

## Research Article

# The Abandonment Syndrome as a Determinant in the Surgical Denouement in Elderly Population in Mexico City

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## Abstract

The demographic aging in Mexico is turning into one of the main concerns in the country; this raises the hospital admissions in different levels of medical care. The increase of surgical procedures causes high rates of morbidity and mortality in this population, nowadays, there are multiple instruments used for evaluating the surgical risk and mortality, however, the negative denouements still happen, this can be attributed to the existence of other variables which are not considered such as social kind and the ones which influences in the denouements of hospitalized patients.

**Objectives:** The present study proposes to perform a socio-family assessment in elderly people as a non-considered variable in the pre-surgical and post-surgical evaluation through OARS (Older American and Resource Socials) scale; the evaluation of surgical denouements was recorded with the Dindo-Clavien scale.

**Methods:** Total population was composed for 67 patients, 50.7% male and 49.3% female; mean age of 73.61 years. Results: Statistical analysis showed a  $p=0.012$  in the  $\chi^2$  test and an  $r=0.67$  in the Pearson correlation of OARS/Dindo-Clavien.

**Conclusion:** In conclusion, this study pretends to beef up the idea that social assessment in elderly population has an important transcendence in surgical denouements and is worthy of a deep development.

**Keywords:** Hospital/ambulatory care; Longevity; Long-term Care; Social Media/Networks; Social roles & Social Factors

## Introduction

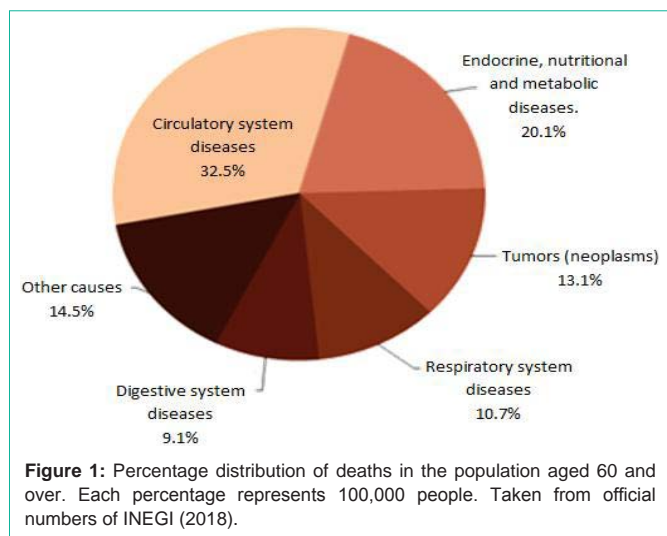
Surgical procedures in older adult patients are becoming more frequent. They are characterized by having higher morbidity and mortality than those performed in younger patients, which is why an appropriate preoperative evaluation, careful intraoperative monitoring and adequate management of the postoperative period are essential. Age leads to a series of physiological changes and a higher incidence of chronic diseases, which together determine a decrease in physiological reserves and functional capacity. In the preoperative evaluation, an exhaustive assessment of comorbidities and commonly used drugs, the possible “frailty” of these patients in the face of the surgical process and their risk of developing postoperative cognitive deficit are important.

The type of surgery and its urgency, with general conditions of the patient and the characteristics of the center care, are the main factors to consider when choosing the type of anesthesia. A frequent problem in the postoperative period is the development of delirium and cognitive deterioration, where efforts should be directed towards its prevention, as well as treatment since they considerably increase perioperative morbidity and mortality. About 80% of older people have at least one chronic disease, and 50% two. The average is 2.8 illness or non-communicable diseases in people between 65 and 74

years old, reaching 3.23 in people older than 75 years. These chronic pathologies are largely responsible for limitations in activity and disability. In people older than 85 years, hospital admissions are 10 times higher than in the ages between 15 and 34. In the same way, the mean stay of each admission increases in groups of elderly people [1].

In Mexico, the increase in life expectancy has caused most of the deaths to occur in advanced ages, of the 656 thousand deaths [2], 64.7% corresponded to people aged 60 and over. Noting that diseases of the circulatory system (32.5%); endocrine, nutritional and metabolic diseases (20.1%); tumors (13.1%); diseases of the respiratory system (10.7%), and diseases of the digestive system (9.1%) are the main causes of death among the population aged 60 and over (Figure 1). Together they represent 85.5% of deaths in this age group [2]. The World Health Organization has estimated that noncommunicable diseases (Diabetes, cardiovascular diseases, mental disorders, etc.) will constitute the main source of disability in 2020, so this situation conditions a greater need for caregivers, who assist in providing an improvement in the quality of life of these people.

In 2018 Nippon Medical School Chiba Hokusoh Hospital conducted a study in which 915 patients with acute heart failure were examined, of which 442 patients were 75 years of age or older. A subgroup analysis based on the included network support, where



participants met with only one of the three criteria are: marital status, descent and lifestyle which were considered social conditions of vulnerability; A total of 219 older adults were considered a socially vulnerable group and 223 were classified as non-vulnerable. In statistical analysis on Kaplan-Meier curves were used, which showed that the survival rate of the socially vulnerable group was significantly poorer, than the non-socially vulnerable group ( $p=0.004$ ). The Cox regression model noted that social vulnerability was an independent predictor of 1000 days mortality of older adults (Hazard ratio: 1,531, confidence interval of the 95% 1027-2280,  $p = 0.036$ ). Regarding the components of social vulnerability, marital status was an independent factor in the elderly cohort (HR: 1,500, 95% CI 1.043-2.157,  $p=0.029$ ) [3]. The relevance of the study is the possible application of care based on a multidisciplinary approach in surgical handling of older adults.

### Older adults and the aging population

WHO categorized by age group for elderly adults: 60 to 74 years and older; from 75 to 90 years old or older; and those who are over 90 years old are called large, old or long-lived [4]. In Mexico in 2017, is considered elderly people 60 years but regardless of age, we refer to them as Older Adults (OA).

Upon reaching this age, a stage begins that adds all the life experiences and family goals, but also begins a vulnerability stage in terms of interaction with social and environmental environment. In our society, the treatment of older adults has changed due to the situation of vulnerability they present and this due to the treatment they receive by most of the population in public and private sectors and in the same family nucleus, the latter being the more important for the elderly population, since in certain ways they depend on them to improve their quality of life, due to the fact that the opportunities for work and social activity are almost nil. For this reason, it is important that a change be established in the daily life of individuals and families, which is charged for the care they require.

When we refer to aging, we speak about a natural, gradual, continuous and irreversible process of changes over the time. These changes occur at the biological, psychological and social level; are determined by the culture and socioeconomic conditions of groups and individuals; even both in interaction. The aging way of each person

is different. According to the Pan-American Health Organization, the elderly population in Mexico and Latin America is increasing, this due to life expectancy and declining birth. This change began in the 30's with a decrease in mortality thanks to antibiotics, vaccines, hygiene measures and the decrease in fertility due to contraceptive methods, sex education and family planning methods that occurred in the 60's mid. In 2005, 97.5 million people resided in the country. About 3.7 million are women and 3.3 million are men aged 60 and over. From 2005 to 2010, the percentage of the elderly population (65 or over) rose from 5.5% to 6.2% according to II count of population and housing 2005-10 of INEGI and therefore the median age of the population in the same period of time has increased from 24 to 26 years.

For the year 2050, the OA will occupy an important place in the population statistics, since for that year people over 60 years of age will be 24% of the population just in Mexico compared to the young population, the demographic bonus, which refers to this is a period in which the age structure of the population underwent important changes: the reduction of the child population, and the increase of the adult population and of people in advanced ages, generally 65 years and over. With this, the proportion of people of potentially productive ages grows steadily in relation to people of ages normally classified as inactive [5]. However, life expectancy could mean a successful health policy and socioeconomic development and does not mean an improvement in the quality of life and support network of the elderly to any illness or disability, can say that due to the fact of being old they have a greater probability of suffering although this does not mean that everyone runs with the same disadvantage, in this life with diversity is the condition of life. This represents a challenge in the implementation of new forms of care for older adults not only in vulnerable situations, but also for the entire population so that they age in a healthy and active way.

### Aging from the biopsychosocial point of view

The biological aging is a gradual and adaptive process, characterized by a relative decrease of the homeostatic response which is the balance that allows the body to maintain proper operation, due to morphological, physiological, biochemical, and psychological modifications, propitiated due to changes inherent to age and accumulated wear and tear in the face of the challenges faced by the body in each environment. Aging totally excludes the diseases associated to aging, since it is not a disease but a life stage. The association of non-communicable diseases such as diabetes, hypertension, cancer, is precisely due to the decrease in body homeostasis since it is rare to find a diagnosis or cause of death in which it is specified "due to old age".

There are other diseases and conditions associated with aging, which, without being directly causing death, are largely responsible for the deterioration in the quality of life of the elderly; among these can highlight the sarcopenia, osteoporosis, arthritis, and autoimmune illness. Another important field of aging is a gradual reduction in the homeostatic resilience, in other words, the capacity to recover the physiological parameters when they have been altered [6]; these inevitable changes are considered physiological aging, to which must add the changes caused by different lifestyles, environment and suffered disease, pathological aging.

The age group 60 and over is the fastest growing group in the world. Today we live 30 years longer than at the beginning of the 20<sup>th</sup> century more than 30% of the total population in a large number of countries is made up of the elderly. For this reason, comprehensive support for the elderly and their integration into society constitutes a valuable aim to treat overall with the family doctor where there is an essential point of support in the social environment, so all those psychological aspects that favor normal and satisfactory aging are taken into consideration. Aging represents a human challenge for individuals committed in all societies to improving the quality of life of the human species [7]. When we age, we face a progressive loss of our social network, in addition to disrupting the distribution of times in our daily duty that we had in the previous stages of our life. In many cases when we retire or cease our activity, we lose our work environment with what this implies loss of personal relationships and roles. We are not long-lived forever despite the increase in life expectancy at birth and as we age, we are left behind by people with whom we had strong attachment relationships and who were significant people for us. We must face loss processes.

In the life of an older adult, it may be said to have more moments of solitude than in other stages of the life, for example the “phenomenon of the empty nest”, that is, an emptiness is noticed in the family, the children undertake their own life project and relationships with them become distant. The reasons for the rise of aging must be found in “demographic pressures”, the birth rate is reduced, there is a progressive increase in the life expectancy of the population of most countries, for which many professionals are beginning to focus their interest at this stage of the life cycle. Gerontologist that attends the demands of the population of family and social environment, what calls attention are failures in recent memory, older adults, and the social environment those associated with Alzheimer’s disease, in old age their changes that are considered normal with respect to cognitive functioning; equally affective and personality changes occur that should be considered as expected. When a person becomes old, suffers an increase in the experience of losses, understanding loss as the experience by which we feel that we no longer have something, at a real and subjective level that is significant for us; such losses affect all social areas; all losses involve a grieving process and overcome the loss is vital for the person who age. From the point of view of the gerontologist, these psychological changes are more accentuated when the person notices that the physical and biological changes generate a loss, real or subjective, of the independence that they lived until then. The third age, perhaps because is the first decades after retirement, is a long awaited and longed for, is not usually expected to suffer person heavy losses, and if they occur, the general trend is to be resolved adaptively because too network social is wide and general being large in our society or even begins to enlarge and occupies more time on the activities proper of their lifestyles.

At this age, the losses are numerous and trigger the memory of losses that have not been elaborated, that is, that still cannot be completely overcome, together with the fact that the social network begins to decrease and the thought of attending funerals begins to trigger the anticipation of his own death [8].

### **The Support network for older adults**

The social support network is made up of a set of family and non-

family relationships that provide one or various forms of support; while the person not permanently receives these aids can dispose of them in critical situations and mainly to develop creative solutions against conflicts and problems. The social support network can be evaluated in terms of its structural characteristics, functionality and attributes of the links that compose it. The structural characteristics refer to the “size of the network” (number of people that make it up), the “density” (degree of interrelation between the members), the “distribution” (location of the relationships in the quadrants and circles of the map network), “dispersion” (spatial distance between members), “homogeneity or heterogeneity” (similarity or difference in social, cultural and demographic characteristics between members of the network) [9].

Support networks are the basis on which the help that people require is given; social roles are structured and make sense; they contribute to the feeling of belonging and generate social integration. In advanced age prevents isolation and gain importance and influence on the quality of life of older people. Networks of friends and neighbors were important sources of support; support of neighbors is considered significant in the case of older people who do not have support networks. In some cases, neighbors can assume the role of the absent family, community networks of organizations that direct their actions to the elderly through instrumental, material, or emotional support. There are other organizations that are active older adults such clubs, day homes, parks, workshops, etc., the support networks are not immutable and permanent entities because transitions through which passes a person throughout their life can cause disruptions in their social and family integration, restructures their interaction. Early experiences as important factors in determining support networks in the elderly. In situations of poverty the possibilities of activating networks are diminished, as well as the patterns of exchange of intra-family support are threatened. Social support in terms of telephone conversations, visits from family, friends and neighbors, participation in social activities, has a positive impact on health that increases when the activity that the elderly person performs is significant and is not limited to passive assistance. However, the incidence of social support as an enhancer of quality of life is influenced by the subjective assessment of the subject himself. For their physical, psychological, and social well-being, the individual requires their integration into community social networks, networks that contains and channel affectivity and in which the capacity for solidarity and responsibility towards the other is turned, networks that confer identity and meaning. The support network in the elderly has been modified over time and has a very wide variability, these transitions are not necessarily in a positive situation, since, on many occasions, and older adults are victims of abuse in the support networks that should ensure their welfare.

World Health Organization indicates that elder abuse is any isolated or repetitive act or lack of appropriate action, occurred in any relationship from which trust is expected, that causes harm or discomfort to the elderly person. This population group is particularly vulnerable, since it is very likely that, at some point and to a greater or lesser degree, dependency will appear. Among the main types of abuse are physical, psychological, and economic and neglect [10].

Social support is a protective element of health in older adults,



by moderating the negative effects of stress and thus contributing to well-being and satisfaction with life. In the elderly, there is an increase in chronic diseases and disabilities that affect the quality of life increase the demands of attention in health services and the use and consumption of drugs [11]. Social support is a protective factor for health. The family is the natural context to grow and receive support, which over time develops its own patterns of interaction, which constitute the family structure. This is defined as the way the family must organize the way its members interact in accordance with the functional demands it has and the repetitive patterns of interaction. In the face of life cycle changes or in the face of stressful events that occur throughout life, families change and cope with them according to different styles of family functioning [12]. In countries of middle income such as Mexico, institutional support such as social security or coverage of health services are scarce, in addition to the fact that now older adults lacked access to financial resources during their youth, with which they could have accumulated funds to face old age. With this scenario, close social actors who support older adults daily and in emergency situations gain importance [13].

Aging is not the same for all people, as differences arise according to the social sector to which they belong, educational level, autonomy, gender, and lifestyles and social styles. For this reason, evaluation systems and programs are needed to guarantee the recovery or maintenance of the quality of life of the elderly. Likewise, the older adult's ability to live in the community depends on the available support, mainly provided by the family, which provides protection, raises his self-esteem, and enriches him socially. In all of them social valuation plays a fundamental role, so that various aspects of social function are evaluated, specifically relationships and social resources. To carry out social valuation, the scales, or instruments by which social risk and social resources can be determined [14]. One of these scales is the OARS scale which consists of 10 questions, which are classified as unsatisfactory if the answers are negative, and as satisfactory when the answers were positive, and of them, from question 1 at 7 its correspondence is to social relations.

### **Surgery in the elderly**

Surgical procedures in older adult patients are becoming more frequent. They are characterized by having higher morbidity and mortality than those performed in younger patients, which is why an appropriate preoperative evaluation, careful intraoperative monitoring and adequate management of the postoperative period are essential. Age leads to a series of physiological changes and a higher incidence of non-communicable diseases, which together determine a decrease in physiological reserves and functional capacity. In the preoperative evaluation, an exhaustive assessment of comorbidities and commonly used drugs, the possible "frailty" of these patients when faced with the surgical process and their risk of developing postoperative cognitive deficit are important.

Surgery, urgencies, and general conditions of the patient are main factors to consider when choosing the type of anesthesia. A frequent problem in the postoperative period is the development of delirium and cognitive deterioration, where efforts should be directed towards its prevention, as well as treatment, and to considerably increase perioperative morbidity and mortality [15]. About 80% of older people have at least one non-communicable disease, and 50%

two. The average is 2.8 problems or non-communicable diseases in people between 65 and 74 years old, reaching 3.23 in people over 75 years old. These chronic pathologies are, to a large extent, the cause of limitations in activity and disability. In people older than 85 years, hospital admissions are 10 times higher than those between 15 and 34 years. In the same way, the average stay of each admission increases in groups of elderly people. Emergency situations that warrant surgical intervention may also occur, such as heart attacks or cases of appendicitis. Van Assen published a series of 100 patients operated on for strangulated hernia between 1903 and 1906, of whom 17 were between 70 and 80 years old and 3 patients were over 80. In recent years, the tendency to operate on older adults has been increasing above that expected due to the aging of the population, it should be noted that many diseases treatable with surgery increase their frequency with aging [16]. Procedures performed on older adults range from major operations that require lengthy recoveries to relatively minor surgeries performed in a doctor's office, such as the removal of non-life-threatening skin cancers, which will likely never cause any problems.

In Chile, the abdominal surgical procedures performed in patients over 65 years of age in the Emergency Service of the Hospital del Salvador, between January 1 and December 31, 2000, was retrospectively analyzed. During the study period, they were 205 patients over 65 years were operated on. Of these 128 were women and 77 men, with an average age corresponding to  $74.6 \pm 4.2$  years with a range of 65 to 96 years. Surgical interventions corresponded to abdominal wall pathology in 28.8%, biliary 25.9%, peritoneal cavity 18.3%, coloproctological 10.2%, appendicular 9.8%, gastric 2.5%, trauma 1.5 %, vascular 1%, esophageal 0.5%, hepatic 0.5%, pancreatic 0.5%, and intestinal perforation 0.5% [17]. Emergency abdominal surgery in the elderly patient has traditionally been associated with a high risk of both mortality and complications. In the previously mentioned study, mortality reached 9.3% and morbidity 21.5%; figures 5 to 6 times higher compared to elective surgery. Despite advances in surgical technique and anesthesia, morbidity and mortality in this age group has not decreased accordingly. This can be explained by the association of coexisting diseases and the decompensation caused in these patients by emergency pathology, which increases the risk of operative mortality by up to 70% according to the literature [18].

In the rehabilitation of elderly patients, social and emotional factors are important. And among these factors, the social network, when it is stable, active, and reliable, protects the individual, acts as a help and directing agent, affects the speed of the use of health services, accelerates the healing processes and increases the expectation of life, is generating health, thus can be defined as a social network all part of the person, that is, the context, the sum of all the relationships that the person perceives as significant. It has been shown that the establishment of reciprocal support relationships between the members of a certain group positively affects a person's health, through the following mechanisms: 1) When the person is faced with an unknown, dangerous, or harmful, the alarm reaction is attenuated by the presence of familiar figures. 2) On an existential level, in human beings, social relations contribute to give meaning to the lives of their members. Social relations favor an organization of identity a phenomenon of collective identity is the idea that we build about one, from the gaze of the other. This is an important reference

in the construction of identity, as is self-ascription. By means of the vision of the groups. 3) The social network provides daily feedback. 4) The social network favors many personal activities that are positively associated with increased life: diet routine, exercise routine, sleep routine, adherence to drug regimens and, in general, health care.

On the other hand, in elderly patients the presence of chronic disease deteriorates the quality of their social interaction, because it has an impact on the interactions between the individual and the social network and this occurs through different interrelated processes: a) diseases as dementia, diabetes, hypertension, etc., have an interpersonal aversive effect in other ones; b) illness restricts the mobility of the subject, which reduces the chance of social contacts and isolates; c) disease tends to weaken the patient and consequently, the subject reduces its initiative network activation; d) the presence of disease in a person reduces the possibility of generating reciprocal behaviors in social interaction; e) Caring behaviors towards the person with a chronic disease generally tend to exhaust the members of the social network. Thus, when the evolution of the social network of an elderly person is analyzed, it can be observed that it contracts; the number of existing links is reduced due to the death, migration or weakening of members, as well as the opportunities to renew the social network as well as the motivation to renew it progressively diminish and the processes of maintaining the network become more difficult to as the energy required to keep the links active decreases and sensory acuity is reduced [19].

The knowledge of all these mechanisms is important for the health team since these references allow to recognize the mechanisms that generate the conditions of vulnerability of this population by allowing, allowing to explore the social network of the patient making it visible both for the professional and for the population; allows deciding which of the networks can be activated in times of crisis (process that enriches patient's therapy). The risk of complications in the postoperative period can be established in an evaluative way expressed in degrees, as proposed by the American Society of Anesthetists (ASA), or with the help of a Visual Analog Scale (VAS), or by measuring the variables in a quantitative way, but both procedures, which are not opposed and must explain the generative mechanism proposed with respect to the phenomenon observed. The value of the assessed prediction of postoperative complications has been recognized since the introduction of the ASA grading system.

There are generic systems for assessing risk in operations, such as the POSSUM scale (Physiological and Operative Severity Score for the Enumeration of Mortality and Morbidity), which measures physiological and surgical severity for the assessment of morbidity and mortality [20]. Only a few numerical risk assessment systems have gained wide acceptance in surgery; the POSSUM scale is the one that has probably achieved the highest recognition. Although the POSSUM system has been validated in several surgical subspecialties and has proven to be a very valid tool for quality control of surgery, it requires preoperative examinations, such as chest x-rays, electrocardiograms, or blood draws, to assess preoperative risk in all patients. However, these exams are not routinely performed in all operations. Furthermore, the POSSUM system is not based solely on preoperative parameters, the risk of a patient could be influenced by the quality of the operation itself. The identification of the risk of a

patient before surgery is important for it to give its informed consent or consider alternative treatments; POSSUM has been used successfully as an auditing tool, especially to predict operative mortality [21]. Until recently, there has been no agreement on definitions and what complications mean was not understood in the same way. The best definition of postoperative morbidity would be that of a deviation from the normal postoperative course, this implies knowing the normality of an evolution to be careful to detect these deviations; we can understand postoperative morbidity, such as all those adverse events that occur during surgery. Traditionally, complications continue to be analyzed up to 30 days after an intervention; however, many groups have already extended this period to 100 days [22]. For two decades, very complete attempts have been made to be able to have an ascending graduation, understanding that the most serious complication is the death of the patient. We owe the first attempt to Clavien, who in 1992 proposed a stratification of the severity of complications, a classification that was later improved by Dindo, giving rise to the Clavien-Dindo classification of 2004 [23].

## Methodology

At present, the increase in the elderly population is one of the main challenges in the health area, as poor health care in this population and family abandonment leads to complications medical and social is, of which see required to be evaluated the sociofamiliar impact of elderly after a surgical procedure of digestive system to help identify risk conditions and develop programs according to the age group and accused the vulnerable conditions of the older adults. Thus, we ask ourselves, what is the impact of the support network on older adults who have had an abdominal surgical event in a follow-up during the hospital stay, 1 and 3 months after discharge? For what we plan, that if the quality of the support network influences the evolution and postsurgical outcome, then when comparing 2 groups of older adults based on their support network, we will find a greater number of complications and mortality, as well as greater amount of abandonment of follow-up in older adults with a deficient support network in temporary follow-up during their hospital stay, 1 and 3 months after discharge. So, we observed older adults admitted to the surgery service of the General Hospital of Mexico "Dr. Eduardo Liceaga", the presence of postoperative complications during hospital stay and egress to 1 and 3 months after surgery of digestive tract distinguishing the social resources and the DINDO-Clavien system. Analyzing and classifying based on the POSSUM system, older adults with higher and lower surgical risk based on the inclusion and exclusion criteria. Recording postoperative complications in older adults based on the DINDO-CLAVIEN system. Matching the support network with morbidity and mortality with the time and analyzing the impact of the quality of life of the elderly. Being a study or observational, comparative, prospective, longitudinal of cases and controls. Held in the surgical tower of the General Hospital of Mexico "Dr. Eduardo Liceaga" in the period from August 2019 to March 2020.

The sample had the following criteria: inclusion criteria: adults over 60 years of age admitted to the surgical tower of the General Hospital of Mexico on an urgent or scheduled basis; have or not responsible relatives in accordance with the provisions in the legislation; informed consent signed. Non-inclusion criteria: Have a diagnosis of dementia,

**Table 1:** Contingency table with the comparison of the features between adequate and inadequate social resources.

		Dindo-Clavien						Total
		Normal post-operative course	Pharmacological treatment requirement	Death of the patient	Withdrawal from the study	Cancer	Withdrawal of the consent	
OARS	Adequate social resources	5	2	0	1	0	12	20
	Inadequate social resources	0	4	3	1	1	38	47
Total		5	6	3	2	1	50	67

**Note:** This table compares the adequate social resources and the inadequate (from OARS scale) with the different surgical denouements established in the Dindo-Clavien scale.

cognitive impairment, or oncological diagnosis. Removing criteria: Patients to decide to withdraw the informed consent; that they do not attend the postoperative follow-up; that are diagnosed with cancer after the intervention and confirmed by pathology.

The calculation of the sample size was used with the G power program version 3.1.9.7 in which the following parameters were used: Test Family: X2 Tests Statistical test: Generic X2 test. Type of power analysis: Sensitivity: Compute noncentrally parameter - given  $\alpha$ , and power. Error  $\alpha$ : 0.05. Power (1-  $\beta$  err prob): 0.95 Df: 50. Resulting in a sample of 67 patients for the study. Measures of central tendency (means, mean and percentage) and variance dispersion were carried out. Factor analysis was measured with the mortality curve and survival with the Kaplan-Meier estimator and Chi square. For statistical analysis, the IBM SPSS Statistics version 25 program was used.

The protocol was carried out in accordance with the provisions of the Regulations of the General Health Law on Research for Health. In accordance with article number 17 of these regulations, this research is "With minimal risk." The participation of the study subjects will be requested through informed consent. It was approved by the research ethics committee of the General Hospital of Mexico with registration number DI/19/110B/03/056.

**Operational description of the study**

The patients who met the inclusion criteria were selected and the informed consent letter was provided to enter the study and once signed, the OARS assessment was applied to determine the patient’s social resources, classifying the patient with deteriorated social resources or with excellent social resources to later attach to the clinical record of the protocol. Subsequently, the POSSUM system pre- and postsurgical applied based on the clinician file who was asked permission to staff the corresponding shift and once the patient was classified with the score system, giving monitored during their hospital stay. Back to its egress it continues with home monitoring where the patient was assessed by physical examination and a new medical history to know their current health status and whether any complications presented before the visits assigned; In addition to this, an assessment of the patient’s environment was also carried out to corroborate the previous responses on the OARS scale and classify their health status based on the DINDO-CLAVIEN scale in case the patient had any complications related to the surgical procedure. After the visit to the first month, assign or a last visit in 2 months to determine his health again, at the end with the 2 visits it was given as terminate its participation in the protocol.

**Results and Discussion**

Our population was homogeneous, regarding sex: 50.7% male and

49.3% female; with an average of 73.61 years. Taking a total sample of 67 patients, it was processed 98.5% of patients and 1.5% related to one case lost in the register or in our SPSS database. In the research, data were recorded from patients who presented a poor support network according to the OARS instrument, abandoned the study when attending the home visit for different reasons (the relatives didn’t allow the follow up, distrust in the follow up visit, etc), it should be noted that upon entering the study, informed consent was explained in detail and they were asked if they had any doubts about it, both the relatives and the patient, accepting the admission. It was observed that the distribution of poor social resources according to the OARS scale has a greater number of complications and dropouts from the study.

In Pearson’s Chi-square test, 2 independent groups were taken: adequate social resources and inadequate social resources; in the results of Pearson chi-square was obtained 14.692 (p=0.012) and a likelihood ratio of 16.167 (p=0.006). Therefore, at a significance level of 0.05, we conclude that the association between the variables is statistically significant.

In addition, the patients who had a poor support network (inadequate social resources) withdrew the informed consent (n=38), developed cancer (n=1), they withdrew voluntary from the study (n=1), they died (n=3), they required a pharmacological treatment and hadn’t had normal post-operative course (n=5) more than those who had adequate social resources (good support network) indicating that those with a good support network have better surgical denouements than those with a poor support network; this matter reverberates in the normal post-operative course and supports, at the same time, a good prognosis (Table 1).

Aging is a process characterized by a decline in functional capacity related to a decrease in muscle strength, balance, aerobic capacity, flexibility, and also some cognitive functions, such as memory. The functionality of the elderly is affected by intrinsic factors such as the prevalence of some non-communicable diseases and extrinsic factors such as type of housing, educational level, socioeconomic status and social participation. The balance between these factors is decisive for the health and quality of life of older adults [23]. It is the personal relationships that are established within the home or outside it based on kinship ties such as children and grandchildren that are considered as the basis of the different social support networks in older adults.

Support networks for older adults improve cognitive capacity, physical activity and stimulate social participation. Otherwise, a poor support network to a decreased quality of life, being depressed and even suicidal thought. Studies are required in our populations on the importance of the support network in high-impact situations such as

surgical events and the importance of analyzing this type of impact will help us to reinforce the importance of an adequate support network for older adults, this, in order to reduce or eradicate adverse events in hospitalized older adults and that these events are not badly related to a poorly performed surgical technique. Understand the importance of the family in hospital processes.

## Conclusion

There is a significant relationship between post-surgical complications in older adults with poor support network evaluated with OARS scale compared with the ones with a good support network. It was found that a large part of our elderly population with a poor support network withdrew their participation in the study for fear of reprisals with their relatives and in other cases the same relatives no longer allowed us to continue with the home monitoring. It is utmost importance the implementation of new surgical protocols, as well as gerontological personnel who are experts in the socio-family issue.

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