



BIOSSOCIAL AND CLINICAL PROFILE FROM PATIENTS IN AN INTERVENTIONIST CARDIOLOGY SERVICE

PERFIL BIOSSOCIAL E CLÍNICO DOS PACIENTES EM UM SERVIÇO DE CARDIOLOGIA INTERVENCIONISTA

PERFIL BIOSOCIAL Y CLINICO DE LOS PACIENTES EN UN SERVICIO DE CARDIOLOGÍA INTERVENCIONISTA
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ABSTRACT

Objective: to classify the patients of a SHCI according to demographic, behavioral and clinical, and add more information for planning and design of assistance. **Method:** it was a cross-sectional study conducted during May-June 2007 at the Hospital of Cardiology Department of University Hospital at UFPE. The sample consisted of 120 patients who underwent hemodynamic procedures in cardiology. Data were collected through structured questionnaire before the procedure hemodynamic, through interviews and medical records. Data collection was performed after approval by the Research Ethics Committee Involving Human Beings at the Center for Health Sciences/Federal University of Pernambuco under protocol No. 0263.0.172.000-06. The data was analyzed by the Statistical Package for the Social Science (SPSS) 12.0 and MSOffice Excel 2003 software. **Results:** mean age 59.9 years, male (56.7%), brown (62.2%), non-literate (26%), family income up to one minimum wage (41%), non-economically active (65.2%), married (59.2%), from the metropolitan region of Pernambuco (65%). The behavioral variables showed that 64.2% were using non-alcoholic beverage, were ex-smokers (39.2%), sedentary and hypertensive (73.9%). The indication more frequent was patients with SCA. **Conclusion:** the profile characterization of patients identified good aspects that could add information to the planning of care in units of Hemodynamics and interventionist cardiology of integrative and social way. **Descriptors:** health profile; cardiology hospital department; coronary angiography; nursing.

RESUMO

Objetivo: classificar os pacientes de um Serviço de Hemodinâmica (SHCI) segundo os aspectos demográficos, comportamentais e clínicos, e agregar informações para o planejamento e dimensionamento da assistência. **Método:** estudo transversal, realizado no período de maio a junho de 2007, no Serviço de Hemodinâmica de Cardiologia Intervencionista (SHCI) do Hospital Universitário da UFPE. A amostra foi composta de 120 pacientes que se submeteram a procedimentos hemodinâmicos na área de cardiologia. Os dados foram coletados através de questionário estruturado antes da realização do procedimento hemodinâmico, através de entrevista e prontuário. A coleta de dados foi realizada após aprovação pelo Comitê de Ética em Pesquisa Envolvendo Seres Humanos do Centro de Ciências da Saúde da Universidade Federal de Pernambuco (CEP/CCS/UFPE), CAEE nº 0263.0.172.000-06. A análise de dados foi realizada com os softwares Statistical Package for the Social Science (SPSS) 12.0 e MSOffice Excel 2003. **Resultados:** idade média 59,9 anos, masculino (56,7%), pardos (62,2%), não-alfabetizados (26%), renda familiar até 1 SM (41%), não-economicamente ativos (65,2%), casados (59,2%), procedentes da região metropolitana de Pernambuco (65%). As variáveis comportamentais demonstravam que 64,2% não faziam uso de bebida alcoólica, eram ex-fumantes (39,2%), sedentários e hipertensos (73,9%). Quanto à indicação do procedimento as SCA foram mais frequentes. **Conclusão:** a caracterização do perfil dos pacientes identificou aspectos pertinentes para o planejamento da assistência nos SHCI de forma integrativa e social. **Descritores:** perfil de saúde; serviço hospitalar de cardiologia; angiografia coronária; enfermagem.

RESUMEN

Objetivo: clasificar a los pacientes de un Servicio de Hemodinámico (SHCI) según los aspectos demográficos, comportamentales y clínicos, y agregar informaciones para la planificación y dimensionamiento de la asistencia. **Método:** estudio transversal, realizado de mayo a junio de 2007, en el Servicio de Hemodinámica de Cardiología Intervencionista (SHCI) del Hospital Universitario de la UFPE. La muestra fue compuesta de 120 pacientes que se sometieron a procedimientos hemodinámicos en el área de cardiología. Los datos fueron colectados a través del cuestionario estructurado antes de la realización del procedimiento hemodinámico, a través de entrevistas y revisión de prontuario. La colecta de datos fue realizada después de la aprobación por el Comité de Ética en Pesquisa. Envolviendo seres humanos del Centro de Ciencias de Salud de la Universidad Federal de Pernambuco (CEP/CCS/UFPE), CAEE en el 0263.0.172.000-06. El análisis de datos fue realizado con los softwares Statistical Pachage sea the Social Science (SPSS) 12.0 y MSOffice Excel 2003. **Resultados:** edad media 59,9 años, masculinos (56,7%), pardos (62,2%), no alfabetizados (26%), renta familiar hasta 1 SM (41%), económicamente inactivos (65,2%), casados (59,2%), procedentes de la región metropolitana de Pernambuco (65%). Las variables comportamentales demostraban que 64,2% no hacían uso de bebida alcohólica, eran ex - fumantes (39,2%), sedentarios e hipertensos (73,9%). En cuanto a la indicación del procedimiento las SCA fueron más frequentes. **Conclusión:** la caracterización del perfil de los pacientes identificó aspectos pertinentes para la planificación de la asistencia en los SHCI de forma integrada y social. **Descriptor:** perfil de salud; servicio hospitalero de cardiología; angiografía coronaria; enfermería.

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INTRODUCTION

Cardiovascular disease is prevalent in Brazil and is presented through the analysis of data from DATASUS, the leading cause of mortality in the country in recent years.¹ This reality produced the implementation of diagnostic and therapeutic procedures of high complexity through effective services Hemodynamics and Interventional Cardiology (SHCI).²

From the 50s, there was an expansion in the level of complexity that SHCI addition to performing preoperative diagnostic tests are now also applying intervention techniques, such as, conventional balloon angioplasty or stent placement (stent). Thus, the need for open heart surgeries has declined gradually bringing the population to speed in problem solving and therapeutic decision.¹

The SHCI brought many benefits in managing patients with coronary problems, and other valve, allowing less time taken in the individualized conduct, ideally with less risk to the patient. In Brazil, the performance of percutaneous therapeutic interventions is growing. In 2006, the number reached 60 000 procedures thus revealing an efficient alternative for the coronary treatment.³⁻⁴

Despite the advances in diagnosis and treatment of cardiovascular diseases, the profile of patients seen in the Schi has been rarely reported. But it is known that the knowledge of biosocial and clinical characteristics of this population is important in providing quality care and direct

hemodynamic processes involved in a individualized form.⁵

Thus, this study aims to describe the profile of patients with a service of Interventional Cardiology (SHCI) of a University Hospital of Pernambuco State, according to demographic, behavioral and clinical data, and add more information for planning and Hemodynamics sizing assistance.

METHOD

Cross-sectional study conducted in SHCI of a general hospital in Recife. In this service are received patients who have already undergone and will undergo diagnostic tests and therapeutic. Patients attended part of the domestic demand of that institution (the hospital and outpatient) and other institutions. The annual statistical attendance is of 1200 patients.

Considering the sample proportion, with a

safety margin of 10%, alpha 0.05 and beta of 0.20, the sample size was estimated in 120 patients of both sexes who underwent hemodynamic procedures and to be elective submitted, which represents 10% of the total annual attendance of this service.

Were used as exclusion criteria of the study, patients who would undergo extra-cardiac examinations in mechanical ventilation and / or vasoactive drugs and patients younger than 18 years.

Data collection was performed daily during the period May-June 2007 by the researcher, supported by two academic trained by applying an instrument.

The data collection instrument consisted of questions with multiple choice options, applied for admission of patients. The variables were defined using Census data from IBGE and the guidelines and consensus in Cardiology. The data were grouped into a set of biosocial and clinical evidence through interview, Hospitalization Authorizations (AIH) and consulting the records.

The biosocial was divided into demographic and behavioral factors. The demographic variables investigated were: age, sex, race, education level, household income, occupation, marital status, and naturalness.

The breed was classified according to information from the patient regarding their skin color in accordance with the following options: white, black, yellow, brown or Indian. This variable was investigated for the clinical importance in the area of cardiovascular disease.

In the investigation of occupation were considered economically active employed persons, civil servants and independent, non-economically active, retired, housewives, unemployed, and the other category was assigned to patients in a state pension or benefit.

Categorized as behavioral variables are: frequency of alcohol consumption, smoking, number of cigarettes smoked and duration of smoking, performance and duration of physical activity.

The clinical variables analyzed were categorized personal history from the patient's chart: Diabetes mellitus (DM), Hypertension (HBP), Coronary Artery Disease (CAD), previous hemodynamic intervention. In addition to vital signs and anthropometric data (waist circumference and calculation of body mass index [weight in kg / height in m²]) that were verified at the time of admission.

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Blood pressure was considered normal with values equal to or smaller than 130x85mmHg. Coronary Artery Disease (CAD) was defined when reported history of surgery of myocardial revascularization, myocardial infarction or angina pectoris.

For calculation of waist circumference (WC) and calculation of body mass index (BMI) were categorized according to the classification of the Centers for Disease Control and Prevention (CDC, 2000) and Guidelines International Obesity (NHLBI, 1998).

The waist circumference was obtained by measuring the smallest circumference between the costal margin and the iliac crests using a tape measure 150cm. The default value adopted for the excess of localized fat was different for both sexes; the male patients were considered normal limits, less than 102cm and less than 88cm in women.

There were body weight and stature of the individuals' barefoot, wearing light clothing, using a scale with the aid of a stadiometer. The body mass index (BMI) was calculated by dividing the value of the weight in kilograms by the square of height measured in meters (kg/m^2), and carried the following classification based on data from the World Health Organization: below weight $<18.5 \text{ kg}/\text{m}^2$; normal 18.5 to $24.9 \text{ kg}/\text{m}^2$, 25.0 to $29.9 \text{ kg}/\text{m}^2$ Overweight, Obese $30 \text{ kg}/\text{m}^2$ or more.

The criteria for the procedure were classified by hospitalization authorizations (AIH), pre-operative patients who would perform cardiac surgery such as valve replacement, or major surgery, acute coronary syndrome (ACS) patients who reported stable or unstable angina, and

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ischemia, and diastolic dysfunction.

The procedure was categorized as hemodynamic diagnosis (angiography) and / or therapeutic (percutaneous coronary angioplasty balloon or stent).

This study was approved by the Ethics in Research Involving Human Beings at the Center for Health Sciences, Federal University of Pernambuco (CEP / CCS / UFPE) under n.0263.0.172.000 CAEE-06. We used the term informed consent for the authorization of the use of interview data and medical records in accordance with Resolution 196/96 of the National Research Ethics - CONEP.

Data analysis was performed using descriptive statistics with the aid of the software Statistical Package for Social Science (SPSS) 12.0, and MSOffice Excel version 2003 for data management. Descriptive data were presented as mean, standard deviation and absolute and relative frequencies.

RESULTS

The sample characterized in demographic, behavioral and clinical as described in Table 1. We included 120 patients with a mean age of 59.9 ± 19.6 years, aged 20 years and maximum 80 years. The population consisted mostly of men (56.7%), mulatto (62.2%), literate (73.9%), with family incomes ranging from 2 to 5 minimum wages (53.8%); married (59.2%), from Pernambuco (90.8%). In the occupation variable population was characterized as economically active (26.3%) patients who were employed were public servants or independent, not economically active (65.2%) patients retirees, housewives and unemployed and on Other category (8.5), patients in a state pension or benefit.

Table 1. Profile of patients treated at SHCI/HC/UFPE due to the demographic variables. Recife, 2007.

Demographic variables	n=120 %
Sex	
Male	68 (56,7)
Female	52 (43,3)
Race	
White	37 (31,1)
Black	6 (5,0)
Brown	74 (62,2)
Other	2 (1,7)
Education	
Alphabetized	88 (73,9)
Non-alphabetized	31 (26,0)
Family income	48 (41,0)
Until 1 minimum salary	63 (53,8)
2 to 5 MS	6 (5,2)
5 to 10 MS	
Marital status	
Married and stable union	85 (70,8)
Single	12 (10,0)
Separated and divorced	7 (5,9)
Widower	16 (13,3)
Procedence	78 (65,0)
Metropolitan region	40 (33,4)
Forest area, Agrest and Backwoods	2 (1,6)
Other States	

Basis: 120 patients, SM: Minimum Salary, n (%) - categorical variables

Table 2 shows the distribution of patients according to behavioral variables, which showed an absence of alcohol consumption in 64.2% of patients in the category of smoking the smoker group (15.0%) and former smokers (39 2%) reported smoking more than 30 years

and less than 10 cigarettes / day (50.8%).

Regarding the practice of regular physical activity only 26.1% performed this activity and with greater frequency equal to 30 minutes / day.

Table 2. Sampling frequency distribution of behavioral variables in patients treated in SHCI/HC/UFPE. Recife, 2007

Behavioral Variable	n=120 %
Standard of alcohol consumption	
Do not drink	77 (64,2)
Drinks sociably	12 (10,0)
Drinks from 1 to 3 x/weekly	3 (2,5)
Drinks from 4 to 6 x/weekly	2 (1,7)
Drinks everyday	4 (3,3)
Ex-drinker	22 (18,3)
Smoking	
Do not smoke	55 (45,8)
Regular smoker	18 (15,0)
Ex-smoker	47 (39,2)
Quantity of cigarettes/daily (N=61)	
<= 10	31 (50,8)
11 to 20	17 (27,9)
> 20	13 (21,3)
Time of smoke (N=57)	
<= 10 years	10 (17,5)
11 a 20 years	12 (21,1)
21 a 30 years	13 (22,8)
> 30 years	22 (38,6)
Physical activity	
No	88 (73,9)
Yes	31 (26,1)
Duration of the physical activity (N=30)	
<= 30 min/daily	13 (43,3)
> 30 min/daily	17 (56,7)

Table 3 shows the clinical profile of patients related to sex. Women showed a higher prevalence of DM (32.7%), hypertension (96.1%), and ACS (80.7%) than males. In a similar way, the women had previous procedures (38.4%) more often.

The anthropometric variables measured showed a maximum of 156cm AC and 73.0% of

women were far greater than 88cm and only 6.8% of male patients had the measure over 102cm. The BMI was above the normal range in most patients (60.4%), and 35.9% of the women and 35.3% of men with overweight.

Table 3. Clinical profile of patients treated at SHCI/HC/UFPE related to sex. Recife, PE.

Variable	Male n (%)	Female n (%)
Age (years)	60,4	59,2
Diabetes mellitus	18 (26,5)	17(32,7)
HAS	64 (94,1)	50 (96,1)
SCA	48 (70,5)	42 (80,7)
Previous procedure (CATE/ATC)	15 (22,0)	20 (38,4)
Body mass index		
Low weight	1 (1,47)	2 (3,84)
Normal weight	30 (44,11)	15 (28,84)
Over weight	24 (35,29)	18 (34,61)
Fat	13 (19,11)	17 (32,69)

Base: 120 patients. HBP - Hypertension; ACS - Acute Coronary Syndrome; CATE - Catheterization, PTCA - Percutaneous Transluminal Coronary.

Figure 1 shows the relationship between BMI and BP, where we can observe a gradual increase in blood pressure levels increased proportionally to the degree of obesity.

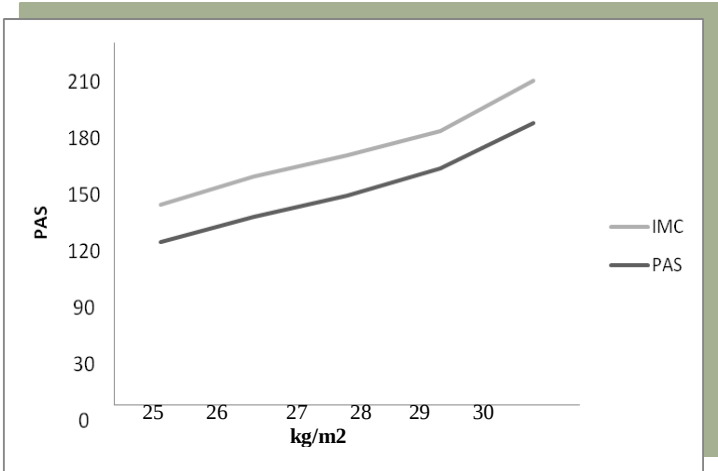


Figure 1. Correlation between body mass index (kg/m²) and systemic arterial pressure (mmHg) in the studied population.

Figure 2 shows a correlation between the presence of hypertension, in its different stages (H1, H2, H3), with the index of high waist circumference for women considering a

normal CA 88cm. This correlation was found when studying the males, but at levels below the acceptable value of normality (102cm).

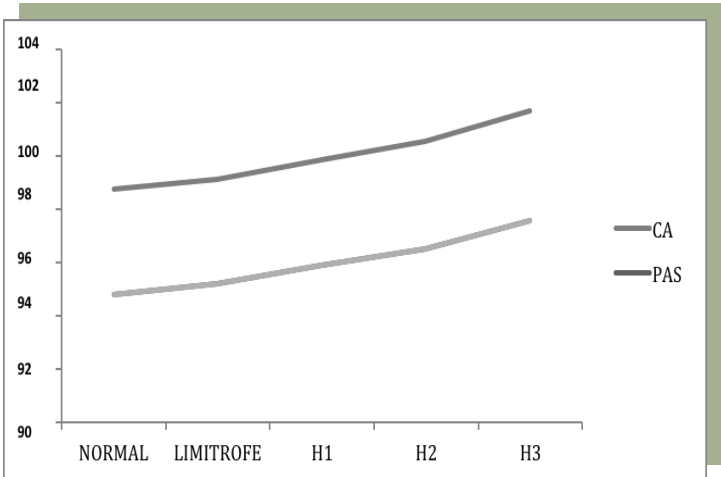


Figure 2. Correlation between the rate of abdominal circumference (AC) and systemic blood pressure (SBP) in studied female population, Recife, 2007.

The criteria for nomination procedures hemodynamic acute coronary syndrome (ACS) was the main (40.9%) followed by the representation of the positive test ischemia (31.3%). Also as indicated, patients presented a preoperative (16.5%) and diastolic dysfunction (11.3%).

Of the procedures performed during this study, 97.5% underwent coronary angiography,

coronary angioplasty 0.8% and 1.7% by balloon angioplasty with stent, all occurred in elective procedures.

DISCUSSION

With the population aging and decline of communicable diseases, cardiovascular diseases (CVD) have become the leading cause of morbidity and mortality that can be

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checked with a higher prevalence in the elderly population and males. However, there are discrete trends in cutting rates mortality in cardiovascular disease, which can be attributed to technological world by the introduction of intervention techniques in SCHI.⁷

The present study showed the prevalence of individuals over 60 years old and male corresponding to demographic data of other Centers of Hemodynamics and Interventionist Cardiology.⁸

The sample obtained a small percentage of blacks (5.0%) which is the race mostly related to cardiovascular disease. The race (skin color) in this study was predominantly brown color that constitutes the majority population from the Brazilian north eastern.⁹

In this population there is still a high rate of illiteracy (26%). Of the literate patients there was a variation of years of study and presented cases of elementary and middle school (21%) indicating a tendency to low level of schooling. These data agree with the last census published by the Brazilian Institute of Geography and Statistics - IBGE where the illiteracy rate in the Northeast was 26.6%, and average schooling of 4.6 years.⁹

The relevance of knowledge of the educational level of patients attended at Schi, public or academic, is because the team can systematize the way that the guidelines should be disseminated. The understanding of these guidelines is necessary for the success of the procedure before and after it.

For this condition of low education measures are suggested and illustrated educational booklets as a companion with the best educated, at the time of scheduling the procedure. This instrument can facilitate understanding and consistent implementation of the guidelines for preparation and high, as adherence to guidelines can be integrated with patients' knowledge about their disease and procedures to be performed in the service.

In this study, the income reported by the majority was 02 to 05 minimum wages. Evidence was also a large proportion of respondents who reported income below 01 MW. Data show that family income in the Northeast accounted for up to 02 minimum wages (MW) in 47.5% of the population and 02 to 05 MW in 29.7%. It should be noted, therefore the need for further study with a decrease of the range of classification of income for a rating closer to the theoretical framework.

However, the profile of income and education found corresponds to that expected in a population treated at a health care service of a public nature in the Northeast.

In the metropolitan area of Recife, the non-economically active population is higher in non alphabetized.⁹

In this study the associate variables, non-economically active population and illiterate individuals, the data showed that the population has a similar condition that can be related to the difficulty of access to the study of the lower classes, evident in Brazilian population.

The patients interviewed mostly characterized as non-economically active. Reported as a condition of occupancy retired, housewives and unemployed. The presence of the share of retirees related to the fact that the age of the sample is close to 60 years of age, the occupation of the home by the large population of women and the unemployed category is justified by the social conditions existing in the sample. All these categories have a clear demand for assistance from public health services.

In this study, most of the sample were married and part of the people said stable. This point is relevant to suggest that within the proposed health education existed integrating family / patient understanding of information in pressing the completion of the procedures. In addition to monitoring the patient at his residence in a more continuous in order to identify adverse precocious events.¹⁰

The ELSA study found that marital status has an influence on health and mortality of individuals. Married people have significantly better health and lower mortality than the single ones.¹¹

The habits and lifestyles vary considerably between patients. For this reason should be evaluated in the characterization of the clientele of SHCI because they are strongly related to risk factors for cardiovascular disease.¹²

Importantly, the identification and reporting of risk factors and promote studies enable the description of the population served seeking the constant updating of clinical adequate and individualized in Schi.

The individual and environmental characteristics related to greater likelihood of heart disease, especially CAD, indicate similar risk factors for individuals of different cultures. These risk factors are: smoking, high

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levels of LDL cholesterol, low HDL, diabetes, hypertension, family history, obesity, physical inactivity, central obesity, metabolic syndrome, and alcohol intake. We emphasize that conditions are potentially modifiable and controllable, but may represent an impact on the outcome of the proceedings.¹³

In the INTERHEART study, some of the risk factors that showed common and traditional were not significant for the risk of developing coronary heart disease, such as alcohol intake and physical activity.¹⁴

Although there are trends for the protective effect with decreased percentage of risk for CVD by regular physical activity¹⁵ the study population showed a worrisome because small portion reported conduct regular exercises.

Smoking and hypertension are major risk factors for DCV.7. This study outlines in agreement with literature data, in which the sample is composed of active smokers or former smokers, duration of smoking more than 30 years and consumption of more than five cigarettes per day, a practice that increases the cardiovascular risk.¹² The diagnosis of hypertension in individuals of the sample indicates the predominant form of national prevalence of this pathology.

The relation of overweight in both sexes and high CA women indicates predominant risk factor. It is proposed; however, make a more accurate study with indicators showing the cardiovascular risk of the population served in studied Schi.¹⁵

The measurement of vital signs was performed on admission of patients to the service. The data showed that high blood pressure levels may be associated with the presence of uncontrolled hypertension, as well as anxiety and fear associated with the unfamiliarity of the procedure or environmental non-familiar.¹⁶

When related to gender, women came forward once more as an indicator of high risk by personal history. The increased presence of DM, hypertension, SCA, and the previous procedure in this group demonstrated that there is need for more targeted preventive care in the schedule for the procedure.

As discussed earlier, CVD are the leading cause of death and hospitalization in men, but studies point to the growth of these cases among women. This reality may be associated with multiple factors strongly associated with changes in lifestyle of women in actual society.¹⁷

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The prevalence of diabetes is quite evident as a coronary risk factor. The test sample showed significant overall prevalence of diabetes more prevalent in women having an increased risk for coronary disease involved in up to three times.

Environmental factors, low income, low educational level, professional activity, inactivity, and overweight are presented in the presence of important risk factors in this sample.

Conducting studies in Schi on the clinical and laboratory results complement the data needed for the proposition ducts assistance system to be validated in the promotion of quality healthcare, and beyond promote the humanization at these services of high complexity.¹⁸⁻⁹

CONCLUSION

The results of this study shows that with the collection of information of the biosocial and clinical profile of the patient is able to stratify risks associated with independent and cardiology procedures enabling the SHCI subsidies relevant health professionals to promote a quality and individualized care.

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