DEPRESSIVE SYMPTOMS AMONG EMERGING ADULTS ATTENDING A GENERAL OUTPATIENT DEPARTMENT IN KENYA

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ABSTRACT

Suicide is a global health concern, specifically among emerging adults. Bio-psychosocial factors, specifically depression, are associated with suicide behaviour and viewed as potential risk indicators. Depression, underdetected in general health care settings, arguably adds to the increasing incidence of suicide behaviour. This study describes the incidence of physiological symptoms commonly specified as indicative of depression, and actual depressive symptoms, within an emerging adult population attending a general health care outpatient facility in Kenya. A quantitative study approach utilized an interview assisted physiological symptom

checklist to identify the potential sample, and a self-report questionnaire to obtain participant scores based on responses to Becks Depression Inventory Scale vs. II (BDI II). Results, categorised according to the BDI II depression score, indicated that the majority of the participants (n=51, 60.7%) were experiencing the 'normal ups and downs of daily life'. There was a low incidence of 'mild mood disturbance' (n=17, 20.2%), 'borderline clinical depression' (n=7, 8.3%), and 'moderate depression' (n=10, 11.9%). There was no incidence of severe depression within the participant group. Participants, who achieved a BDI II score of eleven and above, selection of physiological symptom/s confirmed common specified physiological symptoms suggestive of depression to the extent that they appear in current literature. However, an increasing total of presenting physiological symptoms by individual participants were not as strongly predictive of depression as the single physiological symptom of pain, specifically headache. Associations of BDI II scores and demographic data suggested trends between depressive symptoms and a 20/21 age group, cohabiting with partner, university graduate, and employed. Screening for depression within general health care facilities is argued to be relevant and recommended. Specifically, physiological symptoms, such as pain, should be recognized as potential indicators of depression, or risk for development of depression.

Keywords: depression, physiological symptoms, suicide, emerging adult

INTRODUCTION AND BACKGROUND

Suicide is a global health concern, specifically among emerging adults (World Health Organisation (WHO), 2015:1). Global statistics indicate that suicide results in over one million fatalities each year, with an estimated suicide every forty seconds and one suicide attempt every three seconds (WHO, 2015:1). Country specific statistics, despite arguments that these under-represent actual figures, indicate that global statistics are representative of both upper and lower income countries (Crosby, Han, Ortega *et al.,* 2011:1; WHO, 2015:1). South Africa reports a specific rise of suicides and attempted suicides within the 15–24 age group, with approximately 5 000 suicide cases reported annually (Naidoo & Schlebusch, 2014:2). This picture is also emerging in Kenya, where statistics indicate increasing suicide incidence among young men in their twenties and school-aged individuals (Khasakhala, Ndetei, Mathai *et al.,* 2013:1; Othieno Okoth, Peltzer *et al*., 2014:120). Bio-psychosocial factors are associated with suicide behaviour and viewed as potential risk indicators. Depression, considered the most valid suicide risk indicator, is a global health concern with recent statistics indicating nearly 350 million people suffer from depression (Khasakhala *et al*., 2013:2; WHO, 2015:1). Depression is frequently presented, by health care users to general health care practitioners, as a collection of physiological symptoms, physiological symptoms being specifically pertinent to risk assessment within general health care settings

(American Psychiatric Association (APA), 2013:289; Petersen, Lund, Bhana *et al.,* 2012:337). However, screening for depression and suicide is not done in the majority of general health settings, the general health care practitioners relying entirely on patient presentation of psychological symptoms to conclude a diagnosis of depression (Khasakhala *et al*., 2013:9; WHO, 2014:33). Depression remains under-detected within Kenyan general health care settings and this is argued to add to the increasing incidence of suicide behaviour (Keugoung, Kongnyu, Meli *et al.,* 2013:986).

The purpose of this study was to explore physiological symptoms commonly associated with depression among emerging adults attending an outpatient facility within a general hospital in Kenya. The objective was to describe the incidence of depression within a targeted group and the frequency with which physiological symptoms commonly specified as associated with depression were reported.

OPERATIONAL DEFINITION OF KEY WORDS

Depression was defined in accordance with the *Diagnostic and stastistical manual, version V* as a disorder that is characterized by experiencing five (or more) of the following symptoms for at least two weeks; sadness; loss of interest or pleasure; feelings of guilt or low self-worth; disturbed sleep or appetite; feelings of tiredness; poor concentration; and recurrent thoughts of death or suicide (American Psychiatric Association (APA), 2013:161).

Operationalizing **emerging adult** posed some difficulties. Several countries have differences on the specific age reference for youth and by inference adult. UNESCO (2012:1) and New Zealand define the youth age group as 15–24, while Kenya defines as 15–30 (Government of Kenya, 2007:1; Ministry of Health New Zealand, 2012:11). In addition, Kenyan law determines adulthood to begin at the age of 18 years. The researcher operationalized emerging adult to be from the age of 18–24 to avoid ethical issues related to non-adult participants with the youth adult overlap. Miriam Webster's dictionary (2014) defines physiological as the physical functioning of a living organism. Symptom is defined by the same source as 'a change in body or mind that suggests a disease is present' (Webster, 2014).

This study focused on **physiological symptoms** of depression commonly specified within the current literature (Aguera-Ortiz, Failde, Cervilla *et al.,* 2013:576; APA, 2013:161; Dihigo, 2014:29) and included 16 items: non-painful somatic symptoms (lack of energy/ general fatigue, sleep disturbances), general aches and pains (cough, headache, backache, stomach ache, musculoskeletal pain), gastrointestinal disturbances (changes in appetite, ulcers, diarrhoea/constipation), and cardio vascular/respiratory symptoms (palpitation, dyspnoea, chest pain, increased blood pressure, asthma, dizziness).

RESEARCH METHODOLOGY

A quantitative non-experimental cross-sectional survey relational research design that is exploratory in nature was used. To facilitate objective measurement, data collection made use of an interview assisted checklist to establish the presence of independent demographic variables, specifically physiological symptoms commonly specified as associated with depression. In addition, the Beck depression inventory scale version II (BDI-II) was used as a self-reported questionnaire to measure the presence of depression, the dependent variable (Polit & Beck, 2014:188).

The interview assisted checklist had two sections and facilitated firstly, identification of the target population, persons aged 18–24, in section one. Section two, which facilitated the identification of potential participants (N) within the identified target population, asked potential participants to indicate the presence of physiological symptoms commonly associated with depression. The content of the interview assisted checklist was determined according to the extent that current literature established content validity of physiological symptoms of depression and contained 17 items operationalized in the previous section; non-painful somatic symptoms (lack of energy/general fatigue, sleep disturbances), general aches and pains (cough, headache, backache, stomach ache, musculoskeletal aches), gastrointestinal disturbances (changes in appetite, ulcers, diarrhoea/constipation), and cardio-vascular/respiratory symptoms (palpitations, dyspnoea, chest pains, increased blood pressure, asthma, dizziness) (Aguera-Ortiz *et al*., 2013:575; APA, 2013:163; Dihigo, 2014:25). Participants who acknowledged the presence of one of more of the 17 physiological symptoms were invited to provide other demographic data (gender, employment status, highest educational level and relationship status) and complete the BDI-II as a self-report questionnaire. The validity of other demographic information requested within the interview assisted checklist specifically was established within the same content validity process (Aguera-Ortiz *et al*., 2013:576; APA, 2013:163; Dihigo, 2014:27). The BDI-II has a reported high degree of internal consistency, reliability and an acceptable degree of concurrent and discriminant validity (Lipps, Lowe, De La Haye *et al*., 2010:375; Ndetei *et al*., 2010:5; Sashidharan, Pawlow & Pettibone, 2012:204). Both the check list and the BDI-II were translated into the local language, Kiswahili, with the aid of a professional linguist who also checked on the accuracy of the translated version. Both English and Kiswahili versions of the instrument were used based on participants' preference.

ETHICAL CONSIDERATIONS

The researchers acknowledge that the study entailed specific ethical considerations and these are presented before the data collection and analysis for clarity and readability. Ethical approval for the study was obtained from the Biomedical Research Ethics Committee (BREC) at the University of KwaZulu-Natal (BE345/13) and the Hospital Director of the Medical Education and Research body in Kenya (16th October 2013).

Although suicide risk assessment and intervention were not the focus of this study, the researchers agreed that it would be unethical not to respond to participants whose scores on the BDI-II were suggestive of a depressive illness and or suicide risk. The WHO (2010:10) mhGAP intervention guide for mental, neurological, and substance use disorders in non-specialized health settings (mhGAP) was used to inform and determine points of referral based on BDI-II scores. In addition, the researchers included participants who responded in the affirmative to BDI-II item nine (9), 'Suicidal thoughts or wishes' within the referral path. A referral system was designed collaboratively with the hospital management, included hospital resources, and was facilitated by one of the researchers. Specifically, it was agreed that one of the researchers would score all the self-report questionnaires immediately on completion and on site. This researcher would conduct the initial feedback to the participant and initiate the referral process. Participants who scored 0–16 on the BDI-II would be provided with a depression education pamphlet downloaded by the researchers from the open access South African depression and anxiety group website (SADAG, 2014). Participants with a BDI-II score of 17 and above, or an affirmative response to item number 9, suicidal thoughts or wishes, were referred for counselling. In addition, participants who scored 31 or above were after counselling to be referred for medical review and psychotropic treatment. The information sheet, presented to the target population, and time to ask questions before completing the interview assisted check list ensured full disclosure to the nature of the study and potential treatment recommendations as per the agreed upon referral system. This information sheet was explicit that anonymity would be compromised for those participants who were referred, in essence their information shared within the referral pathway only. No potential participants refused as a result of the possibility of referral.

DATA COLLECTION

Data collection, within an out-patient department of a general hospital in Kenya, occurred over fourteen consecutive days in April 2014. A survey sampling method was used and, as briefly presented under research methodology, included steps to identify the target population and potential participants within the target population. A Kenyan research assistant with a basic training in mental health in the form of a diploma qualification in community health nursing (Kenya Registered Community Health Nursing – Basic) initiated the interview assisted checklist at the out-patient department registration desk and identified members of the target population according to the correct age bracket. The registered nurse within the out-patient department and the research assistant established, as part of the normal out-patient physical review, the presence of one or more of the listed physiological symptoms, identifying potential study participants. With the Kenyan researcher the research assistant then facilitated distribution of information sheets to potential participants, gave time for questions and obtained written consent from those who agreed to participate before assisting with the

completion of other demographic data on the interview assisted checklist and providing participants with the BDI-II self-report questionnaire. The Kenyan researcher scored all completed BDI-II scales and initiated the referral process and/or the provision of the SADAG depression health education pamphlet.

The target population that attended the out-patient department during the data collection period totalled one hundred and one (101). This group was not sampled and all were reviewed for presentation of one or more of the listed physiological symptoms within the interview assisted checklist. This section identified the potential sample (N) within the target population. Of the target population group of one hundred and one (101), a potential sample of eighty-four (N=84) emerged. These eighty-four potential participants agreed to participate and completed the BDI-II, achieving a final participant sample of eighty-four (n=84), a 100% response rate.

ANALYSIS

Data analysis was done using the Statistical Package for Social Sciences (SPSS) for Windows, Version 21. Analysis included descriptive statistics, frequency counts, cross tabulation and measures of association. Presentation of participant data is followed by participants' BDI-II scores, the incidence of depression, and presenting physiological symptoms.

Table 1 displays a summary of participants' (n=84) demographic data. More than two-thirds (69%, n=58) were students in tertiary institutions, which is representative of this age group (over 18 years) within the Kenyan context of promotion of secondary school and tertiary education through loans and bursaries (Kenya Institute for Public Policy Research and Analysis, 2013:262).

Table 1: Demographic variables of the sample (n=84)

Demographic variables	Description	Frequency	Percentage
Age	19 20 21 22 23 24	4 13 12 11 17 27	4.8% 15.5% 14.3% 13.1% 20.2% 32.1%
Gender	Male Female	31 53	36.9% 63.1%
Employment status	Employed Self-employed Student Not employed	5 8 58 13	6.0% 9.5% 69.0% 15.5%
Relationship status	Married Living with my partner In a relationship but not living together Not in a relationship	4 5 31 44	4.8% 6.0% 36.9% 52.4%
Highest educational level	University degree Diploma Certificate holder Completed secondary school education Completed compulsory primary education	6 54 12 11 1	7.1% 64.3% 14.3% 13.1% 1.2%

Participants score for Beck Depression inventory scale (BDI 11).

As displayed in table 2, and according to Beck's scores and descriptors, the majority of participants (60.8%, n=51) achieved a score of 10 or less, signifying normal ups and downs of daily life. A mild mood disturbance was recorded by seventeen participants (20.2%, n=17), borderline clinical depression by six (7.1%, n=6) participants and moderate depression by ten (11.9%, n=10) participants. No participant achieved a score indicating severe depression (31–63). In addition, table 2 illustrates the number of participants, within each score range, who indicated a positive response to item 9 (suicidal thoughts) within the BDI-II. A total of twelve participants (14.2%, n=12). Of this group of twelve, half (50%, n=6) scored for moderate depression, and one-third (33.3%, n=4) for borderline clinical depression. In the application of the mhGAP (2010) intervention guidelines for depression, these participants would have received appropriate referrals based on their total BDI-11 scores alone. The remaining two (n=2, 16.7%) participants achieved total BDI-II scores indicating normal ups and downs (0–10), and mild depression (11–16), respectively, yet both indicated that they would like to kill themselves.

Table 2:   BDI 11scores and responses to item 9 (Suicidal thoughts)

Beck's classification		Frequency n (%)	Item 9 - Suicide thoughts or wishes score (N=12) n (%)		
Score	Descriptor		I have thoughts of killing myself but I will not carry them out	I would like to kill myself	I would kill myself if I had a chance
1-10	Normal ups and downs of daily life	51 (60.8)		1 (8.3)	
11-16	Mild mood disturbance	17 (20.2)		1 (8.3)	
17-20	Borderline clinical depression	6 (7.1)	3 (25)		1 (8.3)
21-30	Moderate depression	10 (11.9%)	4 (33.3)	2 (16.6)	

Associations between demographic variables and BDI-II scale scores

Statistical tests revealed no significant associations between BDI-11 scores and gender (U=747.5, z= -.78, p=.43), age (x^2 (5, n=84) =5.033, p=0.412), educational level (x^2 (4, n=84) =4.28, *p*=.370), relationship status (x^2 (3, n=84) =1.808, p=.613), or employment status (x^2 (3, n=84) =.317, p=.957).

Presenting physiological symptoms

The frequency with which participants selected each of the physiological symptoms is presented in table 3. The most frequently identified symptom, headache, is, despite being reported as a frequent complaint among depressed individuals (Keugoung *et al*., 2013:990; Dihigo, 2014:25), not commonly specified as a key physiological symptom of depression (APA, 2013:164; Dihigo, 2014:29). Other core physiological symptoms most commonly specified within current literature as indicative of moderate and severe depression were, within this study, ranked within the top five.

Table 3 also displays results of specific physiological symptoms selected by participants who achieved a total BDI-II score of 11 or above; mild mood disorder, borderline clinical depression and moderate depression. The frequency of physiological symptom selection, specifically within the top 10 selected, is somewhat similar to results for the entire participant group, and within the BDI-II score rankings. However,

the number of symptoms selected per participant is suggested to decrease with an increasing BDI-II score.

Table 3:   BDI 11 scores and frequency of physiological symptoms

	Total participant group (N=84)	BDI-II Mild mood disturbance (11-16) (N=17)	BDI-11 Borderline clinical depression (17-20) (N=7)	BDI-11 Moderate depression (21-30) (N=10)
Reported Physiological symptom	Frequency %(n)	Frequency %(n)	Frequency %(n)	Frequency %(n)
Headache	(54.8) 46	64.7 (11)	57.1 (4)	70 (7)
General fatigue / lack of energy	(45.2) 38	58.8 (10)	14.2 (1)	60 (6)
Cough	(31) 26	41.1 (7)	71.4 (5)	
Changes in appetite	(26.2) 22	29.4 (5)	57.1 (4)	40 (4)
Sleep disturbance	(21.4) 18	23.5 (4)	28.5 (2)	20 (2)
Backache	(11.9) 10	29.4 (5)	14.2 (1)	20 (2)
Musculoskeletal pain	(10.7) 9	23.5 (4)	28.5 (2)	
Stomach-ache	(16.7) 14	17.6 (3)	28.5 (2)	20 (2)
Ulcers	(19) 16	17.6 (3)		30 (3)
Chest pain	(14.3) 12	23.5 (4)	28.5 (2)	10 (1)
Palpitations	(3.6) 3	11.7 (2)		10 (1)
Increased BP	(3.6) 3			10 (1)
Diarrhoea	(3.6) 3	5.8 (1)		
Increased blood pressure	(3.6) 3	11.7 (2)		
Dizziness	(9.5) 8	17.6 (3)		
Dyspnoea	(4.8) 4	11.7 (2)		
Asthma	(3.6) 3	5.8 (1)		

A single physiological symptom was the most common response (31%, n=26), followed by two (25%, n=21) and three (20%, n=19) symptoms. Less than a quarter of participants (23.8%, n=20) indicated experiencing more than three of the listed physiological symptoms. Nine participants (11%) indicated four symptoms, two (2%) five symptoms,

one (1%) six symptoms, three (4%) seven and eight symptoms, respectively, and two (2%) nine symptoms. Excel was used to cross-tabulate physiological symptom selections as this programme's capabilities exceed the SPSS three variable cross-tabulation programme limit. The grouping of 2, 3, and 4 symptoms reported the most frequent recurrence of physiological symptoms, specifically those selected by participants with a BDI-II score that exceeded 17. Firstly, headache, or backache or cough or changes in appetite appeared in every grouping. Secondly, painful symptoms (headache, backache) were evident in all symptom groupings.

DISCUSSION OF RESEARCH RESULTS

Although results indicated 81% (n=68) of the sample had low depression (normal ups and downs of daily living or mild mood disturbance), the researchers believe this to suggest illness trajectory rather than stasis. Participants' responses to BD III item nine (*suicidal thoughts*), similarities within cross tabulated physiological symptom presentations between low and higher BDI 11 scores, and the research context may indicate risk. These individuals who dwell in low and middle income countries (LMIC) are faced with unpredictable socioeconomic and political environments that leave them disillusioned regarding their prospects, and predisposed to developing depression (Ali & Zuberi, 2012:164; Keugoung *et al*., 2013:990). With social determinants of health being dependent on environmental factors, prevalence of unemployment rates in LMIC exposes emerging adults who are transiting from tertiary education to the job market to increased risk of being unemployed, which is argued to precipitate depression (Ali & Zuberi, 2012:164). Even though this study's participants included students, a third of the sample was unemployed, with the least number indicating employed status. Though the majority of the emerging adults are engaged in formal education, the current state in the majority of the low income countries where unemployment is massive and the primary cause of poverty and social instability mounts stress of these emerging adults with uncertainty of securing gainful employment after completion of the studies (Njonjo, 2010:218). Diligence in assessing risk seems more relevant within these contexts.

Physiological symptoms selected by participants within this study are concomitant with internationally recognized physiological symptoms of depression (APA, 2013:163; WHO, 2010:10). In addition, positive scores for depression among participants presenting with physiological symptoms in general health care settings affirmed observations in current literature that people express their emotions physiologically (APA, 2013:164; Dihigo, 2014:25). The results of this study specifically highlighted painful symptoms (headache, backache, musculoskeletal pain) as suggestive of depression, symptom of, or risk factor associated with development. Although previous research studies point to pain and/or painful symptoms, being suggestive of depression (Dihigo, 2014:25; Kroenke, Wu, Bair *et al.,* 2011:968), there seems to be little focus of the potential significance of pain as a symptom within general health care settings in Kenya. Further research on

shared biological pathways between pain and depression could highlight the increasing risk of developing depression within the presence of pain (Kroenke *et al*., 2011:969).

RECOMMENDATIONS

Given firstly, those within the Kenyan context general health care practitioners are the first, and often only, health care practitioners who have contact with emerging adults seeking health care. Secondly, general health care practitioners within unspecialized mental health settings reportedly fail to diagnose depression due to a dominant biomedical narrative informing interpretation of physiological symptoms (Keugoung *et al*., 2013:986). Training of general health care workers, specifically those within health assessment areas, is core to improving health care outcomes related to depression and suicidal behaviour within the emerging adult population.

The implementation of a national training initiative is recommended to upscale knowledge and skill of current general health care practitioners, and introduce consideration and appreciation of the relationship between physical and mental health, specifically depression and physiological symptoms such as pain. The MhGAP intervention guideline (2010) provides a framework that could facilitate health care practitioners' continuous training programmes, and the development of mental health assessment protocols for general health care settings. These protocols would guide general health care practitioners in the 'when' and 'how' related to the implementation of available validated depression screening instruments so that they can carry out an in-depth assessment, specifically of pain related, body symptoms while incorporating the mhGAP intervention guideline (2010) will be helpful in timely diagnosis of depression (Dihigo, 2014:29).

LIMITATION OF THE STUDY

Although the study employed a survey sampling method in data collection, the sample achieved was small. While on site, the researcher noted a number of potential participants who were not Kenyan, refugees from other African countries, and unable to communicate beyond sign language with health care workers. This made their inclusion in the study impossible despite the fact that these persons were likely in need of screening and referral due to their displaced context.

CONCLUSIONS

This study revealed key physiological symptoms, specifically painful symptoms such as headache, backache, and musculoskeletal pain, as potential risk indicators for depression, and as potential precursors for depression. Other physiological symptoms that could be suggestive of depression included cough, general fatigue, changes in appetite and lack of energy.

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