



Relationship between social support, meaning in life, depression and suicide behaviour among medical students

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Abstract

There is robust evidence supporting the protective effect of social support from negative psychological consequences, but the mechanism through which social support performs this function is not clear. The present study explored the mediating role of meaning in life (presence of meaning in life: PML, and search for meaning in life: SML) in the relationship between social support, depression, and suicide behaviour among undergraduate medical students. Using a cross-sectional design, undergraduate medical students ($N = 240$, M age = 22.38, $SD = 2.16$) were randomly selected from the faculty of medical sciences, University of Nigeria, Enugu Campus. Participants completed relevant measures. Results indicated that social support was negatively associated with depression ($B = -0.20$, $p = .002$), and suicide behaviour ($B = -0.05$, $p = .004$). PML mediated the association between social support and depression [95%CI: -0.12 , -0.03], and the association between social support and suicide behaviour [95%CI: 0.12 , 0.04]. The mediating role of SML on the association between social support and depression [95%CI: -0.04 , 0.01], and between social support and suicide behaviour [95%CI: -0.06 , 0.01] were not significant. The findings of this study suggest that the presence of meaning in life is the pathway through which social support alleviates depressive symptoms, and suicide behavioral tendencies, and could therefore serve as an intervention target to decrease such negative psychological outcomes in medical students.

Keywords Medical students · Meaning in life · Social support · Depression · Suicidal behaviour

Introduction

Over the years, medical training worldwide usually involves a very high level of physical, mental and psychological strain (Dutheil et al., 2019; Guo et al., 2021; Zhou et al., 2022). The students may spend several years studying, with a very limited time to socialize, or even travel home during holidays and long vacations (Yussof et al., 2013). Previous studies have reported that medical students experience serious mental health problems including depression, and suicidal behaviors at a higher rate than the general student population (e.g., Basnet et al., 2012; Goldman et al., 2015; Milam et al., 2021; Moir et al., 2018; Rotenstein et al., 2016). A meta-analysis of 42 studies revealed that the prevalence of depression among medical students was estimated at 26.7%, and that only 15.7% of those that tested positive to depression sought for

psychiatric treatment (Rotenstein et al., 2016). Compared to other professions, a higher prevalence of suicide behaviour found among physicians is assumed to have its roots in medical schools and this may reflect the effect of untreated depression (Center et al., 2003; Dutheil et al., 2019; Tjia et al., 2005). Thus, medical students' psychological health is not just an issue for the affected individuals, but also for the patients for whom they will provide care. Therefore, in order to help promote the psychological health of medical students, the present study sought to examine the role of certain psychosocial factors in depression, and suicidal ideation among medical students.

The theoretical anchor for this study is the Social-Cognitive Processing Theory (Tedeschi & Calhoun, 2004). This theory provides a credible explanation for the importance of cognitive processes in producing positive psychological adjustment to stressful life situations, and the significant role of social interaction in facilitating these cognitive adaptation processes. According to this theory, perceived social support, as a supportive social network, and a potential environmental resource (Tedeschi & Calhoun, 2004), can

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activate or facilitate adaptive cognitive processes needed to cope successfully with difficult life situations. Meaning in life is one adaptive cognitive process that may be derived from the support of others, thereby implicated in the successful confrontation of difficult life situation. Social support is found to promote a sense of meaning in life (Zuo et al., 2021), as individuals with greater sense of meaning in life usually experience better psychological health outcome across situations (Aliche et al., 2019). Such individuals may likely perceive their present challenges as a stepping stone towards actualizing their life goals and aspiration. Although this theoretical postulations have not been applied on depression, and suicide behaviours, propositions of the model supports the concurrent exploration of perceived social support, and meaning in life in relations to psychological health outcome such as depression and suicide.

Social support is one psychosocial factor known to potentially promote the psychological health of medical students (Guo et al., 2021). According to the buffering hypothesis, the presence of a social support system helps buffer, or shield, an individual from the negative impact of stressful life experiences (Cohen & Wills, 1985). Social support refers to the feelings that one is being valued, respected, cared for, and loved by people who are present in one's life (Aliche et al., 2020). Following Zinet et al.'s (1988) model, social support is conceptualized as coming from different sources such as family, friends, or significant others. Robust evidence exists on the beneficial effects of social support from different sources in helping individuals cope adequately with life changes such as depression (Alsubaie et al., 2019; Guo et al., 2021; Talwar et al., 2017; Qing & Li, 2021), and the tendency of committing suicide (Faria et al., 2020; Miller et al., 2015; Lai & Ma, 2016).

As protective as social support is, the mechanism through which it promotes psychological health is not clear. The researchers propose that having a greater sense of meaning in life may be one important pathway. Meaning in life involves the extent to which people comprehend, make sense of, or see significance in their lives (Steger et al., 2006). Notably, human life has meaning; and human beings by nature long to experience their own sense of personal life meaning under all circumstances (Aliche et al., 2022; Scignaro et al., 2015). This may be particularly important to medical students since a higher sense of meaning in life has been identified as a potential contributor to health and well-being (Heisel et al., 2016). Previous research has shown that there is a relationship between meaning in life and depression (Alandete et al., 2015; Qing & Li, 2021), and between meaning in life and suicide behaviour (Aviad-Wilchek et al., 2017; Costanza et al., 2019; Lew et al., 2020) among medical students.

Thus, empirical literature has identified meaning in life as having two distinct dimensions: presence of meaning in life and search for meaning in life (Steger et al., 2006). The presence of meaning in life component represents measure

of the perception of the extent to which the significance and purpose are experienced or specific goals are accomplished (Steger et al., 2006). Presence of meaning in life has been linked to decreased symptoms of depression (Qing & Li, 2021), and has remained a desired psychological attribute that protects people against contemplating suicide (Costanza et al., 2019). However, the search for meaning in life component is a measure of an attempt to enhance the comprehension of personal meaning, significance and purpose in life (Steger et al., 2006). Previous research on the association of search for meaning in life and wellbeing has been inconsistent. Some researchers have found a negative association between SML and depression or mental health outcome (Chen et al., 2021; Steger et al., 2008, 2011; Wang et al., 2016), others have reported a positive association between SML and poor mental health including suicide behaviour (Lai et al., 2016; Li et al., 2019; Costanza et al., 2019), whereas some others reported no significant association (Hedayati & Khazaei, 2014).

The desire to find meaning in life may be derived from the social and encouragement of the family members, friends and others (Lambert et al., 2010, 2013). This kind of support and encouragement may enable medical students to reappraise the academic-related stressors in a positive light which then help to boost their resilience abilities, and be able to orient themselves toward future goals and aspirations (Aliche et al., 2019; Bartres-Faz et al., 2018). Effective social interactions may provide a veritable platform for students to share their worries and emotional pains to their family members, friends and senior colleagues who could then encourage them on how best to handle those challenges. This may help facilitate and reinforced a sense of hope, fulfilment, and purpose in life (Lambert et al., 2010). Previous studies have found that meaning in life is consistently and positively associated with social support (Bartres-Faz et al., 2018; Zuo et al., 2021). There is evidence that meaning in life mediated the association between social support and positive adaptation among victims of a violent attack (Aliche et al., 2019). Meaning in life was also found to partially mediate the relationship between perceived social support and hopelessness during the COVID pandemic (Zuo et al., 2021). In addition, meaning in life also played a partial mediating role on the association between social support and depression among undergraduate students (Qing & Li, 2021). Based on these findings, one may therefore speculate that medical students who perceived adequate social support from their families, friends or peers and significant others such as lecturers, and senior colleagues may tend to see purpose in their lives and work towards understanding themselves more than ever. This helps in decreasing the symptoms of depression and suicidal tendencies that may occur in the course of their medical training.

The present study

Social support is an established protective factor against all academic-related stressors among college students, but little is known about the pathway through which social support influenced depression and suicide behavior. To our knowledge, this is the first research to explore the mediating role of meaning in life (presence and search) in the relationship between social support, depression, and suicide behavior among medical students. Although the role of meaning in life in mediating the relationship between social support and depression has previously been examined by Qing and Li (2021), their study examined meaning in life as a unidimensional construct. The present study considered the role of specific dimensions of meaning in life (presence and search) as potential independent mediators of the relationship between social support and depression. Since previous study has found that the two dimensions of meaning in life (presence and search) are entirely two distinct construct that often times have different effects on outcomes (Aliche et al., 2022; Steger et al., 2006), considering meaning in life as a multidimensional construct would help in determining the critical aspects of its antecedents and consequences which are relevant to a positive outcome of psychological interventions for medical students. Furthermore, since previous studies have not considered whether meaning in life (presence and search) may serve as a possible pathway through which social support may influence suicide behaviour, a better understanding of the interplay among these variables will generally, not only contribute to literature on what medical students go through in the course of their training, but also would help inform adequate interventions for those most vulnerable to these mental health problems.

Therefore, the present study aimed to examine the mediating role of meaning in life (presence and search) in the relationship between social support, depression, and suicide behavior among medical students. It was hypothesized that (1) Presence of meaning in life will mediate the relationship between social support and depression (2) Search for meaning in life will mediate the relationship between social support and depression (See Fig. 1). (3) Presence of meaning in life will mediate the relationship between social support and suicide behavior; (4) Search for meaning in life will mediate the relationship between social support and suicide behavior (See Fig. 2).

Method

Sample and procedure

Participants in this study included 240 undergraduate medical students who were randomly selected from the department of medicine and surgery, Faculty of medical sciences, University of Nigeria, Enugu Campus. Inclusion criteria included that participants (1) must be studying medicine and surgery; (2) must be in one of the following years of study: 4th year, or 5th year, or 6th year; (3) must be 18 years and above; (4) must be physically and mentally stable to be able to respond to the items on the psychological instruments; and (5) must show willingness to participate in the study.

During the morning hours when the medical students were seated in their respective classes waiting for their lecture, the researchers, the trained research assistants, with the help of the class representatives, approached the students for participation in the study. A total of 912 students were

Fig. 1 Showing the mediating role of meaning in life in the relationship between social support and depression

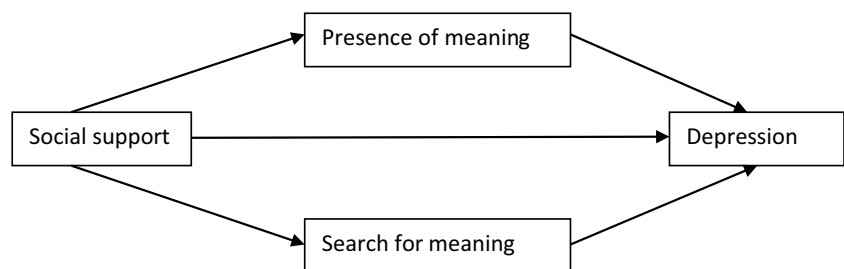
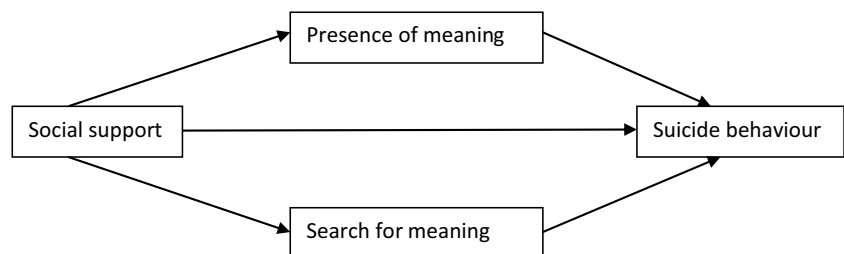


Fig. 2 Showing the mediating role of meaning in life in the relationship between social support and suicide behaviour



admitted to study medicine and surgery in the three selected classes (4th year = 349; 5th year = 292; and 6th year = 271). Out of this number, only 503 students who were available on the day of the study, and who also met the inclusion criteria, participated in the study. The researchers and their research assistants explained to the participants the objectives of the study, and urged them to give their sincere responses on the items in the psychological instrument. The participants were also assured that their responses would be kept confidential. After obtaining the informed consent orally, the 503 students were assigned numbers serially and those who had odd numbers were selected for the study. In all, a total of two hundred and fifty-one ($n = 251$) questionnaires were distributed to the eligible participants. Out of this number, eleven (11) copies were not completed properly and were discarded. Two hundred and forty (240) questionnaires that were properly filled and returned were used for data analysis.

Measures

Social support was measured using the 12-item Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988), which assesses individuals perceived social support from three sources: family, friends, and significant others. Response on the items (“I get the emotional help and support I need from my family”; “I have friends with whom I can share my joys and sorrows.”) are scored on a 5-point Likert-type structure ranging from strongly disagree (1) to strongly agree (5). The internal consistency of MSPSS (Cronbach’s alpha) was 0.89 for the full scale and 0.78, 0.76, and 0.70 respectively for the family, friends, and significant others support subscales (Zimet et al., 1988). The MSPSS evidenced good psychometric properties among the Nigerian sample (Aliche et al., 2020). The internal consistency (Cronbach’s alpha) of 0.91 was obtained for the present study.

Meaning in life was measured using the 10-item Meaning in life Questionnaire (MLQ; Steger et al., 2006). The scale has two subscales: Presence of meaning in life (PML), and Search for meaning in life (SML). Scores on the items were rated on a 7-point Likert scale ranging from 1 = absolutely untrue, to 7 = absolutely true, with higher scores in any of the subscales indicating greater use of that subscale. The scale has very good psychometric properties (Steger et al., 2006). There is also evidence of an acceptable reliability and validity indices among Nigerian population (Aliche et al., 2019). In this study, the Cronbach’s alpha for the PML was 0.87 and SML was 0.90 respectively.

Depression was assessed using the Iowa form (Kohout et al., 1993) which is a shorter version of the Centre for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The 11-item scale was designed to assess an individual’s mood over the past week, e.g. “In the past

week, I enjoyed life” (reverse coded), “In the past week, I felt depressed.”. Scores on the items are rated on a 3-point scale (ranging from 1 = rarely or almost none of the time, to 3 = most or all of the time), with total score ranging from 11 to 33. The scale has demonstrated good internal consistency ($\alpha = 0.85$) among Nigerian population (Aliche et al., 2019). In the present study, we obtained an internal consistency of 0.79.

Suicide behavior was measured using the 10-item suicide ideation scale (SIS; Rudd, 1989). The items of the scale contain statements that are capable of measuring the suicide behavior beginning with suicide ideation (covert suicidal thought) until suicide attempt, and finally, the actual suicide. Items are scored on a five-point Likert scale ranging from 1 (never) to 5 (very often) depending on how often the respondents feel or behave according to the statement in the last year. The SIS has a very high reliability coefficient with Cronbach alpha value of 0.09 and the items correlation ranged from 0.49 to 0.78 (Kaur et al., 2014). In terms of the construct validity, the scale was found to correlate with the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) ($r = .55$), and the Beck Hopelessness Scale (Beck et al., 1974) ($r = .49$). The mean score of 12.4 and standard deviation of 3.73 serves as the benchmark, such that scores higher than the mean and standard deviation are seen as serious suicide ideation. The reliability of SIS in the present study was 0.86.

Data analysis

The preliminary analysis was carried out using descriptive statistics. Pearson’s correlation was employed in order to examine the association between the demographic variables (e.g., age, gender and marital status) and the main study variables. The Hayes PROCESS macro for SPSS was used in testing the main hypothesis of the present study. All the data analysis was carried out using SPSS 22.0.

Results

Results of the descriptive statistics showed that the participants’ average age was 22.38 ($SD = 2.16$; range = 19–30 years). They consisted 138 (57.8%) males and 102 (42.5%) females. By marital status, there were 238 (95.2%) single and 2 (0.8%) married. In terms of religion, there were 234 (97.5%) Christians, 1 (0.4%) Islam, and 5 (8%) others. In terms of their year of study, 134 (55.8%) were in 4th year, 90 (37.5%) were in 5th year, and 16 (6.7%) were in 6th year.

Results of the correlation analysis (Table 1) showed that none of the demographic variables (age, gender and marital status) significantly correlated with the dependent variables. SS positively correlated with PML ($r = .19$,

Table 1 Correlations among the study variables

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Mean | SD |
|-----------------------|-------|-------|-------|---------|----------|----------|---------|-------|-------|
| 1 Age | - | | | | | | | 22.38 | 2.16 |
| 2 Gender | -0.17 | - | | | | | | - | - |
| 3 Marital status | 0.03 | 0.01 | - | | | | | - | - |
| 4 Social support (SS) | 0.06 | 0.10 | 0.01 | - | | | | 46.57 | 11.47 |
| 5 PML | 0.28 | -0.12 | 0.01 | 0.19** | - | | | 22.59 | 9.33 |
| 6 SML | 0.08 | 0.13 | 0.04 | 0.13* | 0.46*** | - | | 25.94 | 8.80 |
| 7 Depression | -0.09 | 0.23 | -0.05 | -0.19** | -0.48*** | -0.31*** | - | 25.05 | 7.73 |
| 8 Suicide behaviour | -0.05 | 0.02 | 0.08 | -0.20** | -0.40*** | -0.25*** | 0.40*** | 13.45 | 3.93 |

Note: *** $p < .001$, ** $p < .01$, * $p < .05$. Gender coded as 0 = male, 1 = female, marital status coded as 0 = single, 1 = married; PML = Presence of meaning in life; SML = Search for meaning in life

$p < .01$), SML ($r = .13, p < .05$), but negatively correlated with depression ($r = -.19, p < .01$), and suicide behavior ($r = -.20, p < .01$). PML positively correlated with SML ($r = .46, p < .001$), but negatively correlated with depression ($r = -.48, p < .001$) and suicide behavior ($r = -.40, p < .001$). SML negatively correlated with depression ($r = -.31, p < .001$), and suicide behavior ($r = -.25, p < .001$). There was a positive correlation between depression and suicide behavior ($r = .40, p < .001$).

The results on the mediating role of meaning in life (PML and SML) in the relationship between SS and depression were presented in Table 2. Results indicated that higher SS was associated with decreased depressive symptoms ($B = -0.20, p = .002$). For the indirect effect analysis, it was found that the previously significant association between SS and depression was no longer significant when the mediators (PML and SML) was introduced ($B = -0.11, p = .073$). PML was significantly and negatively associated with depression ($B = -0.52, p = .000$), whereas SML was not significantly associated with depression ($B = -0.13, p = .113$). In the parallel mediation, the results showed that PML mediated the effect of SS on depression, as the 95%CI did not include zero [95%CI = $-0.14, -0.03$]. However, the mediating role of

SML on the relationship between SS and depression was not significant [95%CI = $-0.04, 0.01$].

Similarly, the result on the mediating role of meaning in life (PML and SML) in the relationship between SS and suicide behavior was presented in Table 3. Results showed that SS was significantly and negatively associated with suicide behavior ($B = -0.05, p = .004$). When the mediators (PML and SML) were introduced to the model, SS was no longer significantly associated with suicide behavior ($B = -0.03, p = .079$). PML mediated the association between SS and suicide behavior [95%CI = $-0.12, -0.04$]. Thus, the mediating role of SML in the association between SS and suicide behavior was not significant [95%CI = $-0.06, 0.01$].

Discussion

The present study examined the mediating role of meaning in life in the relationship between social support, depression, and suicidal ideation among a sample of undergraduate medical students. More specifically, the researchers examined whether meaning in life (presence of meaning in life, and search for meaning in life) are independent pathways through which social support influence depression. The

Table 2 Hayes PROCESS macro results showing the mediating role of meaning in life on the relationship between social support and depression

| Direct effect | | | | | | |
|--|-------|------|---------------|-------|----------------|--|
| Predictor | B | SE | T | P | 95%CI | |
| Social support (SS) | -0.20 | 0.07 | -3.09 | 0.002 | [-0.33, -0.07] | |
| Indirect effect | | | | | | |
| Social support (SS) | -0.11 | 0.06 | -1.80 | 0.073 | [-0.22, 0.01] | |
| PML | -0.52 | 0.08 | -6.49 | 0.000 | [-0.68, -0.37] | |
| SML | -0.13 | 0.08 | -1.59 | 0.113 | [-0.38, 0.04] | |
| Completely standardized bootstrap test of mediating effect | | | | | | |
| | B | SE | 95%CI | | | |
| Social support → PML → Depression | -0.08 | 0.03 | -0.14, -0.03 | | | |
| Social support → SML → Depression | -0.01 | 0.01 | [-0.04, 0.01] | | | |

Note: PML = Presence of meaning in life; SML = Search for meaning in life

Table 3 Hayes PROCESS macro results showing the mediating role of meaning in life on the relationship between social support and suicide behaviour

| Direct effect | | | | | |
|--|-------|------|----------------|-------|----------------|
| Predictor | B | SE | T | p | 95%CI |
| Social support (SS) | -0.05 | 0.02 | -2.89 | 0.004 | [-0.08, -0.02] |
| Indirect effect | | | | | |
| Social support (SS) | -0.03 | 0.02 | -1.79 | 0.079 | [-0.06, 0.01] |
| PML | -0.11 | 0.02 | -5.09 | 0.000 | [-0.07, 0.02] |
| SML | -0.03 | 0.02 | -1.20 | 0.231 | [-0.06, 0.01] |
| Completely standardized bootstrap test of mediating effect | | | | | |
| | B | SE | 95%CI | | |
| Social support → PML → SB | -0.07 | 0.02 | [-0.12, -0.04] | | |
| Social support → SML → SB | -0.01 | 0.01 | [-0.06, 0.01] | | |

Note: PML = Presence of meaning in life; SML = Search for meaning in life; SB = suicide behaviour

researchers also examined whether the relationship between social support and suicidal behavior is independently mediated by meaning in life (presence of meaning in life and search for meaning in life) among medical students. Consistent with previous findings on the association between social support and depression (Guo et al., 2021; Qing & Li, 2021), and between social support and suicide behavior (Faria et al., 2020; Miller et al., 2015), we found that higher social support was associated with lower symptoms of depression and lower tendency of engaging in suicide behavior. Thus, students undergoing training in the medical school are usually exposed to great stress and challenges in their academic life, but, those with high levels of perceived social support are more likely to receive material and emotional help from different sources, which helps to reduce the tendency of experiencing negative psychological outcome including depression or suicide (Guo et al., 2021; Lai & Ma, 2016). A good social relationship helps to facilitate a positive adjustment processes needed to achieve academic excellence (Guo et al., 2021), and this can help reduce the extent to which situations are perceived as a threat to well-being.

Most importantly, this study found that presence of meaning in life mediated the relationship between social support and depression, and the relationship between social support and suicide behavior. This finding is similar to those of previous studies (Aliche et al., 2019; Qing & Li, 2021; Zuo et al., 2021), and has essentially supported the affirmation theoretical framework of this study: Social-Cognitive Processing Theory (Tedeschi & Calhoun, 2004), emphasizing on the significant role of social support in facilitating cognitive adaptation processes needed to cope effectively with stressful life situations. Thus, having a strong social network helps students feel a sense of societal connection, which facilitates a sense of meaning in life, and in turn, decrease the symptoms of depression and suicide behavior (Costanza et al., 2019; Qing & Li, 2021).

Perceived social support from different sources can enhance students' sense of belonging (the realisation that

someone is always there to help in times of need), which is very critical to finding meaning in life and the purpose for being in school (Lambert et al., 2010, 2013). With this increased sense of meaning in life, medical students are now well positioned to experience higher self-esteem (Lai et al., 2016), more self control (Li et al., 2018), and decreased feelings of hopelessness (Zuo et al., 2021). Having optimized these psychological resources, students are now better able to approach their studies and other academic related issues with calmness, bearing in mind their future oriented goals. It is the burning desire to achieve these future goals that enables the students to remain focused, and to be able to look beyond the present stress they are going through (Costanza et al., 2019). At this period, they are now better able to positively reappraise the stress they are experiencing as a necessary stage they must go through in life, and/or a way of preparing them to be better professionals in future. This helps to reduce the symptoms of depression (Alandete et al., 2015; Qing & Li, 2021), and suicide ideation (Aviad-Wilchek et al., 2017; Costanza et al., 2019; Lew et al., 2020) among the students. Therefore, the presence of meaning in life can be seen as an important pathway that transforms the positive effect of social support into a psychological resource and a source of motivation to continue to pursue future goals which then leads to the experience of reduced psychological strains and distress.

Further findings in this study revealed that search for meaning in life did not mediate the relationship between social support and depression, and the relationship between social support and suicide behaviour. Social support significantly and positively correlated with search for meaning in life; and search for meaning in life significantly and negatively correlated with both depression, and suicide behaviour. Thus, the indirect effect of social support on depression, and the suicide behaviour, through search for meaning in life was not significant. A possible explanation for this finding might be that undergraduate students who are searching for meaning in life are constantly making conscious attempts to enhance

their comprehension of personal meaning, significance and purpose in life (Stager et al., 2006). Therefore, such students have not yet been able to positively restructure or reconstrue their cognitions related to their academic stress, redefined the meaning of the stressful situation, and establish more trust and belief in their own strength, and ability to excel. They might have lacked the intrinsic motivation and willingness to look beyond their present situations to focus on the future goals. Although previous studies have revealed that searching for meaning in life is a necessary cognitive process that eventually leads to the presence of meaning in life (Aliche et al., 2022; Wang et al., 2016), based on our findings, it appears that the search for meaning in life, in itself, may not actually be linked to better health outcome among medical students. Previous investigations have revealed that search for meaning in life has often, been linked to increased depressive symptoms, and suicide behavior, as it represents the struggle with the existential problems that arise following a stressful situation (Costanza et al., 2019). Thus, medical students who are searching for meaning in life may not have been prepared enough to successfully tackle the vital circumstances in their academic life. They might have lacked a strong sense of autonomy, a well defined goal or objective in life, and the determination needed to transmit the beneficial effect of social support on depression and suicide tendencies.

This study has certain limitations that deserve mentioning. First, this is a cross sectional study that does not give room for a causal conclusion. Future research may utilize a longitudinal approach and experimental design to explore the causal effects of social support and meaning in life on depression, and suicide behaviour. The present study examined undergraduate medical students drawn from a single institution in south-east region of Nigeria. This could affect the generalization of the findings. Future study should expand the scope of the study to accommodate students from other regions with diverse cultural background. Certain culturally relevant factors relating to personality (e.g., common risk factors of depression and suicide behaviour) were not explored in this study. In addition, there is need for future studies to explore other mediators and moderators of social support and mental health outcome. In addition, based on the finding that SML did not mediate the relationship between social support and psychological symptoms, future studies should explore the role of personality variables or other factors that may interact with SML to produce better health outcome. Overall, the findings of this study have contributed to literature among medical students, and have provided a valuable direction for future studies.

Conclusion

To our knowledge, this appears to be the first research to date to simultaneously explore the role that meaning in life (presence of meaning in life and search for meaning in life) play as independent mediators of the relationship between (1) social support and depression, and (2) social support and suicide behaviour among medical students. Social support which involves the perception that individuals have people such as family members, friends and significant others who care for them in time of need, was found in this study, to play a key role in decreasing depressive symptoms. Presence of meaning was found to mediate the protective effect of social support on depression, but search for meaning could not mediate the social support-depression relationship. Additionally, social support was found to decrease the tendency of engaging in suicide behaviour. Presence of meaning mediated the relationship between social support and suicide behavior, but the mediating role of search for meaning in the relationship between social support and suicide behavior was non-significant. Based on these findings, interventions aimed at promoting the wellbeing of medical students should target their social support network as it is very critical in promoting a greater ability to find meaning in life.

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Data availability The datasets generated and analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Statement of human and animal rights All the procedures followed were in accordance with the Ethical Standards of the Responsible Committee on Human Experimentation (Institutional and National) and with the Helsinki Declaration of 1975, as revised in 2000.

Informed consent Informed consent was obtained from all participants for being included in the study.

Ethical approval The study was in accordance with the ethical standards of the institutional and/or national research committee and with the requirements of the ethical standards of the institution where the study was conducted.

Conflict of interest The authors are declaring that they have no conflicts of interest.

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