Global Health
AN ONLINE JOURNAL FOR THE DIGITAL AGE

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A PROSPECTIVE OBSERVATIONAL STUDY ON INCIDENCE AND SEVERITY OF DEPRESSION IN GERIATRIC PATIENTS IN OLD AGE HOMES AND CARE CENTRES IN BANGALORE

INTRODUCTION

Depression is a multifaceted mood disorder with varying symptoms. The symptomology can broadly be factored into 4 categories such as: dysphoria, lack of positivity (negativity), physical symptoms and personal or family problems.[1-4] Aging is responsible for chronic diseases that leads to functional disability. Not living in their own homes or living in institutions significantly increases depression prevalence. In Asian family settings, the head of the family holds the highest position and garners respect from other members. Study conducted by Cano et al in a primary care facility in USA found that not having family ties to be a contributing factor to psychological issues.[5-10]

In India the prevalence of depression afflicts up to 25% of the total population. The risk factors that are identified to contributing to depression are: increasing age, chronic disorders, lower educational status, low socio- economic status, loss of a spouse, bachelor status (living alone or no emotional attachments), loss of cognitive function, physical and functional impairments such as blindness, deafness, falls etc. and death in the family - with depressive symptoms increasing as time passes.[13-15] India's geriatric depression levels were reported to be up to 50%, i.e., 1 in every 2 geriatric is said to be depressed. The longer the stay in the centers, the more severe the depression. Study shows 29.4% of all patients who are admitted to homes/centers are depressed at intake.[16-19] There is also a certain amount of difficulty in diagnosing depression due to psychiatric disorders such as dementia and Alzheimer's. This can also cause patients to be resistive and abusive.[20-24]

The Geriatric Depression Scale is specifically designed to assess stages of depression based on severity for the elderly as such a scale did not exist earlier.[25-27] GDS is structured in 5 categories to help assess the severity of depression.[28-30] The first category comprises of negativity and pessimism. The second category comprises of a decrease in mental function and functional energy. The third category relates to positivity and optimism. The fourth category involves feeling of restlessness and agitation. The words bored, restless and upset can be interpreted as mental, physical, and emotional agitation respectively. The final category revolves around withdrawal from social ties or more predominantly lack of social interactions.[31-34]

The stigma associated with a psychiatric disorder like depression reduces the access of proper mental healthcare for the elderly. Social support such as counselling, medication and basic public awareness needs to be encouraged.[31] Using the GDS, can give a preliminary assessment as to whether further consultations are needed. The study aims to ultimately help caregivers and institutions to identify and recognize the signs and symptoms of depression in the geriatric population. Thereby leading to a betterment in overall quality of life.[18,20,24]

OBJECTIVES

The objectives of our study are to identify the incidence and severity of depression in geriatric patients in old age homes/care centers using the Geriatric Depression Scale. To identify the association between depression and its risk factors, as well as enable care givers in institutions to identify the signs and symptoms of depression in the elderly.

MATERIALS AND METHODS

The study was designed as a prospective, observational study with a sample size of 200 subjects and conducted at 3 old age homes and care centers in Bangalore. The study population was defined as subjects above the age of 60 years who fit the inclusion criteria. The study was carried out for a period of 6 months starting from December 2020 to June 2021 and it was an IRB exempt study – being a purely observational study with no intervention.

Inclusion criteria:
The criteria include participants above the age of 60 years of both male and female genders and not previously diagnosed with depression.

Exclusion criteria:
The criteria include participants undergoing chemotherapy, radiation therapy and brain surgery and participants that did not provide the information or were not willing to participate.

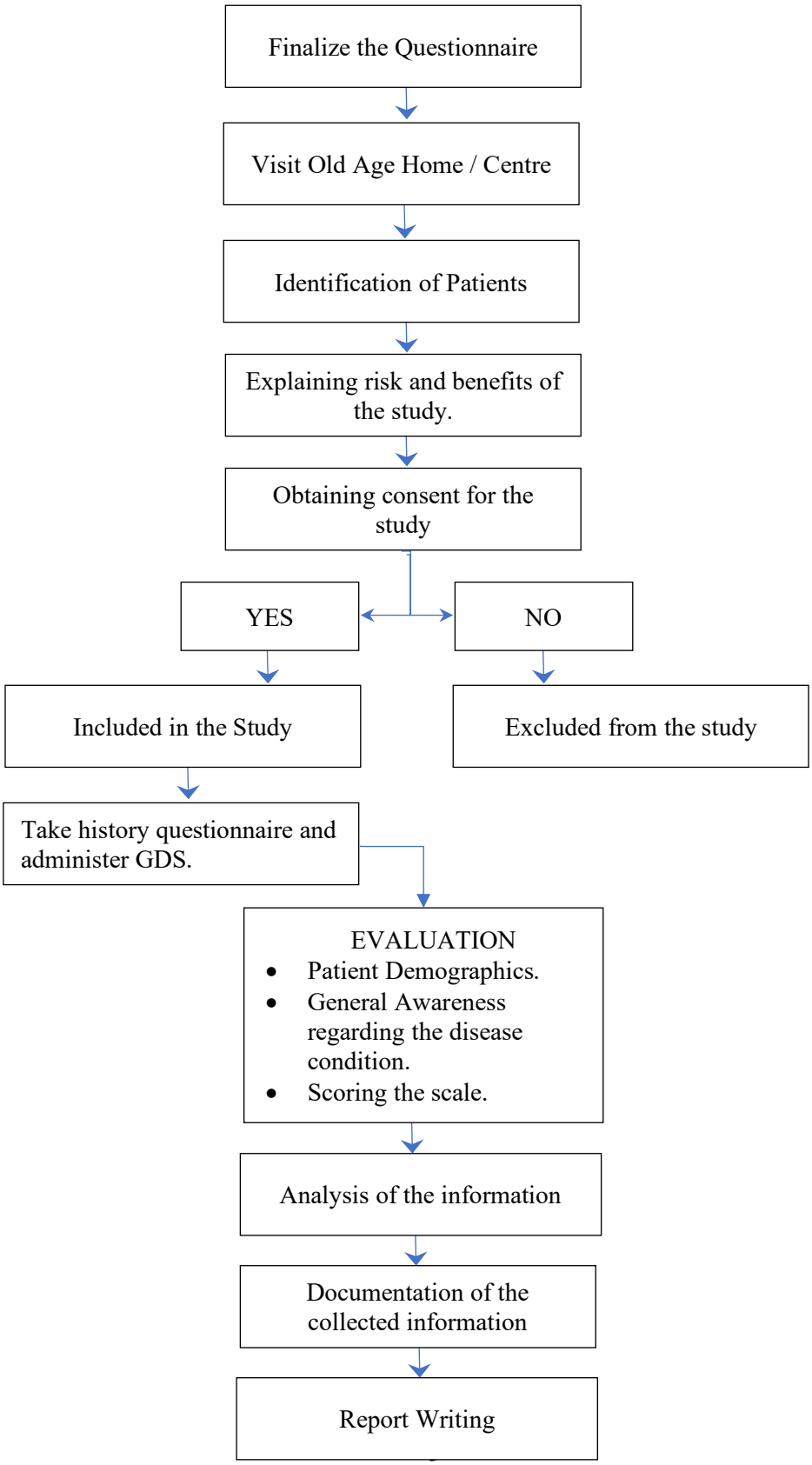
METHODOLOGY

Three old age homes/care centers were finalized. Questionnaires required for the study were prepared (Geriatric Depression Scale, a form for recording a brief history of the candidates and a Caregiver Assessment Form) and patients who were willing to participate in the study were identified. Subjects were included in the study after obtaining verbal consent from each one of them, post explanation of complete and accurate information about the benefits, risks, and procedure of the study. Participants who did not willingly cooperate were excluded from the study.

Medical history and socio-economic status, patient demographics etc., were then obtained. The consenting participants were also given the Geriatric Depression Scale to be filled. Evaluation of the results were then tallied and scored, and the information analyzed for severity and incidence of depression in the participants. After analysis, the patient's details and scores were documented in an Excel sheet for further study and discussion. The results were then noted, and the report was then prepared and submitted.

The Caregiver Form to assess the understanding of depressive symptoms was given to the caregivers at the start and end of the study. The purpose of which was to increase the understanding of caregivers to identify the symptoms of depression better, to help with timely diagnosis and treatment. The schematic representation of methodology is shown in figure 1.

Figure 1: Flowchart depicting the methodology of the study.



RESULTS

Figure 2. Percentage incidence and severity of depression in geriatric patients using the GDS.

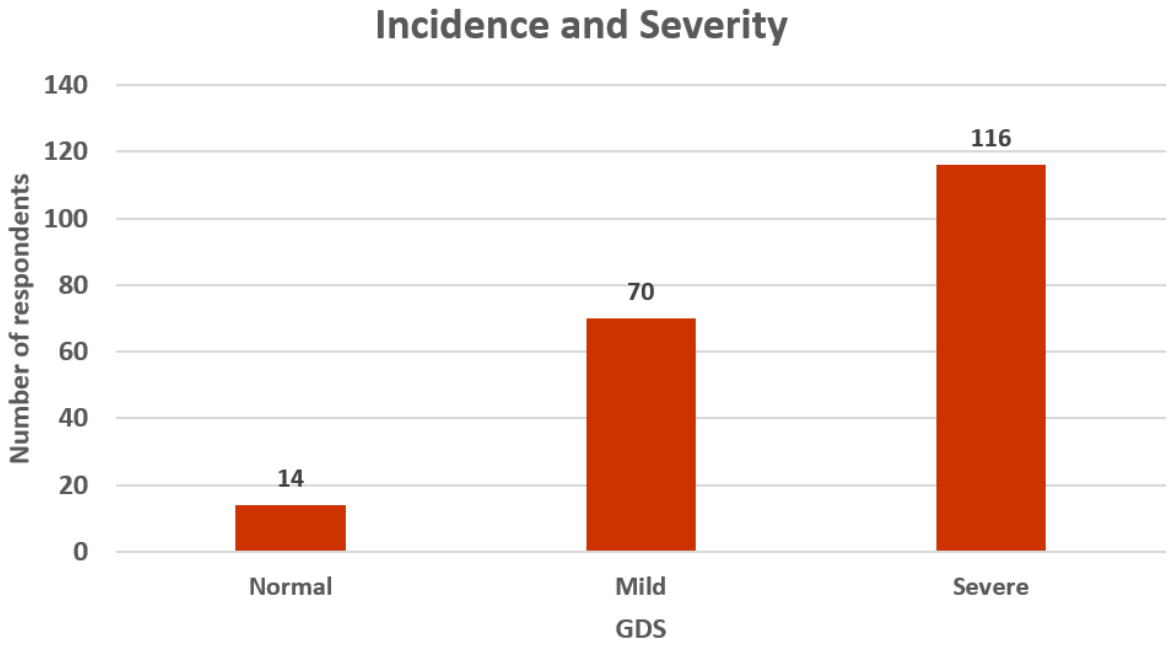


Figure 3. Pie chart displaying percentage of severely depressed elderly subjects in accordance with marital status.

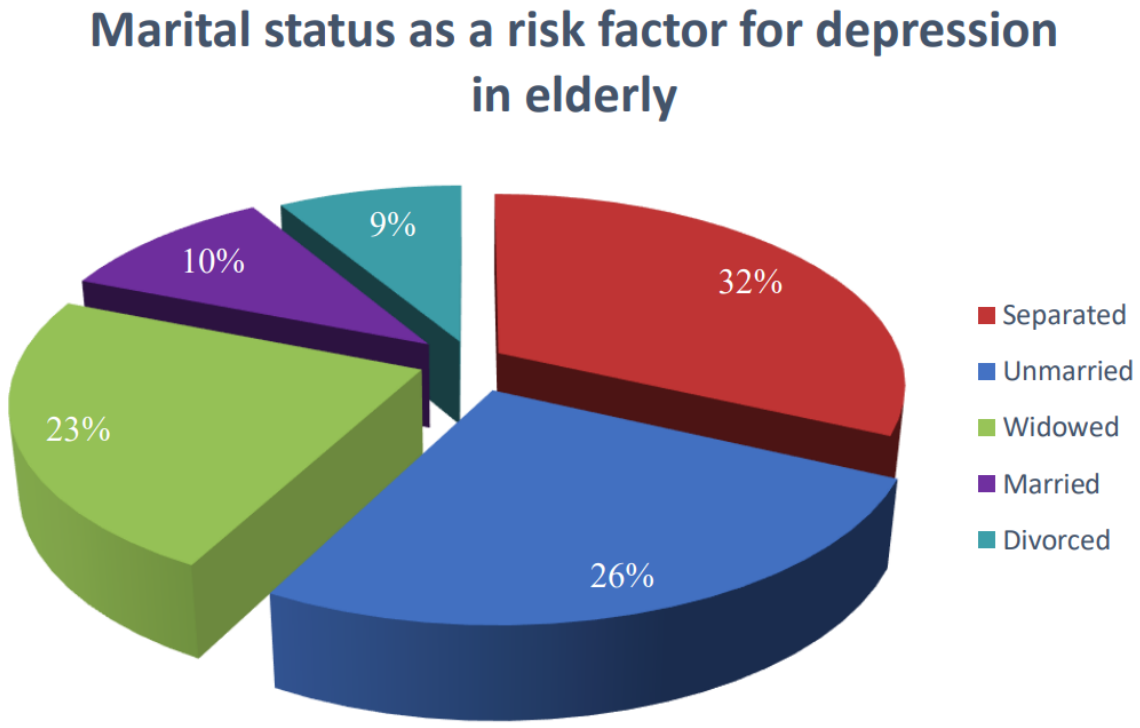


Figure 4. Percentage of severely depressed patient in various stay duration category.

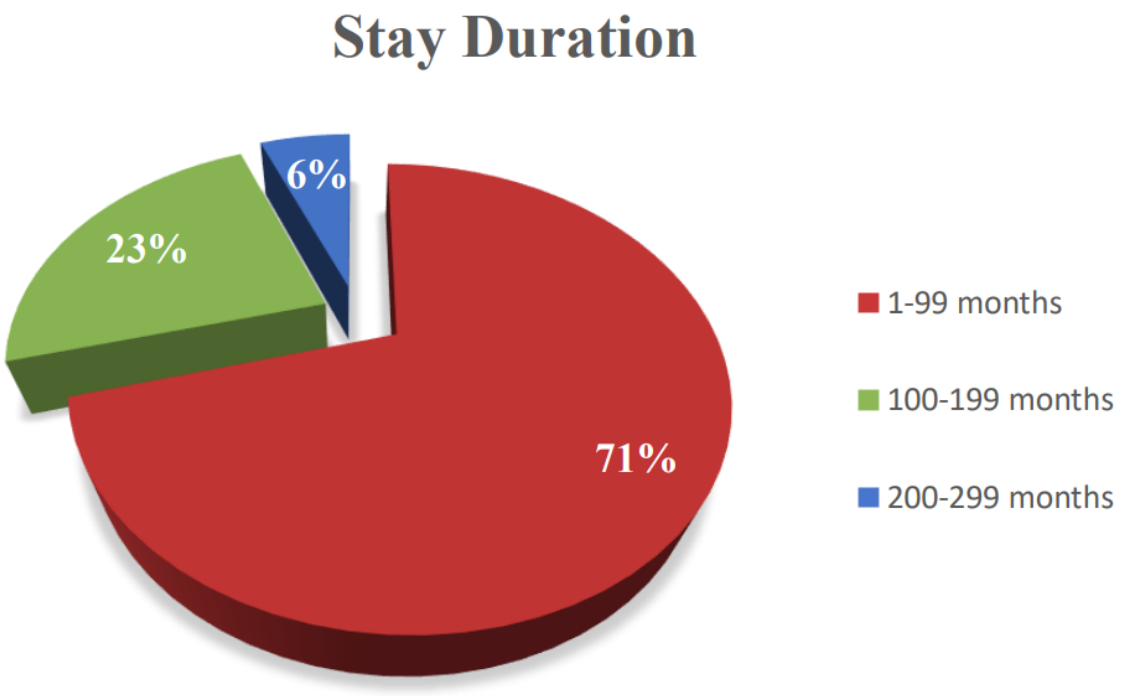


Figure 5. Percentage of severely depressed elderly subjects in accordance with support from persons outside of the establishment.

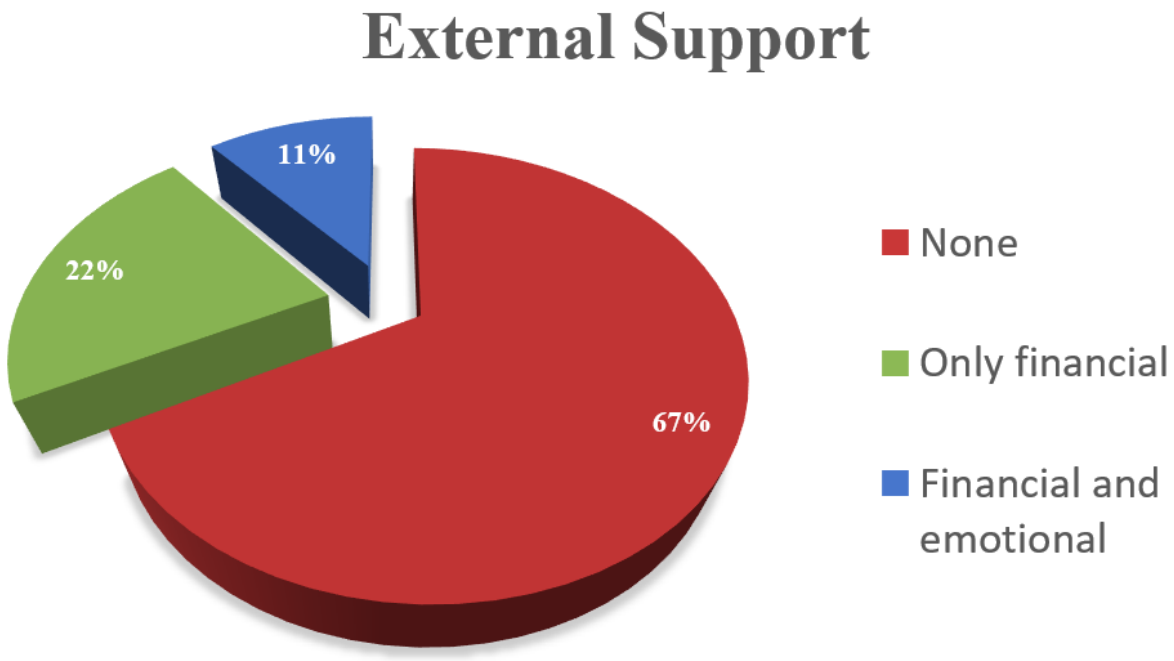


Table 1. Percentage of severely depressed population based on age.

SL. No	Age	Number of respondents	Percentage of respondents	Number of severely depressed respondents	Percentage Severely Depressed (%)
1	61-70	187	93.5	108	93.10
2	71-80	13	6.5	8	6.90
TOTAL		200	100	116	100

Table 2. Percentage of severely depressed elderly subjects in accordance with gender as a risk factor.

SL. No	Gender	Number of respondents (total=200)	Number of severely depressed respondents (total=116)	Percentage Severely Depressed (%)
1	Male	123	74	63.80
2	Female	77	42	36.20

RESULTS

Majority of the subjects interviewed were found to be depressed. Of which more than half fell under the severely depressed category. Data obtained was corroborated and collated and found that majority of the subjects responded positively to questions pertaining to a bad feeling, getting fidgety and restless and constantly worrying about their future. This further confirmed their depressive states.

More than half of the study population were in their sixties and were found to be the severely depressed. Males were noted to be more depressed than females in accordance with the ratio of the study population. Males were also found to have depression that went unnoticed. Of the interviewed population, maximum number of depressed subjects were found to be in the categories - separated, unmarried and widowed respectively.

Most of the subjects who were severely depressed were found to be staying at the respective institutions for 8 years and more. Most of the inmates came with debilitating conditions and often succumbed to their conditions. This led to having few patients crossing a stay duration of 10 years. In the severely depressed category of subjects, most had no financial or emotional support from family and friends, further contributing to a decline in their mental health. The interview process was found to have a relaxing and therapeutic effect on the study population.

DISCUSSION

As seen by studies conducted by Yesavage JA et al[4] and Heun R et al[1], more than half of the population under study was found to be severely depressed and the contributing factors were observed to be increased age, male gender, longer stay duration, separated from spouse, and lacking adequate financial/emotional support from friends and family outside of the establishment.

In the present study the lack of only financial support and lack of both emotional and financial support was studied. Separation from spouse was broadly classified as separated, divorced, and widowed. Greenglass E et al[6] discussed increasing age is globally accepted as a risk factor for depression as it is considered as the 'second childhood' phase. In this study most subjects (93%) were in the age group of 61-70. 93% were seen to be severely depressed.

Studies by Marino P et al[13], Barua A et al[14] and Blazer D et al[15] have all identified females to be at a higher risk for depression. Males with depression tend to be less vocal/open about it and the male ratio of suicide is higher globally. Females have generally shown more resolve when it comes to emotional matters. The sample size also has a higher male to female ratio (16:19), therefore we arrived at the conclusion that the male gender is more severely depressed in our study.

Stay duration at old age homes and care centers was found to affect the elderly and put them at risk to developing depression as noted by Volicer et al[20] and Diamond et al[19]. Shorter stay durations made the subjects hope for a life outside of the establishment and when that expectation was not met - resulting in depression, whereas subjects belonging to a group of longer stay duration seems to have accepted the reality and made peace with it resulting in lesser risk for an otherwise much likely depressed mental status. In our study 70.69% of the severely depressed category had stayed for 8.4 months. Number of subjects in the

category of longer stay duration was marginally low.

Abella JD et al[5] and Bhamani MA et al[8] identified marital status as a risk factor. This was assessed and found that separated population was the most depressed since they had hopes of getting back together and that unmet expectation was causing a lot of sadness in them, followed by unmarried population pertaining to their loneliness. The next category was found to be widowed men and women grieving the loss of their spouses followed by married population - with the reason being an unhappy marriage. Divorced population seemed to be very content and accommodative of their reality.

External support from outside of the establishment was noted to be highly beneficial in reducing the development of depression, since most of the interviewees wanted to open up and vent their emotions. This we inferred from the longer than expected timings taken for interviewing each of the respondents during our study sessions. The subjects whose family contacted them via telecom or visits seemed to be happier than the rest especially in an Indian population where family ties are considered stronger than in other countries as noted by Bekaroglu M et al[7].

Assessing the knowledge of caregivers in identifying the symptoms of depression was suggested by Volicer et al [20] and Kohn et al [21]. The care givers were provided with assessment forms before and after a brief insight into depression. The evaluation of the forms leads to the conclusion that all the caregivers who were approached had a better understanding on the signs and symptoms of depression after the study. As seen by Meldon et al [9] most caregivers were not able to identify restlessness, agitation, and pessimistic attitude as signs of depression in the beginning. After the study, all the caregivers were found to be successful at recognizing the signs correctly.

CONCLUSION

Using GDS, an observational study was conducted to give a report on incidence and severity of depression in geriatric patients in old age homes and care centers in Bangalore. A vast majority of the elderly were found to be severely depressed accounting for by their marital status, the male gender, lack of support from outside of the establishment; be it financial or emotional, and longer stay duration being the major risk factors. It can be inferred from the findings that; the Geriatric Depression Scale could be an effective scale for assessment of depression in the elderly. It was clear that, the risk factor assessment was rather subjective, and the results vary with the sample size and hence, should not be considered as a definitive diagnostic tool. In addition to it, the interviewing part of the study showed that human interaction from outside of the establishment was found to be therapeutic for most, which may reduce the risk of depression in the elderly. Caregivers were able to identify the signs and symptoms of depression better after the counselling provided. However, the above studies only provide a lead for further evaluation of depression in the elderly on a larger scale using GDS as a standard criterion for analysis.

ACKNOWLEDGEMENT

We express our wholehearted gratitude to our institution, Karnataka College of Pharmacy, for providing all the facilities

and requirements for the successful completion of our project work.

We express our profound and sincere gratitude to our esteemed guide Dr. Balakeshwa Ramaiah, HOD, Department of Pharmacy Practice, Karnataka College of Pharmacy, for his zealous guidance, indefatigable support, and constant encouragement for the entire period of our project work.

We are deeply indebted to Dr. Blessy George, Dr. Shibi Mary Thomas, Dr. Prashant Kumar Sah and Dr. Shaik Mohammed Irfan, Asst. Professors, Department of Pharmacy Practice, Karnataka College of Pharmacy, for providing us with their valuable support and advice for the successful completion of our project work.

We are deeply grateful to Rev Fr. Sobin Daniel of NAMS Snehasadan, Fr. Sunil of Guanella Preethi Nivas, and Mr. Thomas Raja, Head of Home of Hope for providing us with the privilege to access their facilities for the entire period of our project work.

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ANNEXURE

The 30 – item Geriatric Depression Scale

No.	Question	Answer
1.	Are you basically satisfied with your life?	Yes/no
2.	Have you dropped many of your activities and interests?	Yes/no
3.	Do you feel that your life is empty?	Yes/no
4.	Do you often get bored?	Yes/no
5.	Are you hopeful about the future?	Yes/no
6.	Are you bothered by thoughts you can't get out of your head?	Yes/no
7.	Are you in good spirits most of the time?	Yes/no
8.	Are you afraid that something bad is going to happen to you?	Yes/no
9.	Do you feel happy most of the time?	Yes/no
10.	Do you often feel helpless?	Yes/no
11.	Do you often get restless and fidgety?	Yes/no
12.	Do you prefer to stay at home, rather than going out and doing new things?	Yes/no
13.	Do you frequently worry about the future?	Yes/no
14.	Do you feel you have more problems with memory than most?	Yes/no
15.	Do you think it is wonderful to be alive now?	Yes/no
16.	Do you often feel downhearted and blue?	Yes/no
17.	Do you feel pretty worthless the way you are now?	Yes/no
18.	Do you worry a lot about the past?	Yes/no
19.	Do you find life very exciting?	Yes/no
20.	Is it hard for you to get started on new projects?	Yes/no
21.	Do you feel full of energy?	Yes/no
22.	Do you feel that your situation is hopeless?	Yes/no
23.	Do you feel that most people are better off than you are?	Yes/no
24.	Do you frequently get upset over little things?	Yes/no
25.	Do you frequently feel like crying?	Yes/no
26.	Do you have trouble concentrating?	Yes/no
27.	Do you enjoy getting up in the morning?	Yes/no
28.	Do you prefer to avoid social gatherings?	Yes/no
29.	Is it easy for you to make decisions?	Yes/no
30.	Is your mind as clear as it used to be?	Yes/no
Total		

HISTORY QUESTIONNAIRE

NAME		AGE:	SEX:
WEIGHT (kg)		HEIGHT (cm)	
ALLERGIES			
STAY DURATION			

PAST MEDICAL HISTORY:

CURRENT ILLNESS:

CURRENT MEDICATIONS:

DIET/NUTRITION:

BOWEL/BLADDER/SLEEP HABITS:

ANY PHYSICAL SIGNS AND SYMPTOMS:

- **RASHES**
- **FATIGUE**
- **MUSCLE PAIN**
- **JOINT PAIN**
- **EAR, NOSE, THROAT PAIN**
- **EDEMA**
- **ICTERUS**

CAREGIVER FORM

Name | Age | Sex

Qualification | Employment

Name of the institution

Work experience

BEFORE COUNSELLING

Date | Time

I. What do you think depression is?

II. Tick the ones in these which you think are the signs of depression?

- ❖ Anxiety
- ❖ Hyperactivity
- ❖ Excessive tiredness
- ❖ Loss of interest in activities
- ❖ Memory loss
- ❖ Lack of concentration
- ❖ Attention seeking
- ❖ Over thinking
- ❖ Poor appetite
- ❖ Bad Hygiene
- ❖ Excessive Crying
- ❖ Lack of motivation
- ❖ Excessive talking
- ❖ Feeling guilty and low
- ❖ Suicidal thoughts
- ❖ Social isolation
- ❖ Increased urination.
- ❖ Insomnia

III. What will you do if you suspect a person with depression?

IV. What do you think can cause depression?

V. Depression can lead to?

VI. How much do you rate yourself regarding this topic?

0	1	2	3	4	5

VII. Do you want to know more about this condition?

❖ YES ❖ NO

VIII. If YES, please henceforth sign this given declaration so we can proceed with counselling.

I _____ hereby declare that I would like to give my consent to be counselled so that, I may be able to increase my knowledge about this condition and may help me for better understanding of my patients I am taking care of.

SIGNATURE

AFTER COUNSELLING

I. What do you think depression is?

II. Tick the ones in these which you think are the signs of depression?

- ❖ Anxiety
- ❖ Hyperactivity
- ❖ Excessive tiredness
- ❖ Loss of interest in activities
- ❖ Memory loss
- ❖ Lack of concentration
- ❖ Attention seeking
- ❖ Over thinking
- ❖ Poor appetite
- ❖ Bad Hygiene
- ❖ Excessive Crying
- ❖ Lack of motivation
- ❖ Excessive talking
- ❖ Feeling guilty and low
- ❖ Suicidal thoughts
- ❖ Social isolation
- ❖ Increased urination.
- ❖ Insomnia

III. What will you do if you suspect a person with depression?

IV. What do you think can cause depression?

V. Depression can lead to?

VI. How much do you rate yourself regarding this topic after counselling?

0	1	2	3	4	5

VII. Did you have any questions regarding this topic during counselling?

❖ YES ❖ NO

If YES, was all your questions answered?

❖ YES ❖ NO

VIII. Was this counselling helpful?

❖ YES ❖ NO