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## The Association between Levels of Psychological Distress Due to COVID-19 and Psychological Coping Strategies among Nairobi Residents

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COVID-19.*

Since the outbreak of COVID-19, people have responded and psychologically coped in different ways. These psychological coping strategies have not been identified and how they relate to the levels of psychological distress largely remain unknown, especially amongst the Nairobi residents. Thus, to explore the association between the levels of distress due to COVID-19 and psychological coping strategies two tools of assessment were used for data collection; the Brief Cope inventory and the COVID-19-related psychological distress for healthy people (CORPD). An ex post facto research design was used to survey 356 Nairobi residents. Data was analysed through the application of descriptive statistics and inferential analysis. The results show that there was no statistical association between problem-focused coping with the psychological distress outcome ( $r=.222$  p value  $>0.01$ ) and no statistical association between emotion-focused and psychological distress construct ( $r=.181$  p value  $>0.01$ ). However, there is a statistical correlation between avoidant-focused coping and psychological distress ( $r=.567$  p value  $<0.01$ ). Thus, residents who engaged in avoidant coping due to the pandemic were more prone to psychological distress, while those who were active problem solvers and emotionally focused had stable psychological health and were less distressed.

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## INTRODUCTION

Corona Virus was first identified in Hubei province, the capital of Wuhan, China in December 2019 as an ongoing epidemic of atypical pneumonia (COVID-19) caused by the zoonotic novel coronavirus, also known as SARS-CoV-2 (Qiu et al., 2020). By 8 April 2020 there were over 1.4 million clinically and/or laboratory-confirmed cases of COVID-19 with over 70,000 deaths worldwide. This is the first coronavirus pandemic. Countries like Italy, the United States of America (USA), the United Kingdom (UK), and later India were hard hit. In these countries, Italy, UK, USA, and India, the infection rates and mortality rates increased exponentially (Backhaus, 2020).

A number of new weekly COVID-19 studies from China suggested moderate impacts on mental health early in the pandemic (Qiu et al., 2020; Zhang et al., 2020). For example, although less than one-third of the national sample in China reported elevated depression, anxiety, or stress, 53.8% reported severe post-traumatic stress syndrome (Wang et al., 2020). Americans reported higher general distress in April 2020 compared with April 2018, suggesting that the pandemic was taking a toll on the lives of American citizens (McGinty et al., 2020). Park et al. (2021) documented levels of distress in the United States and also identified the factors associated with distress early in the pandemic. Their study also found that focusing on and engaging in adaptive emotion regulation and coping (like through telehealth and mental health first aid), if targeted for online mental health interventions during the pandemic, could offset

the likely rise in psychological distress. To identify these factors, they applied the transactional stress coping model. According to this model, individuals' psychosocial resources and coping responses influence the impact of stress exposure on distress (Aldwin, 2007).

According to WHO (2020), fear, worry, and stress are normal responses to perceived or real threats, and especially when humans are faced with uncertainty. It is, therefore normal and understandable that people are experiencing fear in the context of the COVID-19 response. In addition to the fear of contracting the virus in a pandemic such as COVID-19 are the significant changes in people's daily lives, which have come with challenges like keeping social and physical distance and psychological distress associated with these changes. Mental health has been severely affected by the COVID-19 infection owing to fear of the pandemic (WHO, 2020). Various psychological coping strategies have been employed in different parts of the world by individuals and groups. This has affected the provision of mental health care, human care, psychological crisis control measures, and intervention in COVID-19 (Yu et al., 2020).

Kenya recorded the first case of COVID-19 on 12<sup>th</sup> March 2020. In Kenya, COVID-19 has created a lot of concern and the residents responded in different ways. A number of people found the figures given by the government to be exaggerated, whereas others doubted whether COVID-19 even existed (MoH, 2020). Further, some people defied or ignored the public health protocols for COVID-19 and curfew requirements. They wore masks because they

feared being arrested by police and not to protect themselves from the COVID-19 infection. Other residents complied with the government regulation to keep social distance, wash hands, and wear masks. Coping with the pandemic became complex with the imminent loss of livelihoods, closure of learning institutions, most people working from home and elderly employees being asked to resign (Owino, 2020). All these factors generated a lot of distress with fear, anxiety and depression among the general public (Owino, 2020). This raises the question of whether some of the psychological strategies Nairobi residents used may have exposed or protected them from psychological distress due to COVID-19 infection.

Despite the daily bulletins from the Ministry of Health on the COVID-19 pandemic status in Kenya, a huge number of people in Nairobi streets continued to ignore the advice to observe social distancing, wash hands and wear masks. The information on the pandemic included the danger posed by the virus resulting in the possible death of the infected individuals. To enhance the seriousness of the matter, at the beginning of the pandemic, police were authorised to arrest and quarantine those found without masks in public places (MoH, 2020). A significant part of the Nairobi population did not observe these requirements, while others reluctantly adhered to them requirements.

The public health strategies such as washing hands, wearing masks, and social distancing provide physical barriers against the spread of the virus; however, it was not clear which psychological coping strategies the residents used and how these coping strategies affected their levels of psychological distress due to the COVID-19 pandemic. The residents may have used a number of psychological coping strategies. These coping strategies include denial, humour, faith, escape, distraction, looking for social support, following instructions, minimising the problem, and finding ways to cope with the pandemic, among others. The effect of these psychological coping strategies on the level of

distress also remains unknown among the residents. How people cope with threatening situations like a deadly disease pandemic could have an effect on the levels of distress experienced by an individual. This study sought to identify and determine the effects of psychological coping strategies on the levels of psychological distress due to COVID-19 among Nairobi residents. This would provide a better understanding of designing evidence-based psychological intervention programs for both current and future disease pandemics.

## METHODOLOGY

The study applied an ex post facto design to survey the study population, which comprised individuals aged 15 years and above residing in Nairobi and particularly the Kasarani sub-county. The total population of Kasarani Sub County was estimated to be 780,656 inhabitants with 318,809 females and 307,642 males according to the Kenya Population and Housing Census (KPHC, 2019). The entire population was divided into homogeneous groups called strata. The strata were based on both age and gender as follows: 15-20 years; 21-35 years; 36-50 years; 51-65 years; and 65 years and above. The sample size from each stratum was divided equally across the age strata of the total sample size. From each proportion of the strata, simple random sampling was used to obtain the sample size hence the random sampling technique. The sample size for the study was determined by Cochran's sample size formula, which generated a sample size of 385. However, an additional 15 respondents, average (6%) of the sample size, were included to cover the researchers' error bringing the total to 400. However, only 356 respondents gave their full responses.

Data was collected using the Brief Cope Inventory (BCI) used for assessing coping strategies, while the CORPD was used, which is also a standard tool used for assessing levels of psychological distress due to COVID-19 in normal people. While developing the CORPD scale, Feng et al. (2020) used the KMO and Bartlett test of sphericity to determine the appropriateness of

factor analysis. The result (KMO=0.912, Bartlett significance  $P < 0.001$ ) indicated perfect appropriateness to further conduct the confirmatory factor analysis (Cheng et al., 2020). The Brief Cope Inventory was developed by Charles Carver in 2013 from the original version of 1989, which is longer. The BCI is an abridged form of COPE which is recommended for researchers with time and resource constraints but has been found to be reliable and valid in its assessment.

The statistical tests conducted were descriptive and inferential. The descriptive statistics used included the frequencies, means, and standard deviation. The inferential statistics used Pearson's coefficient correlation method. The quantitative

data analysis was done with the aid of SPSS version 23.

## RESULTS

### Association between Coping Strategies and Level of Psychological Distress

The main objective sought to explore the association between coping strategies and levels of distress due to COVID-19 among Nairobi residents. To effectively do this, Pearson's Moment Correlations were used as shown in *Table 1*. In the correlations, Problem-focused coping, emotion-focused coping, and Avoidant focused coping was correlated with psychological distress.

**Table 1: Correlations to check for association Between Coping Strategies levels and Psychological Distress**

|  |                     | Correlations |        |        |       |
|--|---------------------|--------------|--------|--------|-------|
|  |                     | 1            | 2      | 3      | 4     |
| <b>1. Psychological Distress (CORPD)</b> | Pearson Correlation | 1            | .128   | .093   | .577  |
|  | Sig. (2-tailed)     |              | .632   | .081   | .000  |
|  | N                   | 356          | 356    | 356    | 356   |
| <b>2. Problem-Focused Coping</b>         | Pearson Correlation | .222**       | 1      | .232** | .433* |
|  | Sig. (2-tailed)     | .001         |        | .000   | .021  |
|  | N                   | 356          | 356    | 356    | 356   |
| <b>3. Emotion-Focused Coping</b>         | Pearson Correlation | .109         | .215** | 1      | .095  |
|  | Sig. (2-tailed)     | .211         | .000   |        | .074  |
|  | N                   | 356          | 356    | 356    | 356   |
| <b>4. Avoidant-Focused Coping</b>        | Pearson Correlation | .567         | .145*  | .088   | 1     |
|  | Sig. (2-tailed)     | .000         | .071   | .094   |       |
|  | N                   | 356          | 356    | 356    | 356   |

\*\**. Correlation is significant at the 0.01 level (2-tailed).*

\**. Correlation is significant at the 0.05 level (2-tailed).*

Based on the results from *Table 1*, Field (2015) mentioned that an R-Value of between 0.1-0.3 is weak, 0.3-0.4 is at the medium level, and 0.5-1.0 is strong inasmuch as it should not exceed 0.8 to avoid the problems associated with multicollinearity. From the results from *Table 1*, there is a statistical association between avoidant-focused coping and psychological distress ( $r=.567$  p value  $<0.01$ ) among residents of Nairobi. However, there is no statistical association between problem-focused coping with the

psychological distress outcome ( $r=.222$  p value  $<0.01$ ) and emotion-focused and psychological distress construct ( $r=.181$  p value  $>0.01$ ) among Kasarani Residents due to the COVID-19 pandemic. This implies that respondents who engaged in self-distraction, substance use, and denial coupled with behavioural disengagement were more prone to psychological distress, while those who were active problem solvers and who was emotionally focused in terms of venting, religion, acceptance, humour, and who had

emotional support had stable psychological health and were less distressed compared to the avoidant category.

## DISCUSSIONS

The results that there is no statistical association between problem-focused and emotion-focused coping and the statistical association between avoidant coping and psychological distress among Nairobi Residents during the COVID-19 pandemic agrees with the literature but to other extents, it doesn't. Yu et al. (2020) investigated the psychological status of the general population in mainland China during the outbreak of coronavirus disease 2019 (COVID-19) and explored the factors influencing psychological distress and how they coped in order to provide the basis for further psychological intervention programs. About one quarter (22.8%) had high levels of psychological distress (K6 score  $\geq 13$ ). They found that individuals with higher psychological distress were more likely to be unmarried, spend more than 6 hours per day searching for information about COVID-19, more frequently adopt a passive coping style, and report less social support than those with lower psychological distress. They concluded that the COVID-19 outbreak in China has a great impact on the mental health status of the general population and that active coping strategies and increased social support are significantly correlated with decreased psychological distress and may serve as the basis for psychological interventions.

Similarly, other studies from several countries, such as the Netherlands and the United States (USA) by Dehue et al. (2012), investigated bullying in the workplace. More specifically, their study explored the mental and physical health consequences of being bullied in the workplace and the role of coping as a moderating variable among 361 people living in the Netherlands who, at the time of the study, were employed for at least eight hours a week in an organisation where they have both colleagues and a manager. Of these 361 employees, 139 (39%) reported having experienced at least one form of bullying listed in

the questionnaire at least once a month, and 64 (18%) reported having experienced at least one form of bullying once a week. They found that the employees reporting weekly bullying also reported more health problems and poorer well-being, and were more frequently absent from work, than employees who reported monthly bullying or no bullying at all. Those who had been bullied on a weekly basis were also more inclined to cope with problems via compensation than those who were not bullied.

Although this study dealt with bullying as a stimulus to instigate coping strategies, its findings can be extended to explain gaps in the coping mechanisms during the COVID-19 pandemic. Is it possible that those who have tried to do something to prevent transmission, like following protocols of prevention such as hand washing, wearing masks and social distancing (solution-focused coping), may have better mental health outcomes or lower psychological distress levels than those, for example, who have denied the existence of the pandemic or use avoidance to flee from the problem. Being powerless in a stressful situation could easily increase levels of distress in people, especially when inappropriate coping strategies are used to deal with it. Doing nothing, denying existence, and escaping is likely to increase anxiety and stress in persons facing situations like the pandemic. This is a gap which will need to be investigated further despite this study confirming the same.

Further, the results agree largely with the literature, especially that by Adhikari Baral & Bhagawati (2019), which noted that when confronted with a single stressor or constellation of stressors, individuals are forced to consider their coping resources and select a coping response accordingly. The recent study by Adhikari Baral & Bhagawati (2019) set to investigate the prevalence of post-traumatic stress disorder and the use of coping strategies among adult survivors of the earthquake. They found that PTSD was prevalent among 24.10% of adult survivors with the highest intrusion symptoms. This was significantly associated with age, sex,

education, and injury to self. It also revealed that the elderly, females and those who were illiterate and those who were injured during the earthquake were at higher risk of developing PTSD. The most utilised coping strategy was active coping. The survivors without PTSD scored more on active coping and self-distraction coping, while those with PTSD mostly used passive coping, religious coping, and substance use coping.

## CONCLUSION

There is no statistical association between problem-focused coping with the psychological distress outcome and between emotion-focused and psychological distress construct among Nairobi Residents due to the COVID-19 pandemic. However, there is a statistical correlation between avoidant-focused coping and psychological distress among residents of Nairobi. It can be concluded that Nairobi residents who used problem-focused and emotion-focused coping did not suffer psychological distress, but those who used avoidant coping suffered psychological distress.

The study recommends that the residents of Nairobi should enhance their active, self-distraction, planning, and venting coping strategies to enable them to reduce psychological distress that may accrue out of the fear, anxiety, and suspicion related to the COVID-19 pandemic. The study further recommends that the residents of Nairobi should be psycho-educated to perceive the COVID-19 pandemic as a challenge and this will lead to the usage of action-oriented or solution-focused psychological coping strategies, which would then lead to adaptive or positive ways of coping like adhering to the MoH protocols. This would also lead to better mental health adjustment or lower levels of psychological distress. The Ministry of Health should ensure that its messaging of COVID-19 measures is clear, unambiguous, and hopeful to ensure that the citizens not only adhere to the measures in an action-oriented manner but also make certain that the citizens would not see the pandemic as a danger but as a challenge which can be surmounted.

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