An Evaluation of the Coping Strategies of Medical Residents in Kenya

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ABSTRACT

Coping has been demonstrated as the key determinant of mental health among medical residents. No study has quantitatively evaluated the coping strategies of medical residents in Kenya. This study therefore sought to evaluate the coping strategies of medical residents in Kenya. The BRIEF Cope was used. The study was a quantitative, cross-sectional online survey among medical residents in Kenya. The validated study tool consisted of the Brief-COPE. Stratified sampling technique was used with a sample size of 283 calculated. Descriptive statistics were analyzed into proportions. Adaptive coping strategies were more utilized. The most commonly used adaptive coping strategies were acceptance (mean 69.96, SD 22.41), planning (mean 69.15, SD 22.84), positive reframing (mean 67.81, SD 22.42) and religion (mean 62.40, SD 26.96). The most commonly used maladaptive coping strategies were self-distraction (mean 61.33, SD 21.38), venting (mean 55.04, SD 19.25) and self-blame (mean 52.52, SD 21.82). Adaptive coping strategies were used more than maladaptive. The most commonly used adaptive and maladaptive coping strategies were acceptance and self-distraction respectively. Policy formulation to promote utilization of adaptive coping strategies among medical residents in Kenya.

Key Words: coping strategies, medical residents, mental health.

I. INTRODUCTION

Coping has been a key factor determining how people respond to the stresses they face on a day-to-day basis that could potentially affect their mental health. Mental health has been defined as, 'a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community' (WHO, 2014). In view of this, the concern for mental health has been rising, in recent years, with the world health organization (WHO) estimating, that up to 4.4% of the world's population is depressed with suicide causing up to 1.5% of deaths worldwide, placing it among the top twenty causes of death (WHO, 2017). The WHO also estimated that 4.4% of Kenya's population is depressed, ranking it at position six together with several other African countries at the same levels of depression (WHO, 2017). These mental health issues are on the increase within groups exposed to high levels of occupational stress such as medical personnel.

Populations prone to mental health issues include those under strenuous circumstances. Key among these, and the primary focus of this study, are medical residents. For the purpose of this study, medical residents referred to medical doctors pursuing a master's degree in any clinical medical specialty. Stress in this population was demonstrated in a study conducted in India among medical residents, finding a 42.8% and 39.1% prevalence of moderate and severe stress respectively in that single institution alone (Grover et al., 2019). On a daily basis, this population faces stressful situations at the school, work and family levels potentially leading to psychological distress which, when poorly managed can lead to mental health issues. Hence, with the rise in mental health issues, such as burnout and depression, it is unclear how medical residents in Kenya cope to the stresses of residency. Several studies show that adaptive coping strategies as opposed to maladaptive coping strategies, enable medical residents to overcome the stresses of residency and have good mental health. Among these is a cross-sectional study that was done among medical residents finding high levels of burnout of up to 31.82% and maladaptive coping strategies being associated with high burnout levels (Sreelatha et al., 2018). Therefore, how residents cope to the various stresses of residency is ultimately a key determinant for the occurrence of mental health issues such as burnout and depression. Knowing their adaptive coping strategies enables interventions to promote these in order to prevent mental health issues in this population. The key question that this study seeks to answer therefore is, how are their coping strategies?

The need for adaptive leadership skills within the insurance industry in order to navigate the challenging and changing environment is highlighted by several studies. Ratemo (2018) found the need for leaders to adapt to the changing environment. Wong and Chan (2018) found the need to develop an adaptive culture and structure while Meredith and MacDonald (2017) found the need to use an adaptive management approach. The need to develop skills that enable leaders to operate in uncertain environments was identified by Mugisha and Berg (2017) while Bennett et. al. (2016) found the need to develop a sense of positive identity, acceptance of uncertainty, effective sense-making, learning agility, and relevant leadership practices for uncertain times. Mental health issues among medical residents have been attributed to utilization of maladaptive coping strategies to the stresses they face. The mental health of medical residents is a subject of concern for many reasons. Firstly, it's important to them as individuals because a healthy individual is a healthy community. Secondly, at the institutional level, medical residents are responsible for large numbers of patients as part of their program requirements. Therefore, it is important that they are able to maintain sanity and remain productive. Thirdly, is at the national level, for Kenya to achieve

its healthcare goals for 2030 and the current goals of attaining universal healthcare for all, it must seek to maintain a mentally healthy workforce. On the other hand, mental health issues among medical residents, have been shown to result in negative consequences at various levels. These include, increasing levels of depression and suicide rates at the individual level, increasing cases of harm to patients at the patient level, poor productivity and absenteeism at the organizational level and early dropout rates from the profession resulting in a reduction in the health workforce (West et al., 2018). Notably, all these consequences are not alien to our Kenyan context, therefore addressing mental health issues among medical residents in Kenya is crucial. Maladaptive coping strategies among medical residents have been associated with mental health issues. Accordingly, there is need to find out how medical residents in Kenya cope to the various stresses that face them on a daily basis. This study therefore sought to evaluate the coping strategies of medical residents in Kenya therefore guiding interventions in this area that will reduce mental health issues in this population.

II. METHODOLOGY

This was a quantitative, cross-sectional study evaluating the coping strategies of medical residents in Kenya. The study was an online study targeting medical residents in all the institutions offering various postgraduate courses in medicine. The duration of the postgraduate programs ranged from three to five years depending on the specialty. The population of the study was that of the medical residents in Kenya. This included medical residents registered by the Kenya Medical Practitioners and Dentists Board (KMPDB) as of 1st June 2021. This population was accessible through the medical board that has their records saved in the registrar's register. In order to obtain the register, an official letter from Kabarak University was addressed to the medical board officials, along with ethical approval documents, explaining this research and requesting that the phone contacts or emails of these medical residents be made available to the principal researcher. The medical board gave consent on behalf of the medical residents prior to availing the contact information of the medical residents. This contact information was kept safe and confidential by the principal researcher under password protection.

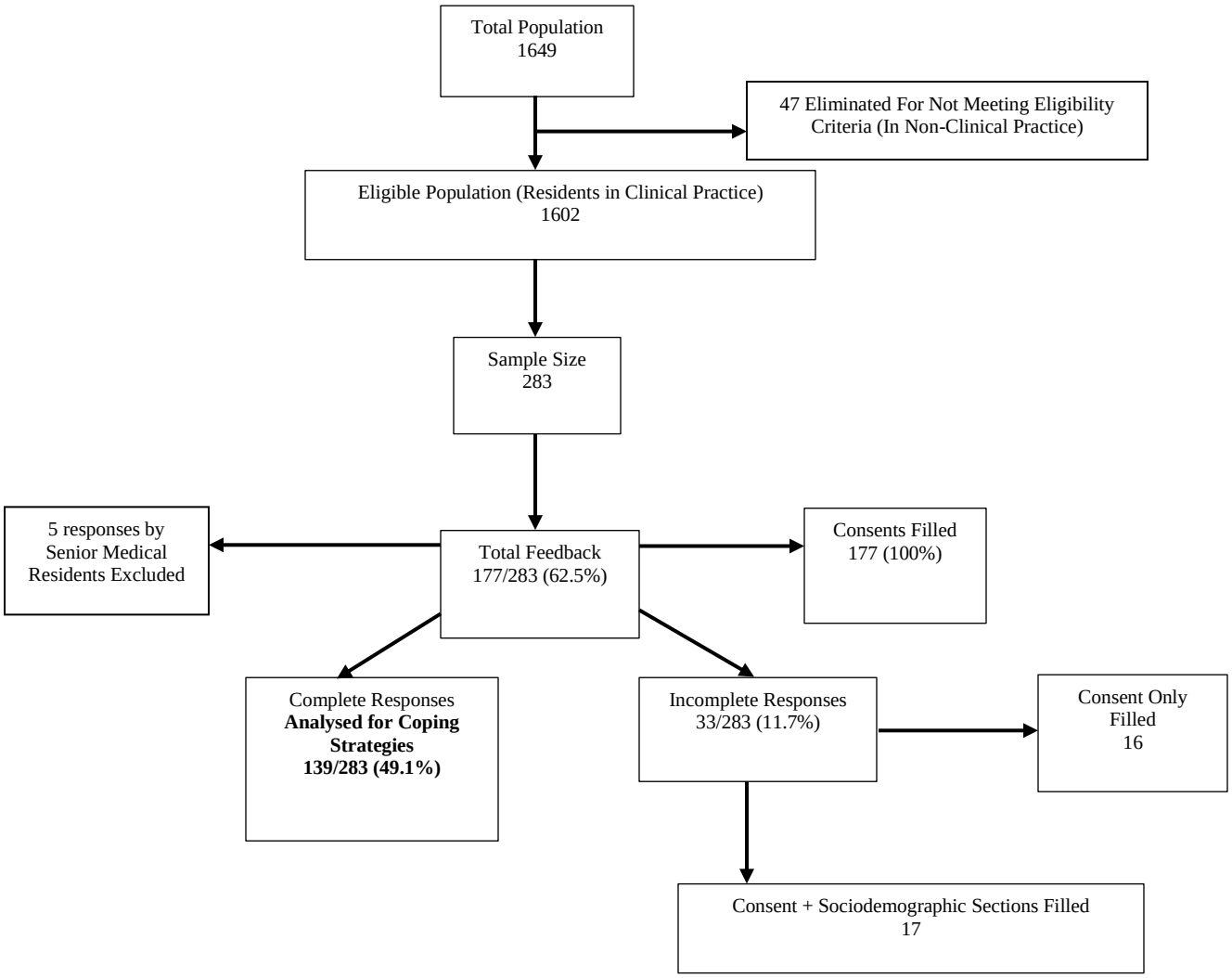
Stratified sampling technique was used. The sampling frame was stratified according to gender to ensure equal gender representation as in the sample frame i.e. 55% males and 45% females. These strata were then randomized to determine who will participate in the study, according to the sample size. A sample size of 283 was calculated using the Kish Leslie and Cochran formulae. (Guwahat, 2013). The online research instrument was then sent out to the study participants through email at the beginning of the study and thereafter reminders were sent on a weekly basis via email and text. The study tool contained the consent page as the first page which was made compulsory. The rest of the online tool contained: the socio demographics and consent and the Brief-COPE to measure for coping strategies. Pretesting of the study instrument was conducted among some of the medical residents training at AIC Kijabe teaching and referral hospital. A sample size of 10 was used. Once the data was collected, it was transferred to an excel document. Analysis was done via excel. The data was kept under password protection to ensure safety and protection of the research data. Ethical approval was sought from the research and ethics committee in Kabarak University as well as NACOSTI. The study was voluntary. Confidentiality of the participants was maintained by proper and safe handling of online responses as well maintaining anonymity. Contacts were provided of a mental health hospital for the medical residents that needed help. The principal researcher also provided their contacts.

III. RESULTS

The study was conducted between 1st, June 2021 to 29th, July 2021. The online survey tool was first sent out on 1st June via email yielding a total of 75 responses that week. Subsequent reminders yielded a total of 177 responses by the end of the study period. Data collection was officially closed on 29th July 2021 through deactivation of the link. The total number of medical residents in the registrars register at the medical board was 1649 as of the onset of the study. 47 medical residents were excluded from the study having not been in clinical practice. The sample frame was then 1602. A sample size of 283 was calculated, a 10% attrition added, resulting in 312 as the final sample size. A total of 177 responses (62.5% response rate) were obtained by the end of the survey with 139 (49.1%) complete responses analyzed. 5 responses were excluded because they were completed by senior medical residents. This is illustrated in figure 1 below.

Figure 1:

Recruitment Procedure



A. Demographic Findings

Below is the socio-demographic distribution of the respondents to the study.

Table 1:

Sociodemographic Characteristics of the Respondents

Sociodemographic parameter		**Overall, N=139 Frequency (%)**
Age	Mean (SD)	33.209 (3.791)
	Range	28.000 - 50.000
Sex	Female	58 (41.7%)
	Male	81 (58.3%)
Training Institution	Private	24 (17.3%)
	Public	115 (82.7%)
Marital Status	Married	89 (64.0%)
	Single	50 (36.0%)
Specialty of training	Anesthesia	8 (5.8%)
	Cardiothoracic Surgery	2 (1.4%)
	Family Medicine	10 (7.2%)
	General surgery	23 (16.5%)
	Internal medicine	18 (12.9%)
	Neurosurgery	8 (5.8%)
	Obstetrics and Gynecology	17 (12.2%)
	Ophthalmology	6 (4.3%)
	Oral and Maxillofacial surgery	4 (2.9%)
	Orthopedic surgery	10 (7.2%)
	Pediatric surgery	1 (0.7%)
	Pediatrics	7 (5.0%)
	Plastic surgery	2 (1.4%)
	Psychiatry	12 (8.6%)
	Public health	2 (1.4%)
	Radiology	3 (2.2%)
	Urology	6 (4.3%)
Year of residency	1	31 (22.3%)
	2	26 (18.7%)
	3	54 (38.8%)
	4	20 (14.4%)
	5	6 (4.3%)
	6	2 (1.4%)

139 respondents completely filled the survey questionnaire and this was the population that was analyzed (Table 1). The mean age of the respondents was 33.21yrs. Majority were male, in public universities and married. Majority of the respondents were from general surgery and in their third year of study.

B. Findings for Objective

The findings are as shown on table 2.

Table 2:

Coping Strategies

Coping Strategies	Maximum possible points	Absolute score = 139	Relative score
		Mean (SD)	Mean (SD)
Adaptive	64	39.42 (9.81)	61.59 (15.33)
Acceptance	8	5.60 (1.79)	69.96 (22.41)
Planning	8	5.53 (1.83)	69.15 (22.84)
Positive reframing	8	5.42 (1.79)	67.81(22.42)
Religion	8	4.97 (2.16)	62.14 (26.96)
Active	8	4.93 (1.68)	61.60 (20.94)
Emotional coping	8	4.51 (1.69)	56.38 (21.09)
Instrumental	8	4.32 (1.72)	53.96 (21.50)
Humor	8	4.14 (1.86)	51.71 (23.27)
Maladaptive	48	23.09 (6.09)	48.10 (12.70)
Self distraction	8	4.91 (1.71)	61.33 (21.38)
Venting	8	4.41 (1.55)	55.04 (19.25)
Self blame	8	4.20 (1.75)	52.52 (21.82)
Behavioral disengagement	8	3.32 (1.40)	41.55 (17.50)
Denial	8	3.32 (1.47)	41.46 (18.31)
Substance use	8	2.93 (1.53)	36.69 (19.11)

C. Interpretation

Adaptive coping strategies (mean 61.59, SD 15.33) were more commonly used compared to maladaptive coping strategies (mean = 48.10, SD = 12.70). The most commonly used adaptive coping strategies were acceptance (mean 69.96, SD 22.41), planning (mean 69.15, SD 22.84), positive reframing (mean 67.81, SD 22.42), religion (mean 62.40, SD 26.96) and active coping (mean 61.60, SD 20.94). The least used adaptive coping strategy was humor (mean = 51.71, SD 23.27). The most commonly used maladaptive coping strategies were self-distraction (mean 61.33, SD 21.38), venting (mean 55.04, SD 19.25) and self-blame (mean 52.52, SD 21.82). The least used maladaptive coping strategy was substance use (mean = 36.69, SD 19.11).

IV. DISCUSSION

This study therefore demonstrates that overall, the medical residents in Kenya, which responded to this study, utilized adaptive coping strategies more than maladaptive coping strategies. The most commonly used adaptive coping strategy was acceptance while the least used adaptive coping strategy was humor. On the other hand, the most commonly used maladaptive coping strategy was self distraction while the least used maladaptive coping strategy was substance use. Few studies have been done evaluating the coping strategies of medical residents worldwide. A national cross-sectional study, done among medical residents in Saudi Arabia found that the most commonly used adaptive coping strategy was religion, followed by planning, acceptance and then active

coping (Alosaimi et al., 2015). This study had acceptance as the most commonly used strategy, followed by planning, positive reframing and religion. In addition, the same Saudi Arabian study, demonstrated that the most commonly used maladaptive coping strategies were self-blame followed by self-distraction and venting (Alosaimi et al., 2015). These findings are closely similar to the findings of this study in which self-distraction came first and was followed by venting and self-blame.

Therefore, the respondents to this study, seem to share similar coping strategies as those in other parts of the world, however, overall, they utilize adaptive coping strategies more than maladaptive coping strategies. Yet, one may want to understand what these various adaptive and maladaptive coping strategies mean. Adaptive coping strategies are eight in total although only five will be mentioned here. Planning refers to thinking within one self about how to confront the stressor (Taylor, S., 1998). Religion refers to increasing one's involvement in religious activities (Taylor, S., 1998). Acceptance refers to accepting that the stressful event happened and it is factual (Taylor, S., 1998). Positive reframing refers to viewing the stressful event in a more positive way and growing from it (Taylor, S., 1998). Finally, humor refers to joking about the stressor (Taylor, S., 1998). The respondents to this study utilized acceptance more. They preferred to accept the stressors that could potentially affect their mental health. Afterwards, they plan on how to face the stressors while maintaining a positive mindset and increasing their trust in God. The last thing they would do is make fun of the stressors they are facing.

Maladaptive coping strategies are six, four will be mentioned here. Venting refers to the awareness of one's feelings and the tendency to express the feelings (Taylor, S., 1998). Self-distraction refers to intentionally doing things to take one's mind off the stressor (Taylor, S., 1998). Substance use refers to turning to alcohol and other drugs of abuse as a way of dealing with the stressor (Taylor, S., 1998). Self-blame refers to criticizing oneself as being responsible of the situation (Taylor, S., 1998). In view of this, while the respondents to this study would accept their stressors and even plan on ways to deal with them, their most preferred maladaptive coping strategy is self-distraction which means that they would do all they can to take their mind off the stressor. Afterwards, they would express themselves out and speak about their emotions caused by the stressor while also blaming themselves as the reason behind the whole situation. Notably, substance use is their last resort which is very encouraging. Reasonably, the sociodemographic factors may have had a contribution in the findings of this study. The respondents being medical doctors, who were mostly married, were quite responsible. This comes out in their choosing to accept the stresses that face them, to plan on how to deal with these stresses while maintaining a positive outlook on life and trusting in God. They do this while trying to keep their mind off the stressor, to express themselves to others and even taking responsibility of the situation with very few considering substance use as an option. Perhaps the large representation by the surgical disciplines who cumulatively form 35.9% of the respondents could have skewed the results.

Whereas the medical residents in Kenya, that responded to this study, utilized adaptive coping strategies more than maladaptive ones, earlier research shows that mental health issues still exist, and this, therefore, brings to question the effectiveness of the adaptive coping strategies utilized by this population. This begs for more in-depth studies to establish in depth the factors affecting the choice of coping strategies among medical residents, in different seasons and within the various sociodemographic characteristics in order to help them cope well to the stresses they face.

V. CONCLUSION

The respondents to this study utilized adaptive coping strategies more than maladaptive coping strategies. The most commonly used adaptive coping strategies were acceptance, planning, positive reframing and religion while the most commonly used maladaptive coping strategies were self-distraction, venting and self-blame. Promoting the use of adaptive coping strategies in this population will be of paramount importance to curb the growing mental health crisis. Further research work needs to be done to establish the factors affecting the choice of coping strategies. Furthermore, policies need to be formulated to address mental health issues among medical residents in Kenya.

VI. RECOMMENDATIONS

A. Policy Recommendations

There is currently no existing policy document addressing mental health issues, specifically focusing on medical residents in Kenya. Nevertheless, mental health issues are present in this population. Therefore, these policies need to be formulated at several levels, including;

- The Kenya Medical Practitioners and Dentists board (KMPDB)
- The universities in Kenya with postgraduate training in medicine,
- The training hospitals for medical residents including those utilized by the Pan African Academy of Christian Surgeons (PAACs) and College of Surgeons of East, Central and Southern Africa (COSECSA)
- The Kenya Medical Practitioners and Dentists union (KMPDU)

These policy documents should include:

- Policies on prevention of mental health issues among medical residents
- Policies of promotion of mental health among medical residents.
- Policies on regular screening and early detection of mental health.
- Policies on treatment of those medical residents with mental health issues.

B. Recommendations for Further Research

Further research is required in this area, in our country today. This includes;

- A follow-up mixed methods study to explain at depth the factors affecting occurrence of mental health issues and also the factors affecting the choice of coping strategies used by medical residents in Kenya.
- A follow-up interventional cohort study to establish other suitable interventions, alongside coping, that would prevent mental health issues in this population.
- Research on the role of governing bodies in the management of mental health issues among medical residents in Kenya.

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