. Retrieved September 19, 2021, from <https://internationalbreastfeedingjournal.biomedcentral.com/articles/10.1186/s13006-019-0198-9>
- Ownby, K.K. (2019). Use of the distress thermometer in clinical practice. *Journal of the Advanced Practitioner in Oncology*, 175-179.
- Oyelana, O., Kamanzi, J. & Richter, S. (2021). A critical look at exclusive breastfeeding in Africa: Through the lens of diffusion of innovation theory. *International Journal of Africa Nursing Sciences*. Retrieved September 15, 2021, from <https://www.sciencedirect.com/science/article/pii/S221413912030144X>
- Patterson, P., McDonald, F.E., Anazodo, A., Costa, D.S., Wakefield, C.E., White, K., . . . Osborn, M.P. (2015). Validation of the distress thermometer for use among adolescents and young adults with cancer in Australia: a multicenter study protocol. *Clinical Oncology in Adolescents and Young Adults*, 51-62.
- Peters, L., Brederecke, J., Franzke, A., De Zwaan, M. & Zimmerman, T. (2020). Psychological Distress in a Sample of Inpatients With Mixed Cancer—A Cross-Sectional Study of Routine Clinical Data. *Frontiers in Psychology*.

Retrieved June 10, 2021, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7734182/pdf/fpsyg-11-591771.pdf>

Ryan, S. (2015). *The Costs of Breast Cancer in the U.S.* Retrieved from Costs of Care: <https://costsofcare.org/the-costs-of-breast-cancer-in-the-u-s/>

Schiel, R.O., Herzog, W., Hof, H., Debus, J., Friedrich, H.C., Bretchel, A., . . . Hartmann, M. (2013). Effect of systematic information about psychosocial support services during outpatient radiotherapy: A controlled trial. *Strahlenther Onkol.* Retrieved September 19, 2021, from <https://pubmed.ncbi.nlm.nih.gov/23748233/>

Shapiro, S.L., Lopez, A. M., Schwartz, G.E., Bootzin, R., Figueredo, A.J., Braden, C.J. & Kurker, S.F. (2001). Quality of life and breast cancer: Relationship to psychosocial variables. *Journal of Clinical Psychology.* Retrieved September 26, 2021, from <https://pubmed.ncbi.nlm.nih.gov/11255204/>

World Health Organisation. (2021, March 26). *Breast Cancer.* Retrieved June 12, 2021, from World Health Organisation: <https://www.who.int/news-room/fact-sheets/detail/breast-cancer#:~:text=In%202020%2C%20there%20were%202.3,the%20world's%20most%20prevalent%20cancer.>

Zirima, H., Kasinamunhu, S. & Mabika, E. (2019). Psychosocial challenges affecting women survivors of breast cancer: A case of Gweru, Zimbabwe. *International Journal of Education and Psychology in the community*, 92-118.

Relationship between Personality Type Factors and Employee Performance amongst Employees in the ICT Industry

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Abstract

This quantitative study sought to evaluate the relationship between personality type factors and employee performance of contact centre employees at an ICT company in Harare. An analysis of the employees' personality types and their performance scores was conducted. The study utilised the Myers Briggs type indicator (MBTI®) and balanced scorecard standardised instruments to collect data. A randomly selected sample of 82 contact centre employees participated in this study out of a population of 110. The results from the study indicated that there was a significant relationship between performance and six out of the eight MBTI® personality type factors which are Extraversion ($r=0.531$)/Introversion ($r=-0.531$), Intuition ($r=0.32$)/Sensing ($r=-0.32$) and Judging ($r=0.573$)/Perceiving ($r=-0.573$) at 0.01 level of testing. However, there was no significant relationship between performance and Feeling ($r=0.088$)/Thinking ($r=-0.088$). Results also provided a personality-based performance predictor model of contact centre employees that can be utilised to predict performance amongst prospective employees. Findings confirmed that the model can significantly predict employee performance, and results suggest that MBTI® personality factors such as Extraversion, Sensing, Judging and Feeling were the best predictors of employee performance. Future studies on the relationship between personality type factors and employee performance in other companies and industries are recommended in order to increase the generalisability of the model to other companies and industries.

Key words: Personality type; employee performance; personality; performance indicators; contact centre

Introduction

Globally, the relationship between personality and employee performance is of great concern and this increased significantly after Barrick and Mount (1991) conducted a meta-analysis study. The study sought to establish how organisations could make a distinction between individuals who were highly likely to perform well and those who were not, and this prompted several psychologists' interest in this topic. Studies that have been conducted on this topic have proven that the answer relates to some extent to the type of personality that one exhibits. Studies in America showed that personality remains a vital and supported forecasting construct of performance (Klang, 2012). It has been recognised in a number of positive organisational behaviour studies (Caldwell, Beverage & Converse, 2018), with some studies emphasising the importance of individuals' personality types and the impact thereof on organisational performance (Moscoso, Salgado, & Anderson, 2017).

Due to the rapid changes in digital technology and communication, business has become more competitive (Conversi, 2010). Companies continue to upgrade their products whilst, with the use of technology, these products are quickly replicated by competitors making it difficult for products to provide companies with the competitive edge they need to survive (Polatc & Akdoğan, 2014). As a result, human capital has become a key ingredient to differentiate between organisations and increase their competitive advantage. It is therefore of paramount importance for organisations to hire the right people for the right jobs to achieve competitive advantage through optimal results and performance (Moscoso et al., 2017).

One of the fundamental functions of psychologists is to assist organisations in employing the right people through the use of aptitudes psychometric tests during the selection process. Unlike other measures such as intellectual ability, personality measures do not have negative effects on disadvantaged candidates and, as a result, they can improve fairness in recruitment (Caldwell et al., 2018). In their recent research, Youshan, Baiduri and Hassan (2015) echoed these results and exhibited that

personality type factors are indeed related to employee performance. It is therefore important to identify personality types and match employees with the job positions that best fit their personalities. This leads to improved productivity and job satisfaction, helping organisations to function more effectively (Munroe, 2019).

In one Malaysian study, Youshan et al. (2015) established that well-constructed personality measures have a positive and significant impact on performance and therefore are effective predictors of employee performance. The more specific the study becomes, the more positive the resulting relationship (ibid). The study further concludes that possession of certain characteristics of personality is strongly related with the choice of occupation, and individuals that lack certain characteristics are likely to perform poorly if placed in occupations that require those characteristics (ibid). Duckworth and Yeager (2015) also concur and further suggest that personality profiling measures should be used to provide an assessment of an employee's attributes, life skills and values in an effort to maximise their performance and contribution to the organisation.

Regionally, the relationship between personality type factors and employee performance has also been studied and published; however, it is not as extensive as in the global space. Research has mostly been conducted in the banking and insurance industries. In a study in South Africa, Blignaut and Ungerer (2014) focused on the relationship between personality and employee performance in the banking industry. Their findings indicated that neuroticism, extraversion and conscientiousness from the big five personality inventory were associated with employee performance. Findings also suggested that when individuals displayed self-discipline, assertiveness, warmth, competence and positive emotions, they were likely to exhibit better performance in sales related work as compared to those who exhibited lower levels of those traits (ibid). In a meta-analysis performance-personality study conducted in South Africa, Van Aarde, Meiring and Wiernik (2017) showed that

conscientiousness was the best predictor of performance, while other factors showed validity for performance specific criteria.

In another study in Kenya, Ganu (2014) assessed the impact of the big five personality type factors on employee commitment and satisfaction among healthcare personnel. The study found a positive relationship between employee commitment and satisfaction and performance. The findings suggested that employees who display traits of conscientiousness, extraversion, openness and neuroticism tend to find a greater sense of satisfaction and commitment in the healthcare industry (ibid). The same study, however, indicated that the results could only be generalised to the healthcare industry and might not be as useful to other industries. The general limitations from the above studies was the ability for the results to be generalised for use in companies that are in different industries as the one under study. Thus, this calls for further studies in industries that have not yet been studied including the information communication and technology industry.

Research on personality and performance gets even scantier as we get closer home. In Zimbabwe, the practical relevance of this research stems from the high demand for jobs in the labour market emanating from economic recessions (Nguwi, 2014). Organisations are faced with the complex task of finding capable employees who can meet the expected organisational performance goals (ibid). In addition to the above, the problems of employee selection in Zimbabwe range from the inability to find suitable employees for jobs, to issues related to recruitment malpractices in organisations (Dumbu & Chadamoyo, 2012). Zinyemba (2014) mentions other challenges such as unemployment, scarcity of skills and expertise resulting from the brain drain and high employee turnover. Nguwi (2014) points out that Zimbabwean organisations should utilise scientific employee selection models in line with international best practice. This research therefore aims to bridge this gap by

recommending a personality-based performance predictor model for contact centre employees in the organisation under study.

Conceptual framework

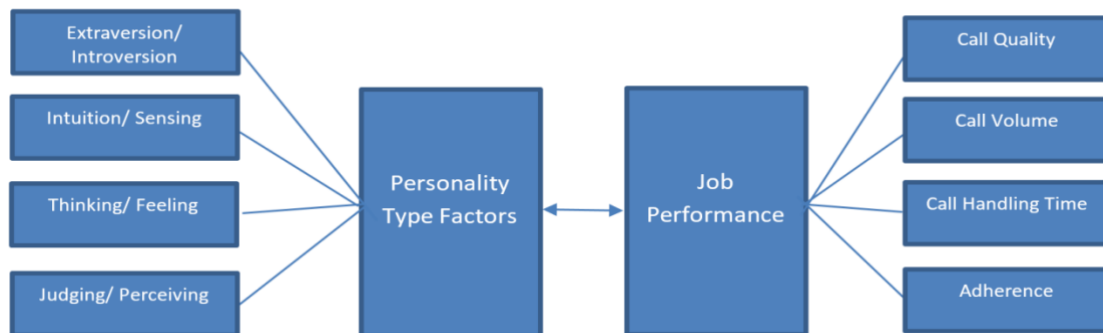


Figure 1: Personality-based performance framework

The above framework was applied to the study as it outlines firstly, the relationship between personality factors and overall performance, giving a holistic view of the criterion under study.

Objectives of the study

The study was guided by the following objectives:

- To assess the relationship between employee performance ratings and personality type factors.
- To determine whether personality type factors can significantly predict job performance.
- To recommend a performance predictor model based on the personality predictors of employee performance.

**Personality type factors are MBTI®'s four Dichotomous Factors: Extraversion/Introversion, Thinking/Feeling, Intuition/Sensing and Judging/Perceiving.*

**Employee performance rating is an average of the four Key Performance Indicators used to measure employee performance in the contact centre i.e. (Call Quality, Call Handling Time, Call Volume and Adherence).*

Hypotheses

H₀: There is no significant relationship between overall employee performance ratings and personality type factors.

H₁: There is a significant relationship between overall employee performance ratings and personality type factors.

H₀: Personality type factors are not statistically significant predictors of job performance.

H₁: Personality type factors are statistically significant predictors of job performance.

H₀: The recommended performance predictor model is not a valid predictor of employee performance.

H₁: The recommended performance predictor model is a valid predictor of employee performance.

Method

Design

The correlational study design was used in order to assess the relationship between two variables which are personality type factors (independent variable) and employee performance (dependent variable). The correlational research design was appropriate in scientifically measuring the two variables, and understanding and assessing the statistical relationship between them (Bhat, 2020). Thus, the research assessed the relationship between the variables by means of correlational statistical analysis as it sought to determine the association of the two variables under study.

Population and sampling

Random sampling was used in order to establish a representative sample of 90 participants from a base of 110 employees. The research participants for the study were contact centre employees whose main duties were to assist customers via the telephone. Participants were drawn from the ICT organisation under study. Only 82 completed MBTI® questionnaire responses were obtained from the sample as well as

completed balanced scorecard reports for each employee. The random sampling technique involved drawing a sample that formed a good representation of the population without manipulating it in any way that would compromise the representation (Lim & Ting, 2012). The sample size of 82 was suitable as it exceeded the minimum required sample size for this type of study as proposed by Creswell (2014). The researcher ensured that the sample chosen was reasonably representative by checking the sample characteristics for inclusion of participants from different ages, job tenures, and gender in order to avoid the pitfalls of the random sampling method.

Composition of participants

These statistics were derived from the performance data received from the company under study. The composition of participants aged below 30 years was 29%, those aged between 30 and 34 years made up 40% of the sample, and 31% were aged 35 years and older. With regards to gender, the composition of participants was marginally skewed towards females who had a participation rate of 52% against that of males who made up 48% of the sample. In terms of tenure, the composition of participants with tenure below 3 years was 32%, those with tenure between 3 and 3.9 years made up 28% of the participants, and 40% had 4 years and above. In terms of the composition of participants by performance, 13.6% of the participants were bottom performers with scores ranging from 1.55 to 3.04. The average performers made up 77.3% (3.05 to 4.53) and high performers made up 9.1% (4.54 to 5) of the sample. These statistics were derived from the performance data received from the company under study. The distribution indicates that the performance data for the sample approximated normal distribution as highlighted in Figure 2 below:

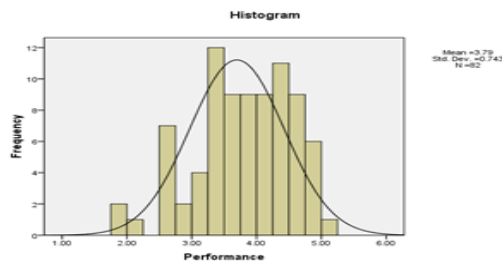


Figure 2: Composition of participants by performance

Data collection instruments

The Myers Briggs personality inventory (MBTI®) was used to measure personality. The MBTI® Form M consists of 93 items (Cherry, 2019). The main drive for the use of the MBTI® is its significance in organisational and industrial interventions, which include group functioning, education, career development, team development and organisational behaviour (Burger, 2014). In addition, the test has good psychometric properties as shown by internal consistency and test-retest reliability as high as .90 for employee samples (Burger, 2014). Research also demonstrates that the MBTI® has good convergent validity with other psychometric batteries such as the FIRO-B, CPI 260 and the NEO-PI (Burger, 2014). A pilot test was conducted prior to the administration of the actual test and this confirmed the appropriateness and suitability of the instrument to the sample producing a reliability score of .915 for the pre-test and actual test. The balanced scorecard performance framework by Kaplan and Norton (1996) was used to attain employee performance ratings and scores. The employee performance ratings under the customer pillar ranging over six months were used to represent the dependent variable.

Research procedure

The MBTI® instrument was administered to all participants. It was easy to administer as instructions were simple and self-explanatory. The survey was completed electronically through a web-based assessment questionnaire, an instrument which delivers and collects data via an internet platform (Cooper & Schindler, 2014). Simple

and clear instructions were provided to participants which aided them to complete the questionnaire. It took participants an average of 15 to 20 minutes to complete the assessment. Responses were downloaded and consolidated on Microsoft Excel. The MBTI® survey provided eight raw scores of the personality type factors, namely extroversion, introversion, sensing, intuition, thinking, feeling, judging and perceiving. These eight scores sorted the participants into 16 personality types. In order to measure the dependent variable, the researcher received performance scores of contact centre employees that were distributed over a period of six months. The results were tested for consistency and an average performance score was established from the six months. The researcher also received sociodemographic data such as tenure, age, job title and gender of all participants.

Data analysis and interpretation

The researcher used the Pearson product-moment correlation test to assess the relationship between the independent variable (personality type factors) and the dependent variable (employee performance). Multiple regression analyses were also applied to the data in order to evaluate the impact of the independent variable on the dependent variable and to determine whether personality factors could predict employee performance. Descriptive statistics were used to present the composition of the sample data that was used in the research. The above methods of analysis were appropriate for the research design and clearly answered all research hypotheses. The SPSS (Statistical Package for the Social Sciences) program, version 17.0, was used for the descriptive statistics, correlation and the multivariate statistics analyses.

Ethical considerations

Creswell (2014) states that the researcher has an obligation to respect the rights, needs and values of the participants. In this regards, consent was sought from the organisation and the researcher was granted access to receive the relevant information required for the study. Individual consent forms were signed by participants to acknowledge their understanding of the nature of the study and consent to participate

in it. The researcher maintained complete confidentiality regarding any personal information acquired during the research process.

Results

Descriptive statistics

This involved computing descriptive statistics for the sample used in the research. Table 1 below highlights descriptive statistics for performance and MBTI® personality type factors. Performance received an overall mean score of 3.8215 and a standard deviation of 0.78, indicating the data points are spread out over a large range of values and there is very good variability of data.

Table 1: Descriptive statistics

| | Mean | Std. Deviation | N |
|--------------|---------|----------------|----|
| Performance | 3.8215 | .78091 | 82 |
| Extraversion | 51.8049 | 20.39029 | 82 |
| Introversion | 48.1951 | 20.39029 | 82 |
| Intuition | 54.3902 | 14.62516 | 82 |
| Sensing | 45.6098 | 14.62516 | 82 |
| Thinking | 32.5610 | 12.59737 | 82 |
| Feeling | 67.4390 | 12.59737 | 82 |
| Judging | 62.6463 | 20.25051 | 82 |
| Perceiving | 37.3537 | 20.25051 | 82 |

Correlation analyses

Pearson product-moment correlation (r) allowed the researcher to identify the strength and direction of the relationship between variables (personality type factors and employee performance). A cut-off of ($p \leq .05$ $r \geq .20$), representing a fairly medium linear

relationship or practical effect was used for interpreting the significance of the findings (Cooper & Schindler, 2014).

Table 2: Correlation results between performance and personality type factors

| | | Performance | Extraversion | Introversion | Intuition | Sensing | Thinking | Feeling | Judging | Perceiving |
|---------------------------|---------------------|-------------|--------------|--------------|-----------|---------|----------|---------|---------|------------|
| Performance | Pearson Correlation | 1 | .531** | -.531** | .320** | -.320** | 0.088 | -0.088 | .573** | -.573** |
| | Sig. (2-tailed) | | 0 | 0 | 0.003 | 0.003 | 0.431 | 0.431 | 0 | 0 |
| Call Quality | Pearson Correlation | .499** | .302** | -.302** | 0.057 | -0.057 | .231* | -.231* | .305** | -.305** |
| | Sig. (2-tailed) | 0 | 0.006 | 0.006 | 0.61 | 0.61 | 0.037 | 0.037 | 0.005 | 0.005 |
| Call Volume | Pearson Correlation | .656** | .410** | -.410** | .238* | -.238* | -0.097 | 0.097 | .508** | -.508** |
| | Sig. (2-tailed) | 0 | 0 | 0 | 0.032 | 0.032 | 0.386 | 0.386 | 0 | 0 |
| Call Handling Time | Pearson Correlation | .595** | .354** | -.354** | .425** | -.425** | -0.066 | 0.066 | .339** | -.339** |
| | Sig. (2-tailed) | 0 | 0.001 | 0.001 | 0 | 0 | 0.557 | 0.557 | 0.002 | 0.002 |
| Adherence | Pearson Correlation | .343** | .287** | -.287** | 0.112 | -0.112 | -0.128 | 0.128 | 0.145 | -0.145 |
| | Sig. (2-tailed) | 0.002 | 0.009 | 0.009 | 0.316 | 0.316 | 0.253 | 0.253 | 0.195 | 0.195 |

Correlation analysis of overall performance scores and personality type factors

Results from Table 2 above indicate that at the 0.01 level of testing (2-tailed),

- Correlation is significant between overall performance and Extraversion/Introversion ($p=0$), with a strong positive linear relationship with Extraversion ($r=0.531$) and a strong negative linear relationship with Introversion ($r=-0.531$).
- Correlation is significant between overall performance and Intuition/Sensing ($p=0.003$), with a medium positive linear relationship with Intuition ($r=0.32$) and a medium negative linear relationship with Sensing ($r=-0.32$).
- Correlation is not significant between overall performance and Thinking/Feeling ($p=0.431$), with r approximately equal to zero ($r= \pm 0.088$ for Thinking and Feeling respectively).

- d) Correlation is significant between overall performance and Judging/Perceiving ($p=0$), with a strong positive linear relationship with Judging ($r=0.573$) and a strong negative linear relationship with Perceiving ($r=-0.573$).

The above findings show a significant relationship between overall performance and extraversion/introversion, intuition/sensing and judging/ perceiving personality factors. However, there is no significant relationship between overall performance ratings and thinking/feeling personality factors.

The findings from Table 2 above also show the relationship between each individual key performance indicator under performance and each personality factor. These key performance indicators include call quality, call volume, call handling time and adherence. The results are summarised in the table below.

Table 3: Summary of accepted and rejected hypotheses

| Accepted Hypothesis | Rejected Hypothesis |
|--|---|
| Overall Performance vs Extraversion/Introversion | Overall Performance vs Thinking/Feeling |
| Overall Performance vs Intuition/Sensing | |
| Overall Performance vs Judging/ Perceiving | |
| Call Quality vs Extraversion/Introversion | Call Quality vs Intuition/Sensing |
| Call Quality vs Thinking/Feeling | |
| Call Quality vs Judging/ Perceiving | |
| Call Volume vs Extraversion/Introversion | Call Volume vs Thinking/Feeling |
| Call Volume vs Intuition/Sensing | |
| Call Volume vs Judging/ Perceiving | |
| Call Handling Time vs Extraversion/Introversion | Call Handling Time vs Thinking/Feeling |
| Call Handling Time vs Intuition/Sensing | |
| Call Handling Time vs Judging/ Perceiving | |
| Adherence vs Extraversion/Introversion | Adherence vs Thinking/Feeling |
| | Adherence vs Intuition/Sensing |
| | Adherence vs Judging/ Perceiving |

Regression analysis and presentation of model

This section involves testing the hypothesis for Objective 2 (an assessment of whether personality type factors can significantly predict job performance). Objective 3 of the

study was also addressed by recommending a model for predicting employee performance based on the MBTI® personality type factors. The regression of the MBTI® personality type factors and employee performance was performed using SPSS version 17.0. The first step was to run the correlations of the personality type factors and employee performance, and the table below summarises the results indicating the personality type predictors whose correlations were statistically significant.

Table 4: Correlations

| | | Performance | Extraversion | Introversion | Intuition | Sensing | Thinking | Feeling | Judging | Perceiving |
|---------------------|--------------|-------------|--------------|--------------|-----------|---------|----------|---------|---------|------------|
| Pearson Correlation | Performance | 1.000 | .531 | -.531 | .320 | -.320 | .088 | -.088 | .573 | -.573 |
| | Extraversion | .531 | 1.000 | -1.000 | .093 | -.093 | .123 | -.123 | .302 | -.302 |
| | Introversion | -.531 | -1.000 | 1.000 | -.093 | .093 | -.123 | .123 | -.302 | .302 |
| | Intuition | .320 | .093 | -.093 | 1.000 | -1.000 | -.250 | .250 | .199 | -.199 |
| | Sensing | -.320 | -.093 | .093 | -1.000 | 1.000 | .250 | -.250 | -.199 | .199 |
| | Thinking | .088 | .123 | -.123 | -.250 | .250 | 1.000 | -1.000 | -.177 | .177 |
| | Feeling | -.088 | -.123 | .123 | .250 | -.250 | -1.000 | 1.000 | .177 | -.177 |
| | Judging | .573 | .302 | -.302 | .199 | -.199 | -.177 | .177 | 1.000 | -1.000 |
| | Perceiving | -.573 | -.302 | .302 | -.199 | .199 | .177 | -.177 | -1.000 | 1.000 |
| Sig. (-tailed) | Performance | . | .000 | .000 | .002 | .002 | .216 | .216 | .000 | .000 |
| | Extraversion | .000 | . | .000 | .204 | .204 | .135 | .135 | .003 | .003 |
| | Introversion | .000 | .000 | . | .204 | .204 | .135 | .135 | .003 | .003 |
| | Intuition | .002 | .204 | .204 | . | .000 | .012 | .012 | .037 | .037 |
| | Sensing | .002 | .204 | .204 | .000 | . | .012 | .012 | .037 | .037 |
| | Thinking | .216 | .135 | .135 | .012 | .012 | . | .000 | .055 | .055 |
| | Feeling | .216 | .135 | .135 | .012 | .012 | .000 | . | .055 | .055 |
| | Judging | .000 | .003 | .003 | .037 | .037 | .055 | .055 | . | .000 |
| | Perceiving | .000 | .003 | .003 | .037 | .037 | .055 | .055 | .000 | . |
| N | Performance | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | Extraversion | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | Introversion | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | Intuition | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | Sensing | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | Thinking | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | Feeling | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | Judging | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | Perceiving | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |

| Key Correlation Analysis | |
|----------------------------|--|
| | $r \leq .29$ (small practical effect size) |
| | $r \geq .30 \leq .49$ (medium practical effect size) |
| | $r \geq .50$ (large practical effect size) |

| Key Significance Analysis | |
|-----------------------------|---|
| | $p > .05$ (Not statistically significant) |
| | $p \leq .05$ (statistically significant) |

Table 4 above displays Pearson correlation coefficients, significant values and the number of cases (N). The results show that not all factors of personality correlated significantly with employee performance. Very noticeable in the results is the strong correlation between performance and Extraversion/Introversion indicated by ($r=+/-0.531$, $p=0.000$), performance and Intuition/Sensing indicated by ($r=+/-0.320$, $p=0.002$), as well as performance and Judging/Perceiving indicated by ($r=+/-0.573$, $p=0.000$). After ascertaining the correlations between the dependent variable and the independent variables, stepwise regression was conducted as highlighted below.

Table 5: Stepwise regression

| Variables Entered/Removed ^a | | | |
|--|-------------------|-------------------|---|
| Model | Variables Entered | Variables Removed | Method |
| 1 | Judging | | Stepwise (Criteria: Probability-of-F-to-enter $\leq .050$, Probability-of-F-to-remove $\geq .100$). |
| 2 | Extraversion | | Stepwise (Criteria: Probability-of-F-to-enter $\leq .050$, Probability-of-F-to-remove $\geq .100$). |
| 3 | Sensing | | Stepwise (Criteria: Probability-of-F-to-enter $\leq .050$, Probability-of-F-to-remove $\geq .100$). |
| 4 | Feeling | | Stepwise (Criteria: Probability-of-F-to-enter $\leq .050$, Probability-of-F-to-remove $\geq .100$). |

a. Dependent Variable: Performance

Stepwise regression was performed using the forward selection method with the following defined criteria for a variable to be entered or removed in the model: Probability-of-F-to-enter $\leq .050$, Probability-of-F-to-remove $\geq .100$. Table 5 above shows the four variables which were retained in the model at each stage of the stepwise regression analysis, which were Judging, Extraversion, Sensing and Feeling, in that order. The resulting regression model is presented in the table below with model 4 as the final model:

Performance = a + b*Judging + c*Extraversion + d*Sensing + f*Feeling + e, where 'a' is the model constant and 'b', 'c', 'd', 'f' are the model coefficients for the predictor variables (Personality Type Factors) and e is the error term.

Table 6: Regression model summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | df2 | Sig. F Change | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
| | | | | | R Square Change | F Change | df1 | | | |
| 1 | .573 ^a | .329 | .320 | .64389 | .329 | 39.140 | 1 | 80 | .000 | |
| 2 | .685 ^b | .470 | .456 | .57586 | .141 | 21.019 | 1 | 79 | .000 | |
| 3 | .713 ^c | .508 | .490 | .55792 | .039 | 6.163 | 1 | 78 | .015 | |
| 4 | .734 ^d | .539 | .515 | .54369 | .031 | 5.135 | 1 | 77 | .026 | 2.428 |

a. Predictors: (Constant), Judging

b. Predictors: (Constant), Judging, Extraversion

c. Predictors: (Constant), Judging, Extraversion, Sensing

d. Predictors: (Constant), Judging, Extraversion, Sensing, Feeling

e. Dependent Variable: Performance

Table 6 above presents the results of the forward elimination steps using the criteria highlighted above. In the first step, presented as model 1, the chosen predictors were constant and Judging which gave an $R^2=0.329$ which rose to 0.47 in model 2 when Extraversion was entered into the model. In the third step, the variable Sensing was entered into the model and R^2 increased to 0.508, then ultimately increased to 0.539 in the fourth step when the variable Feeling was entered to give the final model. The value for $R^2 = 0.539$ in the fitted performance predictor model 4 shows that the highlighted personality type factors explain 53.9% of the variation in the performance scores. Since this is a multiple regression model with four variables, the provided adjusted R^2 value of 0.515 gives a more honest association between personality type factors and performance as it is adjusted to account for the high number of variables

included in the model. The Adjusted R^2 is much closer to R^2 showing good model fit, that is, all the four variables are indeed critical for predicting performance as shown by the p-value = 0.026 (shown as Sig. F Change in the table) which shows that R^2 is significantly different from 0. Usually we need a p-value lower than 0.05 for a statistically significant relationship. The Durbin-Watson statistic of 2.428 is closer to 2 (no autocorrelation) between a range of 0 to 4 and this shows that there is no significant evidence to suggest that there is autocorrelation in the residuals from the fitted performance predictor model, thus fulfilling one of the key assumptions for regression modelling, testing the presence of autocorrelation at lag 1 in the residuals (prediction errors).

Table 7: ANOVA

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 16.227 | 1 | 16.227 | 39.140 | .000 ^a |
| | Residual | 33.168 | 80 | .415 | | |
| | Total | 49.395 | 81 | | | |
| 2 | Regression | 23.198 | 2 | 11.599 | 34.977 | .000 ^b |
| | Residual | 26.198 | 79 | .332 | | |
| | Total | 49.395 | 81 | | | |
| 3 | Regression | 25.116 | 3 | 8.372 | 26.896 | .000 ^c |
| | Residual | 24.279 | 78 | .311 | | |
| | Total | 49.395 | 81 | | | |
| 4 | Regression | 26.634 | 4 | 6.658 | 22.525 | .000 ^d |
| | Residual | 22.761 | 77 | .296 | | |
| | Total | 49.395 | 81 | | | |

a. Predictors: (Constant), Judging

b. Predictors: (Constant), Judging, Extraversion

c. Predictors: (Constant), Judging, Extraversion, Sensing

d. Predictors: (Constant), Judging, Extraversion, Sensing, Feeling

e. Dependent Variable: Performance

The ANOVA table above shows that the fitted performance predictor model (model 4) is statistically significant as shown by the significant high F-value of 22.525 which is associated with a p-value of 0.000 which is less than 0.05, signifying that personality types are indeed significantly correlated with performance and thus model 4 is statistically significant in predicting performance. The table below provides the results of the model coefficients.

Table 8: Model specification

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 2.437 | .232 | | 10.482 | .000 |
| Judging | .022 | .004 | .573 | 6.256 | .000 |
| 2 (Constant) | 1.943 | .234 | | 8.297 | .000 |
| Judging | .018 | .003 | .454 | 5.281 | .000 |
| Extraversion | .015 | .003 | .394 | 4.585 | .000 |
| 3 (Constant) | 2.538 | .330 | | 7.688 | .000 |
| Judging | .016 | .003 | .416 | 4.917 | .000 |
| Extraversion | .015 | .003 | .387 | 4.642 | .000 |
| Sensing | -.011 | .004 | -.201 | -2.483 | .015 |
| 4 (Constant) | 3.411 | .502 | | 6.796 | .000 |
| Judging | .017 | .003 | .452 | 5.383 | .000 |
| Extraversion | .013 | .003 | .349 | 4.209 | .000 |
| Sensing | -.013 | .004 | -.244 | -3.007 | .004 |
| Feeling | -.012 | .005 | -.187 | -2.266 | .026 |

a. Dependent Variable: Performance

The table above presents the model coefficients for the fitted Performance predictor model 4. The t-critical value is +/-1.96 and t-values of 6.796, 5.383 and 4.209 for Constant, Judging and Extraversion respectively are all above 1.96 indicating that the three variables are statistically significant. Similarly, the t-values of -3.007 and -2.266

for Sensing and Feeling, respectively, are smaller than -1.96, again signifying that the two variables are not statistically significant for explaining the variations in employee performance. Thus, with all the t-crit values falling within the rejection region, we therefore reject the null hypothesis and conclude that the personality type factors highlighted above can significantly predict employee performance. The presented p-values for the model coefficients are all less than 0.05 which also shows that the model coefficients are significantly greater than 0 and that the corresponding predictors (Constant, Judging, Extraversion, Sensing and Feeling) are independent determinants of performance. This means that the Personality Types are significant in predicting performance as their coefficients are statistically significant from 0 at 5% level. Thus, the derived performance predictor model is as follows:

$$\text{Performance Predicted} = 3.411 + 0.017*\text{Judging} + 0.013*\text{Extraversion} - 0.13*\text{Sensing} - 0.12*\text{Feeling}$$

Test for multicollinearity

Since the model has statistically significant multiple predictors for performance, there is a need to test the multiple linear regression assumption of multicollinearity and dispel the hypothesis that two or more of the variables in our performance predictor model are highly linearly related, thereby undermining the statistical significance of one or more of our independent variables. The table below shows the diagnosis of multicollinearity in our performance predictor model (model 4) using the Tolerance (Lack of certainty = $1 - R^2$) and its reciprocal, the Variance Inflation Factor ($VIF = 1/\text{Tolerance}$) which measures the extent to which the variance of the estimated regression coefficients are inflated as compared to when the predictor variables are not linearly related.

Table 9: Multicollinearity test

| Model | | Correlations | | | Collinearity Statistics | |
|-------|--------------|--------------|---------|-------|-------------------------|-------|
| | | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | | | | | |
| | Judging | .573 | .573 | .573 | 1.000 | 1.000 |
| 2 | (Constant) | | | | | |
| | Judging | .573 | .511 | .433 | .909 | 1.101 |
| | Extraversion | .531 | .458 | .376 | .909 | 1.101 |
| 3 | (Constant) | | | | | |
| | Judging | .573 | .486 | .390 | .879 | 1.137 |
| | Extraversion | .531 | .465 | .369 | .907 | 1.102 |
| | Sensing | -.320 | -.271 | -.197 | .959 | 1.042 |
| 4 | (Constant) | | | | | |
| | Judging | .573 | .523 | .416 | .848 | 1.180 |
| | Extraversion | .531 | .432 | .326 | .871 | 1.149 |
| | Sensing | -.320 | -.324 | -.233 | .907 | 1.103 |
| | Feeling | -.088 | -.250 | -.175 | .883 | 1.133 |

a. Dependent Variable: Performance

The provided Tolerance values in our model 4 are all greater than 0.2 and simultaneously the VIF values are all less than 5 and are also less than 2.5, the minimum level that starts to raise concern. We can therefore conclude that there is statistically no evidence of multicollinearity in our performance predictor model.

Table 10: Excluded variables

| Model | | Beta In | t | Sig. | Partial Correlation |
|-------|--------------|--------------------|--------|------|---------------------|
| 1 | Extraversion | .394 ^a | 4.585 | .000 | .458 |
| | Introversion | -.394 ^a | -4.585 | .000 | -.458 |
| | Intuition | .214 ^a | 2.358 | .021 | .256 |
| | Sensing | -.214 ^a | -2.358 | .021 | -.256 |
| | Thinking | .196 ^a | 2.153 | .034 | .235 |
| | Feeling | -.196 ^a | -2.153 | .034 | -.235 |
| | Perceiving | . ^a | . | . | . |
| 2 | Introversion | . ^b | . | . | . |
| | Intuition | .201 ^b | 2.483 | .015 | .271 |
| | Sensing | -.201 ^b | -2.483 | .015 | -.271 |
| | Thinking | .129 ^b | 1.530 | .130 | .171 |
| | Feeling | -.129 ^b | -1.530 | .130 | -.171 |
| | Perceiving | . ^b | . | . | . |
| 3 | Introversion | . ^c | . | . | . |
| | Intuition | . ^c | . | . | . |
| | Thinking | .187 ^c | 2.266 | .026 | .250 |
| | Feeling | -.187 ^c | -2.266 | .026 | -.250 |
| | Perceiving | . ^c | . | . | . |
| 4 | Introversion | . ^d | . | . | . |
| | Intuition | . ^d | . | . | . |
| | Thinking | . ^d | . | . | . |
| | Perceiving | . ^d | . | . | . |

a. Predictors in the Model: (Constant), Judging

b. Predictors in the Model: (Constant), Judging, Extraversion

c. Predictors in the Model: (Constant), Judging, Extraversion, Sensing

d. Predictors in the Model: (Constant), Judging, Extraversion, Sensing, Feeling

e. Dependent Variable: Performance

The table above outlines variables that were excluded from the model.

Residual analysis

The fitted performance predictor model showed that the personality type predictor variables in the model are indeed statistically significant in explaining employee performance, with a high predictive power ($R^2 = 0.539$) as presented above. There is now a need to perform residual analysis to determine the goodness of the fitted model in fulfilling the key residual assumption for regression modelling which is normality of residuals. The table below gives a summary of the residual statistics.

Table 11: Residual analysis

| | Minimum | Maximum | Mean | Std. Deviation | N |
|----------------------|----------|---------|--------|----------------|----|
| Predicted Value | 2.3250 | 4.9462 | 3.8215 | .57342 | 82 |
| Residual | -1.19698 | 1.57880 | .00000 | .53010 | 82 |
| Std. Predicted Value | -2.610 | 1.961 | .000 | 1.000 | 82 |
| Std. Residual | -2.202 | 2.904 | .000 | .975 | 82 |

a. Dependent Variable: Performance

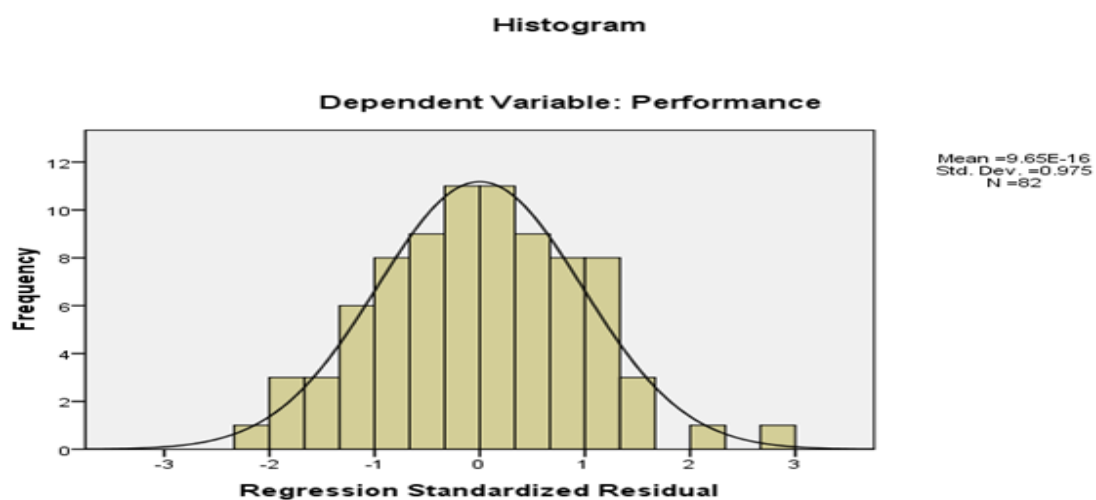


Figure 3: Histogram of residuals

The presented histogram of residuals above shows that residuals in the fitted performance predictor model approximate a normal distribution with mean = 0 (9.6×10^{-16}) with more than 95% of the residuals falling between the range -2 and 2 and a standard deviation of 0.975 which is close to 1, signifying a good spread in the residuals that are falling between -2 and 2. Thus the regression model for performance fulfils the assumption of normality. The normality of the residuals is also further depicted by the P-P plot below which compares the observed cumulative distribution function (CDF) of the standardised residual to the expected CDF of the normal distribution. The chart shows that all the points are clustered on the horizontal line signifying that the residuals are normally distributed.

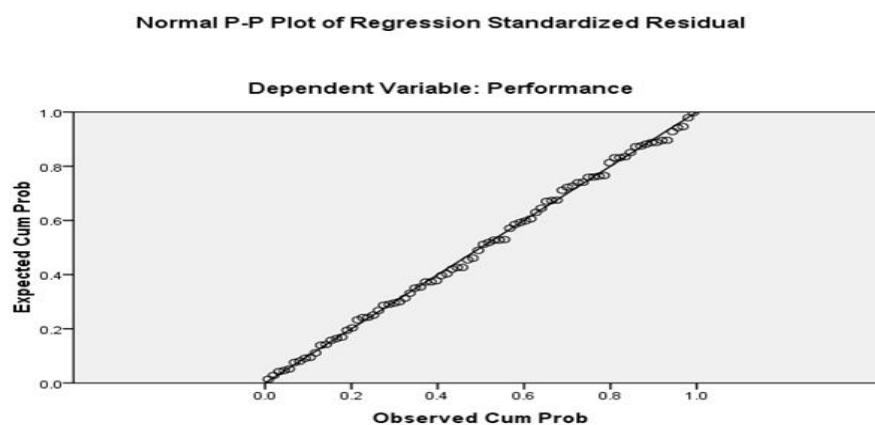


Figure 4: Normal P-P plot of regression standardised residual

Discussion

The first objective of this research was to evaluate the relationship between contact centre employees' overall performance scores and personality factors. The findings from this evaluation showed a significant relationship between overall performance and extraversion ($p=0$, $r=0.531$) introversion ($p=0$, $r=-0.531$), intuition ($p=0.003$, $r=0.32$), sensing ($p=0.003$, $r=-0.32$) and judging ($p=0$, $r=0.573$) and perceiving ($p=0$, $r=-0.573$) personality factors. The strong positive relationship between Extraversion and Judging personality factors and performance is of key importance. This finding is supported by Munroe (2019) who states that people with outgoing personalities

(extraversion) often work best in positions where they get to interact with others as compared to introverted personalities. Munroe (2019)'s assertion thus explains the strong negative relationship between Introversion and performance.

In addition, the contact centre is a highly scheduled environment where people work according to set times and shifts and are expected to take scheduled breaks and participate in strictly scheduled activities. This explains why people who have the Judging personality factor seem to thrive in this environment, as the Myers Briggs Foundation (2018) states that people who possess a strong Judging personality factor are highly organised, methodical and systematic and their lives are planned in a well-structured way. This also explains the strong negative relationship between performance and perceiving as people who are perceiving are spontaneous, flexible and rarely maintain a proper schedule (Myers Briggs Foundation, 2018). This is also supported by George (2019) who posit that, based on one's personality, some employees may prefer routine jobs with few changes or surprises, while others look forward to spontaneous challenges. It is highly likely that this type of personality would find the contact centre environment to be restrictive and rigid and this may have an impact on their performance.

The findings showed that there is a significant relationship between call quality and extraversion/introversion, thinking/feeling and judging/ perceiving personality factors. Unlike the other performance indicators such as call volume and call handling time, call quality rating was the only performance indicator that correlated strongly with feeling and thinking and this could be because of the nature of the indicator. One would assume that the feeling personality factor would have a positive impact on call quality. However, the results show that Feeling has a negative impact on call quality whilst thinking has a positive effect on call quality. This outcome is supported by Munroe (2019) who states that, for one to thrive in a contact centre environment, they need to be more logical than emotional. He further states that the contact centre is a highly volatile environment where employees have to deal with different customers

from polite ones to more aggressive and angry ones, and one of the qualities that would enable an individual to thrive is the ability to remain calm, logical, factual and grounded. In this regard, having an emotionally driven personality may make it hard for someone to cope with the different personalities that they may encounter. Thus, having good call quality entails being empathetic, logical, factual, polite and able to establish good relationships with customers, and it is clear from the findings that the thinking personality factor contributes strongly to delivering good call quality in the contact centre.

Furthermore, the third objective was to evaluate the relationship between call volume ratings and personality type factors. The findings show that there is a significant relationship between call volume and extraversion/introversion, intuition/sensing and judging/perceiving personality factors. The strong positive relationship between the Extraversion ($p=0$, $r=0.410$) and Judging ($p=0$, $r=0.508$) personality factors and the call volume rating scores is also of interest. The results are similar to those of the fourth objective evaluating the relationship between call handling time ratings and personality type factors. The findings indicated a significant relationship between call handling time and extraversion/introversion, intuition/sensing and judging/perceiving personality factors. The fifth objective sought to assess the relationship between adherence and personality type factors. The findings showed a significant relationship between adherence and extraversion/introversion. However, there was no significant relationship between adherence and thinking/feeling, intuition/sensing and judging/perceiving. This is surprising as people who possess a strong Judging personality are highly organised and well-structured, according to Myers Briggs Foundation (2018), hence they should more likely adhere to set times in the contact centre.

Finally, the regression of personality type factors (MBTI®) and employee performance produced a statistically significant model. The fitted performance predictor model

showed that the personality type predictor variables in the model are indeed statistically significant in explaining employee performance, with a high predictive power ($R^2 = 0.539$). The model predictors identified were Extraversion, Judging, Sensing and Feeling. It also presented a model of good fit addressing objectives six and seven.

Conclusion

In conclusion, the results from this study confirmed that there is a significant relationship between the MBTI® Personality Factors and employee performance, specifically in the contact centre. The overall findings in the present study showed that individuals who display high levels of Extroversion, Intuition and Judging, as well as low levels of Thinking/Feeling, perform better in the contact centre. In this regard, Judging, Extraversion, Sensing and Feeling personality factors stood out as valid predictor variables of employee performance. This implies that recruiters who search for qualified contact centre employees in the industry under study should consider these traits as part of their selection criteria.

Recommendations

The following recommendations were made from the study:

- This research only focused on one organisation and there is a need to expand the scope of this research to include contact centre employees from other organisations to allow for research findings to be generalisable to other organisations in different industries.
- In addition, though the findings show that personality can impact employee performance by 53%, an investigation on the other factors that impact performance such as employee engagement and management support may also be further conducted in order to complement these findings.

- Other organisations in similar industries with contact centres can adopt the above model in their recruitment process in order to identify and shortlist high potential candidates.

References

- Barrick, M. & Mount, M.K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel psychology*, 44(1), 1-26.
- Bhat, A. (2020). *Correlational-research*. Retrieved from Questionpro: <https://www.questionpro.com/blog/correlational-research>.
- Blignaut, L. & Ungerer, L. (2014). Personality as predictor of customer service centre agent performance in the banking industry: An exploratory study. *SA Journal of Human Resource Management/SA Tydskrif vir Menslike Hulpbronbestuur*, 12(1), 16. doi:10.4102/sajhrm.v12i1.607.
- Burger, J.M. (2014). *Personality* (9th edn.). Stamford, CT: Cengage Learning.
- Caldwell, C., Beverage, M. & Converse, P. (2018). Selecting for flair factors: Improving the selection process. *Business and Management Research*, 7(1), 1–10. doi: <https://doi.org/10.5430/bmr.v7n1p1>.
- Cherry, K. (2019). *An overview of the Myers-Briggs type indicator*. Retrieved January 2020, from Verywell Mind: <https://www.verywellmind.com/the-myers-briggs-type-indicator-2795583>.
- Conversi, D. (2010). The limits of cultural globalisation. *Journal of Critical Globalisation Studies*, 3, 36–59.
- Cooper, D.R. & Schindler, P.S. (2014). *Business research methods* (12th edn.). New York: McGraw Hill.
- Creswell, J.W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4thed.). Thousand Oaks: SAGE Publications.
- Duckworth, A.L. & Yeager, D.S. (2015). Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes. *Educational Researcher*, 44(4), 237-251.

- Dumbu, E. & Chadamoyo, P. (2012). Managerial deficiencies in the small and medium enterprises (SMEs) in the craft industry: An empirical evidence of SMEs at Great Zimbabwe in Chief Mugabe's area. *European Journal of Business and Management*, 4(10), 28-35.
- Ganu, D. (2014). Effect of the big five personality traits on job satisfaction and organizational commitment in the healthcare industry: The case of Kenya. *American Journal of Health Sciences*, 5, 145-154. doi:10.19030/ajhs.v5i2.8964.
- George, N. (2019). *The role of personality in the workplace*. Retrieved from Small Business.Chron.com. <http://smallbusiness.chron.com/role-personality-workplace-10471.html>.
- Kaplan, R. & Norton, D. (1996). Linking the balanced scorecard to strategy. *California Management Review*, 39(1), 53-79.
- Klang, A. (2012). The relationship between personality and job performance in sales: A replication of past research and an extension to a Swedish context. *Psychology*, 2. doi:2:542263/FULLTEXT01.
- Lim, W.M. & Ting, D.H. (2012). *Research methodology: A toolkit of sampling and data analysis techniques for quantitative research*. Norderstedt, Druck und Bindung: Books on Demand GmbH.
- Moscoso, S., Salgado, J. F. & Anderson, N. (2017). How do I get a job, what are they looking for? Personnel selection and assessment. In N. Chmiel (Ed.), *An introduction to work and organizational psychology: An international perspective* (pp. 24-47). doi:101002/9781119168058.ch2.
- Munroe, S. (2019). How personality affects work behavior. Retrieved from Small Business. <http://smallbusiness.chron.com/personality-affects-work-behavior-45940.html>.
- Nguwi, M. (2014). Best practice in selecting graduate trainees. Retrieved from *The Financial Gazette*: <http://www.financialgazette.co.zw/best-practice-in-selecting-graduate-trainees>.
- Nguwi, M. (2011). Engage registered psychologists for pre-employment tests: Expert. Retrieved from *The Herald*. <https://www.herald.co.zw/engage-registered-psychologists-for-pre-employment-tests-expert>.

- Polatçı, S. & Akdoğan, A.S. (2014). Psychological capital and performance: The mediating role of work and family spill-over and psychological well-being. *Business and Economics Research Journal*, 5(1).
- The Myers & Briggs Foundation. (2018). *The 16 MBTI® Types*. Retrieved December 10, 2019, from The Myers & Briggs Foundation. <https://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/the-16-mbti-t>.
- Van Aarde, N., Meiring, D. & Wiernik, B. (2017). The validity of the big five personality traits for job performance: Meta-analyses of South African studies. *International Journal of Selection and Assessment*, 25, 223-239. doi:10.1111/ijsa.12175.
- Youshan, B. & Hassan, Z. (2015). The effect of employees personality on organizational performance: Study on insurance company. *International Journal of Accounting and Business Management*, 4, 187-196. doi:10.24924/ijabm/2015.04/v3.iss1/187.196.
- Zinyemba, Z.A. (2014). The challenges of recruitment and selection of employees in Zimbabwean companies. *International Journal of Science and Research*, 3, 23–70. doi:10.1016/183.

Towards a Biopsychosocial Approach to Medical Education and Practice in Zimbabwe: The Pros and Cons

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Abstract

The main objective of this paper was to discuss the pros and cons associated with the full adoption of the biopsychosocial approach in medical education and practice in Zimbabwe. The authors used a narrative review method to interrogate the usefulness of the biopsychosocial approach to medical education and practice. The paper acknowledges the role played by the biomedical approach, which is a forerunner to the biopsychosocial approach. It explains how the biomedical approach is successful in curing those diseases with an organic genesis. The paper also highlights the shortcomings of the biomedical approach and how these shortcomings led towards the introduction of the biopsychosocial approach which is a more eclectic, comprehensive and holistic approach to the treatment of diseased individuals. The discussions made analysed the contributions of biological, psychological and sociocultural foundations to health and wellbeing. The authors concluded that the pros of the biopsychosocial approach in medical education and practice far outweigh the cons and, therefore, the approach needs to be scaled up for the complete healing of medical patients. The authors recommend that medical training schools should employ professionals drawn from the three major foundations (the biological, psychological and sociocultural foundations) for the early inculcation of the tenets of the biopsychosocial approach.

Keywords: Anorexia nervosa, biomedical, biopsychosocial, medical practice, pathogenic

Introduction and background

Over the years, the medical field has recorded significant successes in combating diseases and promoting good health. However, the field has witnessed numerous challenges in taming the deadly pandemics experienced of late. Using various approaches, medical practitioners and other health collaborating partners have managed to eradicate a sizable number of diseases whose pathogenesis is organic. These approaches have continued to inform and guide the medical professionals as they discharge their duties in preventing and treating diseases such as polio, diphtheria, and whooping cough, measles, tetanus and tuberculosis, among other diseases (Pollard & Bijker, 2021). Presently, professionals in the medical field continue to battle with deadly diseases such as Human Immuno-Deficiency Virus (HIV) and the Coronavirus disease (also known as COVID-19) and this has led them to look for alternative approaches to mitigate the impact on the populace (Pollard & Bijker, 2021). It is in light of the above that this paper discusses the pros and cons of adopting the biopsychosocial approach as an alternative approach to medical education and practice in developing countries such as Zimbabwe.

Method

The literature search method adopted was similar to the Senderayi (2021) study, which involved four stages of literature search; journal search, key word search, backward search and forward search and finally literature evaluation. We conducted an electronic literature search on websites such as Healthline.com, Drug.com, WebMD, Mayo Clinic and Centers for Disease Prevention. The purpose of the search was to identify relevant studies up to the year 2021. The main search terms were biomedical approach, the biopsychosocial approach, medical education, medical practice, disease prevention and health promotion. The authors also used names of prominent contributors to the medical approaches to health. Authors of key interest included Putz-Anderson (2017), Babalola, Noel and White (2017), and Engel (1977). This literature search strategy assisted the authors to refine their search as references

used helped to further explore related sources in a systematic way. Thirty journal articles were used for the final review.

Literature review

The literature review was segregated into six themes.

Conceptualization of the biopsychosocial approach

Traditionally, the medical field favoured and adopted the biomedical approach to education and practice. The biomedical approach to illness and health, as proposed by Willis and Elmer (2007) and Putz-Anderson (2017), attributes all illness to a specific physiological dysfunction and fixing the body part would lead to complete recovery from illness. From this perspective, the majority of diseases emanate from organic or biological factors, such as the virus or bacteria. Therefore, approaching illness and health using the biomedical approach means that the diagnosis and treatment adopt a scientific view, which seeks to eliminate the pathogens from the body to free it from the disease. While this approach has largely been successful, it has fallen short in providing total health as envisaged in the World Health Organization (WHO)'s 1948 definition cited in Bickenbach (2015) and Chirico (2016), which talks about health not only in terms of the absence of disease but also in terms of both the soundness of body and mind. Studies such as Mazzotta (2016) have supported the employment of the biomedical model in advancing health and wellness across populations. Mazzotta (2016) argues that the biomedical approach continues to influence patient care because the emphasis is placed on evidence-based practise with measurable outcomes; ultimately, resembling an audit culture with the undertone of a business model. While the biomedical approach has scored remarkable successes in combating diseases, there have remained some health concerns regarding the wellness of people. The removal, killing or weakening of the pathogens in the human body seem not to be enough. Lack of sound health after the removal of the pathogens from the human body has prompted scientists and social scientists such as psychologists to re-think, re-design and re-focus their models and come up with new and innovative ways to deal with

human health. The new thinking has given birth to the biopsychosocial approach to health education and practice.

The biopsychosocial approach has brought in additional factors under scrutiny in medical practice, which include the contribution that psychological processes (e.g., brooding) and/or social conditions (e.g., interpersonal difficulties) have made towards the emergence and maintenance of mental health difficulties (Babalola, Noel & White, 2017). The biopsychosocial approach to medical education and practice, as postulated by Engel (as cited in Baum, Revenson & Singer, 2012), is integrative, eclectic and views illness as a dynamic and reciprocal interaction between biological, psychological and sociocultural variables that shape a person's onset, progression and treatment of pathology and it seeks to holistically heal an ill person. This model is anchored on the belief that health education and practice can never be effective without addressing the three distinct foundations that make up the biopsychosocial approach. The adoption of the biopsychosocial approach resonates well with the WHO (1948), which defines it as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.

Biological foundation

As already alluded to, the biological influences on health include an individual's genetic make-up and history of physical trauma or infection. The basis of this foundation is two-fold. First, it presupposes that many illnesses and disorders have an inherited genetic vulnerability. Lawrie et al. (2001) argued for the biological foundation when they posited that inherited genetic vulnerability is the greatest single risk factor for developing schizophrenia. Literature is replete with studies that have demonstrated that having a first-degree relative with schizophrenia pose more risk for the child to be schizophrenic. Some studies (e.g., Janoutova et al., 2016) have demonstrated that the heritability of schizophrenia is up to 80%. If one parent suffers from the condition, the probability that it will be passed down to the offspring is 13%.

If it is present in both parents, the risk is more than 20%. The second assumption of the biological foundation is that physical trauma or any infiltration of the human body by pathogens such as viruses or bacteria ultimately lead to human disease. Premised on these assumptions, the biomedical approach, posted positive results in treating and in preventing diseases whose origins were pathogenic like HIV, tuberculosis and cholera, among other diseases. This approach is scientific in nature and uses experiments to detect pathogens in the body. The biological foundation makes it possible to detect the presence of the pathogens microscopically and to deploy specific drugs to kill or alter the state of these organisms and render them ineffective in causing diseases (Ryan & Ray, 2004).

Psychological foundation

The psychological foundation is of the notion that the mental state of a person is a major ingredient towards achieving the complete health of a person. According to McLaren (1998), the psychological factors forming this foundation are behaviour related determinants of health such as one's thoughts, emotions, perceptions and cognitive capacities. The proponents of the psychological foundation such as Rutter (2000) suggest that people with genetic susceptibility may be more likely to display negative thinking that may put them at risk for depression. In support, Rutter, Moffitt, and Caspi (2006) also share the view that gene-environment interplay to psychopathology and those psychological factors may aggravate a biological predisposition by putting a genetically susceptible person at risk for other risk behaviours. Another example regularly cited in the literature is that of depression, which on its own may not cause liver problems, but a person with depression, may be more likely to abuse alcohol and, therefore, develop liver damage.

In addition, the psychological foundation reasons that increased risk-taking leads to an increased likelihood of disease. Risk-taking behaviour is itself a psychological disposition where the individual concerned goes through a process of decision-

making and decides to take a particular path despite the evidence of existing dangers. The risk-taking action can go well or bad.

Socio-cultural foundation

The socio-cultural foundation assumes that social factors, which include socioeconomic status, culture, technology and religion of a person, have a strong bearing on the state of health. The thinking under this foundation is that removing pathogens from the human body and addressing the mental well-being of a person cannot lead to total health when their socioeconomic status, their cultural circumstances, their technological environment and religious well-being are neglected. Myers (as cited in Argyle, 2013), found that life events such as losing one's job or ending a romantic relationship put one at a greater risk of developing stress or illness. An individual who is pre-disposed to stressful situations risks developing more severe mental conditions such as depression, which in turn may result in physical health problems.

Another widely cited social factor which impacts highly on human health is the fashion industry expectation. According to Dittmar and Howard (as in Conlin & Bissell, 2014), the fashion industry and the media promote an unhealthy standard of beauty that emphasises thinness over health. The resulting high expectations exert social pressure on individuals who seek to attain the ideal body images despite the obvious health risks. The impact of social factors is therefore widely recognisable in mental disorders like anorexia nervosa which is a disorder characterised by excessive and purposeful weight loss despite evidence of low weight (Moskowitz & Weiselberg, 2017).

Research studies have found differences in the circumstances, expectations and belief systems of different cultural groups contributing to different prevalence rates and symptom expression of disorders. For example, anorexia nervosa as reported by Carr

(2015), is less common in non-western cultures as these cultures put less emphasis on thinness in women while western cultures, because of fat-phobia, are worst affected by body thinness disorders.

In addition, cultures have been found to vary across a small geographic range such as from lower-income to higher-income areas and rates of disease and illness differ across such communities. In collectivistic cultures such as African cultures feeding together in one dish as a family is common. The act of sharing the same plate as practised in African contexts may act as a medium through which contagious diseases such as COVID-19 and cholera may spread. This is dissimilar to individualistic cultures such as in western societies where feeding from the same plate is very uncommon, hence, low rates of transmission can be reported.

Any effort directed at improving the health of individuals and communities must be alive to how different cultures can contribute for better or for worse in the wellbeing of their people. Cultural factors have also been used to explain the HIV scale of infectivity where studies such as those by Worku, Asemahagn and Endalifer (2020), found that compared to the other part of the world, sub-Saharan Africa had the highest prevalence rates (71% of the global HIV epidemic). Higher prevalence rates in sub-Saharan region have been linked to cultural practices such as polygamy and '*chiramu*' or '*isilamu*' (Myambo, 2018). These sexual practices are common in collectivistic cultures, which value the needs of a group as opposed to the needs of individuals.

Lastly, belief systems have also been found to contribute to our understanding of diseases and their management. Mutanana et al. (2020), citing Sharma and Romas (2012), demonstrated that health behaviours are sometimes determined by the individual's beliefs systems and their perceptions regarding a disease. In their study, they highlighted that, if one believed that the disease would severely affect one's life

then one would be encouraged to seek treatment and, conversely, if one believed the disease was an insignificant normally occurring upset, then they would not seek help.

From the foregoing, it can be noted that the biopsychosocial approach claims three factors that influence health. These are the biological, psychological and social. It can therefore be concluded that this approach takes into account even the smallest facet of any biological problems at an individual level. It then takes into account the broader aspects of psychological issues and the effects the society has on that individual, and his or her situation. Therefore, this approach accommodates both the micro and macro viewpoints in consideration when analysing the situation of an individual, which helps in administering better treatment. The next section examines the pros and cons of using this biopsychosocial approach.

Pros of the biopsychosocial approach

As already explained, the biopsychosocial approach seeks to understand and treats patients from a multi-dimensional perspective, that is to say, it addresses health and illness from the biological, psychological and socio-cultural foundations. Scholars such as Papadimitriou (2017) argues for the biopsychosocial approach by acknowledging that the approach has established itself as more empathetic and compassionate in medical practice. Revenson and Gurung (2018) contend that the biopsychosocial approach helps to understand the interconnectedness of a person's problems. The explanation by Revenson and Gurung (2018) helps to find a link among biological factors such as physical illness, gender, disability, immune function, neurochemistry and genetic vulnerability with psychological factors such as cognition, personality, attitudes and beliefs as well as with social influences such as family background, cultural traditions, socio-economic status, education and the availability of social support. The interaction of all these factors has been found to have a significant influence on the holistic treatment of patients. Some people drink alcohol due to a genetic disposition for an addiction to alcohol, which is explained by

the biological foundation (Revenson & Gurung, 2018). They further argue that some people may be faced with difficulty in managing their emotions and resort to abusing alcohol as a coping strategy and this explains the psychological foundation. Some people have also been found to be drinking excessively simply because they are in the company of friends who abuse alcohol. The above paper, therefore, finds several reasons for using the biopsychosocial approach to understand health behaviours, and how a thorough understanding of these foundations can help cure ill persons.

Medical practitioners and other health professionals should therefore be on the lookout for pathogenic causes and as well as other behavioural and other social and cultural causes when dealing with ill individuals. They should also endeavour to bring psychological relief to patients as some can deteriorate physically from an ailment due to a stressed state of mind. Research has found a direct link between stress and health (Thoits, 2010). Health professionals should also interrogate the social circumstances of patients since a person and their immediate environment are inseparable.

Cons of the biopsychosocial approach

While the biopsychosocial approach has been hailed as the best approach to medical education and practice because of its ability to cure patients holistically, its usage is not without challenges. As highlighted above, the biopsychosocial approach seeks to address the biological, psychological and social origins of a disease and this can cause serious challenges in terms of time. According to Taukeni (2019), the biopsychosocial approach is a time consuming and expensive approach to use in poorly resourced societies such as those found in developing countries where the doctor to client ratio is low. In Zimbabwe, as in other developing countries, there is a huge gap between qualified medical personnel and the client demand. For example, the statistics supplied by Zimbabwe National Statistics Agency (ZIMSTAT, 2018) indicate that the number of qualified and registered medical practitioners practising medical hospitals

in Zimbabwe to a client is as low as 1:200. This reality makes the case for the biopsychosocial approach difficult to implement because of the need to interact with many clients.

Results

The results of the study show that people in Zimbabwe have different attributions as regards the genesis of diseases hence the three major foundations of biological, psychological and social cultural are handy in addressing illness and health. The study reveals that by addressing the biological aspects, that is, removing or destroying bacteria in the human body, by addressing the mental health of the patient, and by addressing the social factors contributing to the ill health, total health can be achieved. The results further reveal that while the biopsychosocial approach to medical education and practice is noble, it is difficult to fully implement due to the amount of resources and time needed to implement it.

Discussion

From the foregoing results and, in line with the WHO definition of health as proffered by WHO (1948) (as cited in Bickenbach, 2015; Chirico, 2016), it is evident that the use of the biopsychosocial approach to medical education and practise is the sure way of attaining a complete state of health. The biopsychosocial approach ensures that pathogens are removed from the body, the mental status of the patient regarding stress, anxiety and depression managed and beliefs related diseases cured too. Belief related diseases, for example, as cited in January and Sodi (2006), have a link to witchcraft and avenging spirits (*ngozi* in ChiShona or *uzimu* in IsiNdebele). Using the social and cultural foundation, diseases with cultural origins can be managed successfully.

Conclusion

It is imperative, therefore, that medical schools in developing countries, like Zimbabwe, also fully adopt the biopsychosocial approach during medical education and practice to give holistic care to individuals in need of medical care. While no single approach is a panacea to all health problems, the discussion has argued for the adoption and the full utilisation of the biopsychosocial approach to medical education and practice as it is multi-dimensional and all-inclusive in treating diseased individuals. The discussion also recognises the importance of other models such as the biomedical approach and its success stories in treating diseases linked to biological causes. Despite the obvious cons linked to the biopsychosocial approach, it remains the best approach available to medical practitioners and should be fully embraced for the greater good of the societies.

References

- Argyle, M. (2013). *The psychology of happiness*. Routledge.
- Babalola, E., Noel, P. & White, R.G. (2017). The biopsychosocial approach and global mental health: Synergies and opportunities. *Indian Journal of Social Psychiatry*, 33(4), 292-296.
- Banda, C. & Masengwe, G. (2018). Overcoming fear? A search for an empowering theological response to the fear of witchcraft among urban Zimbabwean Christians. *Verbum et Ecclesia*, 39(1), 1-10.
- Barnes, J.C. & Jacobs, B.A. (2013). Genetic risk for violent behavior and environmental exposure to disadvantage and violent crime: The case for gene–environment interaction. *Journal of Interpersonal Violence*, 28(1), 92-120.
- Beck, A.T. & Bredemeier, K. (2016). A unified model of depression: Integrating clinical, cognitive, biological, and evolutionary perspectives. *Clinical Psychological Science*, 4(4), 596-619.
- Bickenbach, J. (2015). WHO's definition of health: Philosophical analysis. *Handbook of the Philosophy of Medicine*, 1.
- Brewin, C.R. (2013). *Cognitive foundations of clinical psychology (psychology revivals)*. Psychology Press.

- Carr, A. (2015). *The handbook of child and adolescent clinical psychology: A contextual approach*. Routledge.
- Chirico, F. (2016). Spiritual well-being in the 21st century: It is time to review the current WHO's health definition. *Journal of Health and Social Sciences*, 1(1), 11-16.
- Conlin, L. & Bissell, K. (2014). Beauty ideals in the checkout aisle: Health-related messages in women's fashion and fitness magazines. *Journal of Magazine Media*, 15(2).
- Dittmar, H. & Howard, S. (2004). Professional hazards? The impact of models' body size on advertising effectiveness and women's body-focused anxiety in professions that do and do not emphasize the cultural ideal of thinness. *British Journal of Social Psychology*, 43(4), 477-497.
- Janoutová, J., Janáčková, P., Šerý, O., Zeman, T., Ambroz, P., Kovalová, M. & Janout, V. (2016). Epidemiology and risk factors of schizophrenia. *Neuroendocrinology Letters*, 37(1), 1-8.
- January, J. & Sodi, T. (2006). The practices of Apostolic faith healers in mental health care in Zimbabwe. *Journal of Psychology in Africa*, 16(2), 315-319.
- Lawrie, S.M., Whalley, H.C., Abukmeil, S.S., Kestelman, J.N., Donnelly, L., Miller, P., ... & Johnstone, E.C. (2001). Brain structure, genetic liability, and psychotic symptoms in subjects at high risk of developing schizophrenia. *Biological Psychiatry*, 49(10), 811-823.
- Mazzotta, C.P. (2016). Biomedical approaches to care and their influence on point of care nurses: a scoping review. *Journal of Nursing Education and Practice*, 6(8), 93-101.
- Maxson, T. & Mitchell, D.A. (2016). Targeted treatment for bacterial infections: prospects for pathogen-specific antibiotics coupled with rapid diagnostics. *Tetrahedron*, 72(25), 3609.
- Moskowitz, L. & Weiselberg, E. (2017). Anorexia nervosa/atypical anorexia nervosa. *Current problems in paediatric and adolescent health care*, 47(4), 70-84.
- Mutanana, N., Tshababa, M., Senderayi, P. & Nyathi, C. (2020). Health promotion and disease prevention: Theories and models influencing epilepsy management. *International Journal of Research and Innovation in Social Science*, 4(9), 599-603.

- Myambo, V. (2018). *Churches as Community Development Locus: addressing the challenges of the girl child in the Eastern Highlands of Zimbabwe* (Doctoral dissertation, Stellenbosch: Stellenbosch University).
- Myers, D.C. (2003). 19 Close relationships and quality of life. *Well-being: Foundations of hedonic psychology*, 374.
- Papadimitriou, G. (2017). The "Biopsychosocial Model": 40 years of application in Psychiatry. 28(2), 107-110.
- Pollard, A.J. & Bijker, E.M. (2021). A guide to vaccinology: from basic principles to new developments. *Nature Reviews Immunology*, 21(2), 83-100.
- Putz-Anderson, V. (2017). *Cumulative trauma disorders*. CRC Press.
- Revenson, T.A. & Gurung, R.A. (2018). Health psychology rising: The current status and future directions of health psychology. *Handbook of health psychology*, 3-14.
- Rutter, M. (2000). Psychosocial influences: Critiques, findings, and research needs. *Development and Psychopathology*, 12(3), 375-405.
- Rutter, M., Moffitt, T.E. & Caspi, A. (2006). Gene-environment interplay and psychopathology: Multiple varieties but real effects. *Journal of Child Psychology and Psychiatry*, 47(3-4), 226-261.
- Ryan, K.J. & Ray, C.G. (2004). *Medical microbiology*. McGraw Hill, 4, 370.
- Senderayi, P. (2021). *Personality as a predictor of job stress among teachers' college lecturers in Zimbabwe* (Doctoral dissertation). ukzn.ac.za
- Simpson, K.J. (2002). Anorexia nervosa and culture. *Journal of Psychiatric and Mental Health Nursing*, 9(1), 65-71.
- Shah, J., Mizrahi, R. & McKenzie, K. (2011). The four dimensions: a model for the social aetiology of psychosis. *The British Journal of Psychiatry*, 199(1), 11-14.
- Taukeni, S.G. (2019). Introductory chapter: Bio-psychosocial model of health. *Psychology of Health-Biopsychosocial Approach*.
- Thoits, P.A. (2010). Stress and health: Major findings and policy implications. *Journal of health and social behaviour*, 51(1_suppl), S41-S53.
- Willis, K.F. & Elmer, S. L. (2007). *Society, culture and health-an introduction to Sociology for nurses*. Oxford University Press.

- Worku, E.D., Asemahagn, M.A. & Endalifer, M.L. (2020). Epidemiology of HIV infection in the Amhara region of Ethiopia, 2015 to 2018 surveillance data analysis. *HIV/AIDS (Auckland, NZ)*, 12, 307-314.
- Baum, A., Revenson, T.A. & Singer, J. (2012). *Handbook of health psychology*. Psychology press.
- Zampetakis, L.A. & Melas C. (2021). The health belief model predicts vaccination intentions against COVID-19: A survey experiment approach. *Appl Psychol Health Well-Being*. 2021;13:469–484 <https://doi.org/10.1111/aphw.12262>.

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