Prevalence of Depressive Symptoms in Elderly Patients admitted at the Hospital Dr. Hernán Henríquez Aravena, Temuco, Chile

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Introduction: *Depression is a highly prevalent pathology in elderly people. It is associated to higher morbimortality. There are just a few studies on prevalence and characterization of geriatric patients hospitalized with depressive symptoms.* ***Method:*** *patients between January and March, 2020 were interviewed. Inclusion criteria: age > 60 years old, admitted during the last 48 hours. Exclusion criteria: Pfeiffer ≥ 3, Glasgow < 15, aphasia, mental disease, non-Spanish speaker.* ***Results:*** *59 patients were interviewed, 32 women and 27 men, average age 73.32 years old (of 6.63). Yesavage-15 Test positive prevalence was 32.20% (19), 52.63% (10) in women and 47.37% (9) in men.* ***Conclusions:*** *Depressive symptoms in elderly people admitted in an Internal Medicine Service are frequent, and not always searched during hospitalization. Significant correlation between Positive Yesavage and suicidal ideation highlights the role of mood disorders in elderly people´s suicide.*

Keywords: *depression, geriatrics, hospitalized.*

INTRODUCTION

During the last few decades, Chile has significantly improved life quality of its population. Health Care is a key factor in the process. Life expectancy is a significant result of such condition, reaching to 83.4 years in women and 77.9 years in men. (1) Changes experienced by the country make up an "inverted pyramid ". On the one hand, progressive decrease of birth rate has been reported; while on the other, hand a population group older than 60 years old with 2.899.621 inhabitants among them 55% women and 45% men is reported. Chile is ranked as an aging-population country. Estimations report that by 2025, Chile will become the most aging country of the region. (1)

Elderly people are defined as people older than 60 years old. Such group are named as elderly people. (2) This age group often has chronic medical pathologies, loss of motor functionality, nutritional deficiency, family/social/economic conflicts and mental health pathologies among which mood disorders are highlighted, which match fragility and elderly people diseases. (3) Elderly people´s mental health is a wide topic, which should be a reason for further social discussion and a health priority, thus contributing to usual/non pathological aging. (4)

On the other hand, depression is defined as a

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mood pathological alteration, depicting a mood decrease which ends up in sadness, plus various indications and symptoms, for -at least- two weeks as an average, which may arise as a symptom, or as a signal or a nosological diagnosis. (5) Depression psychopathology varies among patients and also among episodes in the same patient. In the origin of the condition there are some genetic and environmental factors. Its hereditability has been studied, estimating it between 31to 42%, with an environmental contribution between 58 to 67%. (6) Models proposed for explaining such mechanisms involved include a wide variety of genes, among them we can mention coding of the serotonin carrier. In more recent studies, various inflammatory processes have been suggested to have a role in depression etiopathogenesis, both as precipitating/perpetuating factors of such condition. (6)

In USA, prevalence of depressive symptoms is higher in hospitalized/institutionalized patients. Prevalence of major depression in elderly people belonging to the community, ranges between 1 to 4%, with an incidence of 0 to 15% per year. On the other hand, in hospitalized patients it ranges between 10 to 12%; in institutionalized patients it ranges between 12 to 14%. (7) In Chile, depression in people older than 15 years old is deemed as a GES (5) pathology. The latest National Health Survey reported a general prevalence of 15.8% - 21.7% in women and 10% in men. Additionally, 2.2% of the population has experienced suicidal ideations during the last year, and 0.7% has experienced suicide attempt. Only 1.6% is under treatment in a GES Program. (8)

Regarding elderly people, in a study performed at a hospital, in Santiago, Chile during 2011, geriatric depression was reported in 22.13% of the patients; 28.12% in women and 16.41% in men. From the whole study, 89.6% was assessed as mild to moderate depression, and 10.3% as severe depression. Additionally, a higher prevalence was reported in widows/widowers who live alone and have a lower educational level, as well as a higher tendency to tobacco consumption, alcohol consumption and polypharmacy. (9)

Despite the efforts made regarding depression description on elderly people and advances in its management and treatment, it is still an underdiagnosed/undertreated pathology. In this context, hospitalization is a valuable opportunity for diagnosis and initial handling, as depression symptoms may be detected in patients.

To date, there are no prevalence/characterization studies of patients with geriatric depression symptoms in hospitalized people in Araucanía Region. This study is aimed to collect local experience data, by detecting depressive symptoms, using the 15-item Geriatric Depression Scale (GDS-15), to be used on elderly people hospitalized at the Hospital Hernán Henríquez Aravena (Hereinafter, HHHA), in Temuco city.

PATIENTS AND METHOD

Patients. A descriptive study in hospitalized patients -older than 60 years old- was made, 48 hours before they were admitted to the HHHA Internal Medicine Service. Most Hospital users are National Health Fund (FONASA) users. Patients whose result in the Pfeiffer Test was higher or equal to three wrong answers (Abbreviated Scale for cognitive compromise diagnosis) were excluded from the study. Impaired consciousness patients (Glasgow Scale lower than 15), patients who experience aphasia, those who are incapable to follow directions, and those suffering other mental disorders (dementia and delirium, clinically proved and by reviewing their clinical record), patients who do not speak Spanish, and those suffering recent mourning.

Method

Four undergraduate Medicine students -who study at Universidad de la Frontera- interviewed patients older than 60 years old, who were admitted to the Internal Medicine Service, between January and March, 2020. The interviews were made from Monday through Friday among the hospitalized patients who had been admitted within less than 48 hours in the Service. The interviewers were previously trained by the team psychiatrist, in order to apply the Pfeiffer & Yesavage-15 Scales and perform a semi structured interview aimed to clinically detect dementia and delirium. Every patient who met inclusion criteria was subject to the Short-form Geriatric Depression Scale-15 (GDS-15), which

as a sensitivity of 92% and a specificity of 83% (10). Additionally, a semi structured interview was applied, including personal data, with a previously signed informed consent, approved by the Committee of Ethics of the Hospital.

Statistical Analysis

Surveys were recorded by using Microsoft Excel spreadsheet aimed to generate a data base. Prevalence was obtained considering as total population all those patients who met the inclusion criteria and were positive for depressive symptoms, and those whose Yesavage-15 Test score was higher or equal to 6 points. Pearson´s chi-square Test or Fisher´s Exact Test were calculated for the studied variables, as required. The statistical analysis was made by using the STATA 15.1 statistics Program.

Results

During the interviews period, 59 patients complied with the inclusion criteria of the study. From this group, 54.24% (32) are women, 45.76% (27) are men. Their ages range from 60 to 91 years old. Their average age is 73.32 years old. (Standard Deviation (SD) ± 6.63) (p=0.865). From all evaluated patients, 67.80% (40) scored a negative Yesavage-15 Test; 32.20% (19) scored a positive Yesavage-15 Test (p= 0.865). This sex-ranked group are distributed as 52.63% (10) women and 47.37 % (9) men. The average score was 4.69 (SD ± 4.2). The mode was 2 points, (p=0.865). According to education level, positive results were 52.63 % (10) who had full basic education; 31.58% (6) who had full high school education; 15.79% (3) who had full higher education (p= 0.726). According to marital status, the highest positive prevalence of Yesavage-15 Test was for married patients or those who had a couple, 52.63% (10), compared with single patients, 15.79% (3) and widows/widowers, 31.58% (6) (p= 0.928). Regarding family status of all positive cases, 15.79% (3) lived alone, 84.21% (16) live with other people. Compared with the total number of cases, 25.42% (15) live alone, and 74.58% (44) live with other people (p= 0.342). When asking about other background, from all patients, 61.02% (36) reported to suffer Chronic Arterial Hypertension, with 57.89% (11) from total positive cases (p= 0,735). 40.68% (24) reported to have type II Diabetes Mellitus, representing 42.11% (8) of all Positive Yesavage Scale (p= 0.878). Finally, 5.08% (3) of all patients reported alcohol consumption, present only in 5.26% (1) of all positive patients (p= 1). When asking about polypharmacy background, from all reported cases 55,93% (33) were identified, with 68.42% (13) of all positive cases (p= 0.183). When asking about self-medication background, there was a prevalence of 22.03% (13). This figure matches positive results, 15.79 % (3) (p= 0,517). Within the studied cases, 15.25% (9) reported suicidal ideation, and all cases had positive Yesavage-15 Test cases, with 47.37% of them all. (p= 0) In this suicidal ideation group, 88.88% (8) had a score equal or higher than 10 in Yesavage-15 Test. (p= 0). None of the cases reported prior autolysis attempt (p= 0).

10.53% (2) of cases with positive Yesavage-15 Test had a depression diagnosis in their clinical record during hospitalization. IP we only consider cases of Yesavage-15 Test, with a score above 10, none of these had a depression diagnosis during their stay.

DISCUSSION

Mood disorders on elderly people are a frequent situation (7,8). Apart from all typical events of this age group, such as transition to retirement, widowhood, loss of beloved people and other health factors, such as evolution of prior comorbilities, among other things, all of these cause a high impact on elderly people´s functionality. Between 8% to 16% of all 60-year- old people who live in the community are reported to have depressive symptoms. (11) This situation is quite relevant for hospitalized patients, with a reported increase of up to 37% after stays associated to significant diseases. (12) This study included patients that -at the time of the interview- had remained less than 48 hours in the Internal Medicine Service, in order to learn about the patients´ conditions with no correlated impact caused by staying at the Hospital.

There are very few similar case studies in our field, among them we have the study performed by Von Mühlenbrock et al, during 2011, at the Hospital Militar, in Santiago, Chile, with

a prevalence of 22.13% of patients older than 60 years (9). Such figure is lower than that obtained in our study, although we must include method differences and existing social/economic/epidemiological variables within the chosen health institutions, apart from the time elapsed between both studies.

From the whole sample, three patients were observed to have a current depression diagnosis. During hospitalization, only 10.53% of all patients who got Yesavage-15 positive were searched and diagnosed. Among the patients who had a score higher than 10, which is deemed as the most sensitive predictor of depression episodes, none of them were reported as diagnosed. According to Yesavage-15´s positive predictive value, nearly 15 patients were expected to have a depression diagnosis. (10), the difference may be attributable to a missing active search for cases with a further confirmed diagnosis. In elderly patients, the difficulty to perform a diagnosis is given -among others factors- by their cognitive impairment and associated comorbilities, thus wrongly blaming their age cycle, with no further research made; therefore suspicion is reduced and capability to find out this situation at an early stage is eliminated. (13) Additionally, depression may favor a more torpid disease course, thus stretching hospital stay and increasing morbimortality.(14) From all diagnosed patients, one of them was under treatment. For elderly people this is usually inadequate, and there is a high number of them untreated, and receiving pharmacotherapy with a dose below the therapeutical threshold or else during very short periods. With no proper management, prognosis -in this age group- is worse than in other younger groups. On the other hand, adherence is influenced by cognitive status, comorbilities, polypharmacy, highlighting the importance of a support network for helping patients. (13)

Literature describes various risk factors for mood disorders in the studied population. Among them we have, female sex, presence of chronic diseases, cerebrovascular accident, neoplastic pathologies, tobacco consumption, widowhood and completed schooling years. When observing prevalence of depressive symptoms, according to sex, a similar non-statistically significant distribution among men and women is reported. Regarding educational level, a reciprocal proportion between years of study and prevalence is reported, although this is not statistically significant. When analyzing marital status, a tendency of symptoms in married patients or patients with a couple against widowers is reported. Such scenario does not match literature (9). A similar scenario regarding company is described. Patients who live with their relatives have a higher prevalence of symptoms. Even though both correlations are not statistically significant, these could point out to other existing factors in this sample.

Regarding comorbilities, nearly a third of patients who have a diagnosis of diabetes mellitus and arterial hypertension have a positive Yesavage-15, which is more relevant when considering the role of chronic pathologies in depression etiopathogenesis. (14) This scenario matches polypharmacy, which is reported in two thirds of all patients having positive Yesavage. Apart from the direct correlation with the number of chronic pathologies, when this is added to the impact on treatment adherence, (13) it becomes a significant factor to be considered in elderly people context.

Regarding suicide, nine patients were observed to have suicidal ideation and had positive Yesavage-15. This is a statistically significant correlation. Most of them are reported to have a score higher or equal to 10 as well, which is deemed as a more sensitive/specific predictor of depression episodes. Suicide depends on many factors, which are more common on elderly people than in other age groups. Social isolation, involving lower possibilities to be assisted by a third person, along with the use of more lethal means than younger population, may favor that a suicide attempt is successful. (15) Additionally, their fragile condition will make them tolerate -in a worse manner- all offences. According to data provided by the Health Ministry, in Chile the group with the fastest increasing suicide rate is elderly people, with an increase of up to133% in 80-year-old or older people. Early search for those high risk patients -before suicide attempt is manifested- is fundamental for prevention (15). Hospitalization is a good opportunity to detect such condition.

Within the limitations of this study, we must consider the Health Center where the sample

was obtained from, i.e. Hospital Dr. Hernán Henríquez Aravena. Some of the main sample characteristics are medium/low social economic level patients. Most of them belong to the first two groups of Health FONASA users, and have a low education level (mostly complete/ incomplete basic education). It is also necessary to consider the sample size, as it had a high level of patients excluded from the study, because they did not comply with the inclusion criteria; therefore, this scenario does not allow to make a significant analysis of the studied variable.

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