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Ageing Care Centers: Mediating Role of Quality Care and Proactive Environment

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Abstract

The aging population has become a significant concern in many countries, including Malaysia. As a developing country, Malaysia is still struggling to provide better care for the elderly segment, which is increasing in number and demands distinctive attention, care, and treatment from both family and society. This study aims to examine the relationship between Perception of Health and Happiness, Behavioral Attitude, Health Promotion, and Education, Quality Care, Proactive Environment, and Elderly Care Services in Aging care centers in Malaysia. A probability simple random sampling technique was utilized in distributing a survey-based questionnaire, and 328 responses were collected from entrepreneurs of both registered and non-registered aging care centers. The research model was assessed using Partial Least Square-Structural Equation Modelling. The remarkable results of the research are: (1) Perception of Health and Happiness do not affect Quality Care and Proactive Environment. (2) Behavioral Attitude, Health Promotion, and Education significantly affect the quality care and Proactive Environment. (3) Quality Care and Proactive Environment significantly mediate the relationship between Behavioral Attitudes, Health Promotion, and Education. (4) Quality Care insignificantly mediates the relationship between Proactive Environment and Perception of Health and Happiness. The findings revealed that Behavioral Attitude, Health Promotion, and Education have a significant effect. Hence, the present study should further be strengthened to enhance the aging care of elderly care center services for the betterment of elderly care centers, especially those that are operated by entrepreneurs. The implication of the study is discussed in the paper.

Keywords

Perception of health and happiness; behavioral attitude; health promotion and education; quality care; environmental proactiveness; elderly care services; aging population; Malaysia

Introduction

Aging occurs when the older population of the country reaches 7% of the entire population. The United Nations Department of Economic and Social Affairs, Population Division (2019), revealed

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that the aging population would double in major industrialized nations across the world in the upcoming fifty years. In line with this, developing countries such as Malaysia are also currently facing an increasingly aging population; remarkably, it changes the economic growth and increases life expectancy resulting in the prompt aging population across the globe (Chawla et al., 2007; Lee & Mason, 2012). It is estimated that across the world, 1 million people are expected to reach the age of 60 every month, and the majority of the elderly are residing in developing countries (Gupta & Mirchandani, 2018; Kueh et Al., 2016; Noor et al., 2019). The United Nations Economic and Social Commission for Asia (2016) datasheet highlights that the elderly comprise 9.5% of the global population and are expected to increase to 14% in the year 2028. This drastic rise of the aging population comes with a requirement of aging care centers to fulfill the demand of the elderly segment in the society, as they require a variety of healthcare professionals to cater to their needs. Thus, to deal with this particular segment, caregivers and aging care center entrepreneurs are at the vanguard of providing the care to the older adults. The elderly care usually demands specific knowledge and abilities from the fundamental to intricate elderly care services (Phua et al., 2019; Ursulica, 2016; Vannucci & Weinstein, 2017). The World Health Organization (2016) report highlighted the requirement of skilled and experienced care service providers who can interact and treat older people with the utmost care and attention. Thus, some of the prerequisites for providing care are the perception of health and happiness, behavioral attitude, and knowledge of health promotion and education (Erdemir et al., 2011; Wan-Ibrahim & Ismail, 2014). For instance, the researches stated that attitude and knowledge regarding the elderly could affect the ways and expectations in which the elderly should have been cared for. This is especially true when the drastic increase in the aging population is always associated with chronic diseases such as dementia, hypertension, arthritis, osteoporosis, and Alzheimer's (Oyetunde et al., 2013), which further demand the caregivers to be more knowledgeable and informative on how to serve the elderly more efficiently. In providing excellent services, the quality of elderly care is, most of the time, associated with the preparedness of the aging care practitioners or operators to cater for the needs of the elderly that will contribute towards the proactive environment in which they can provide the service to care and deal with the older people (Adebusoye et al., 2011; Eltantawy, 2013; Tsai & Papachristos, 2015).

In another perspective, perception of health and happiness among the immediate caregivers such as family members, and in the aging centers, and the center's operators and staff are closely related to their behavioral attitude that forms a support system, which closely surrounds the older individuals (Windsor et al., 2016; Xing et al., 2017). These people will interact continuously to discuss and resolve any matters related to the elderly at the centers; thus, an effective support system and conducive environment would be significant to improve the health and happiness of the elderly. Hence, their knowledge and skills in health care will help them to provide better services to elderly, and also help them to be more knowledgeable and skilled health care practitioners, needed for the health promotion and education of elderly care to the public (World Health Organization, 2016; Park et al., 2018). More importantly, the well-developed aging care centers and skilled operators that have the right attitude and adequate knowledge on providing the individual care to the elderly are required in the aging care services. Therefore, to better understand the issues and factors relating to elderly care services in Malaysia, this study is conducted to evaluate the behavioral attitude, perception of health and happiness, and knowledge of health promotion and education of entrepreneurs, who are the prime movers of aging care centers. The findings of the study could reveal information to improve elderly care services in Malaysia. Past literature shows ample evidence of the relationship of the above factors

in health sectors such as nursing and hospital medical colleges. However, the literature lacks coverage on the area of elderly care with the relationship of perception, behavior, and knowledge in the service industry, i.e., the aging care industry.

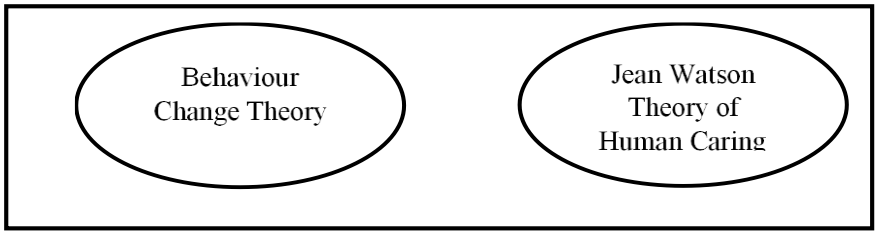
Literature Review

Underpinning Theories

The literature focuses on the perception of happiness and health, behavioral attitude, and knowledge of health promotion, and education as the bases for designing the conceptual framework. Furthermore, the literature will give a detailed understanding of the aging care centers entrepreneurs towards elderly care. The theoretical framework of this study adopts the Behavior Change Theory (Jensen, 1992) and Jean Watson's Theory of Human Caring (Watson, 1997) as the underpinning theories that govern the relationships which are being discussed (refer to Figure 1). It is mentioned in the following paragraphs how Behavior Change Theory, and Jean Watson's Theory of Human Caring underpin the present study. These theories stress the knowledge, positive attitude, noble values, and practices of kindness, trust, and building a caring relationship. Behavior Change Theory believes that individuals with adequate knowledge, positive attitude, and perception can generally demonstrate the best practices in any field. In connection with this, knowledge and attitude are considered the dynamic forces for behavioral change.

Therefore, with remarkable knowledge, health care practitioners, including aging care center entrepreneurs, may create a positive attitude and perception towards the elderly (Davis et al., 2015). In another study, Susan et al. (2013) debated that nursing care is affected by the nursing practitioners' knowledge perception and attitude, which ultimately influences the well-being of the elderly. In line with this, a study conducted in the United States revealed the impact of knowledge of certified nurses' aides in mouth care, which resulted in the improved health of residents (Ivers et al., 2012). Thus, Behaviors Change Theory can explain the significance of adequate knowledge, positive attitude, and perception. This theory reflects the importance of knowledge about elderly care and how knowledge can later influence the caregiver's perception and attitude while providing services to the elderly. Next, Jean Watson's Theory of Human Care focuses on noble values and practices of kindness and care for others. This theory highlights the sense of honor, help, trust, and building caring relationships. Subsequently, the balance between teaching and learning practices is considered the main element to fulfill the individual's needs and creation of caring, and healing environment addressing the fulfillment of overall care (Watson, 1997; King et al., 2019), by understanding the patient as a person and addressing their health care needs. As for the caregivers and entrepreneurs, their services to the elderly may enhance their sense of honor and create a strong bond and trust between them and the elderly, and with the elderly family members, who are responsible for their parents' overall well-being and cost provision.

Figure 1: Underpinning theories



Overview of Aging Care Centers in Malaysia

Malaysia is a developing country, and it is experiencing the aging population issues such as high life expectancy, lower fertility, and lower death rates. Department of Statistics Malaysia (2018) reported that by 2030, 15% of the entire Malaysian population would be constituted by the elderly. The aging phenomenon has grown in a shorter period in Malaysia, which has ultimately resulted in various challenges in the forms of economic growth, health care, social growth, and protection system (Akil et al., 2014; Tohit et al., 2012). Hence, to cope with issues associated with the aging population, there is an increasing need for well-developed technologically equipped aging care centers with trained staff and experienced operators. The trained staff in any center may act as the pillar of the center because they are responsible for providing services to the elderly (Hagen, 2013; Ong et al., 2009). Concerning this, Mark et al. (2019) have suggested that it is imperative to prepare professional caregivers or practitioners (entrepreneurs) in elderly care. However, literature has only been able to show limited research on elderly care services in developing countries such as Malaysia, automatically calling for more studies of this subject area. The quality of the care services may directly relate to perception, attitudes, and knowledge regarding aging as it directly affects their line of work. In terms of the ways of providing services to the elderly population in Malaysia, the private sector is more active in providing services to the elderly as compared to public aging care centers (Kueh et al., 2016; Rhee et al., 2019; Samad & Mansor, 2017). In tandem with the growth of the aging industry, the ability to understand the business investment in this sector and the engagement of entrepreneurs in the aging care center business could create a challenging situation for the center's operators. They are playing an essential role side by side, in helping the government to overcome issues and challenges of the increasing aging population. From a local perspective, mostly the registered and unregistered aging care centers are involved in the care services for the elderly, as there are no well-developed geriatric care services hospitals and the fact that geriatrics and gerontology are still not a well-developed field (Rhee et al., 2019).

Perception of Health and Happiness, Quality Care, and Elderly Care Services

Perception of Health and Happiness is considered a way of organizing and interpreting sensory information**.** It is thus constructed from sensations that refer to the set of processes used to make sense and interpretations of sensory impressions based on the selected information**.** Hence, perception guides humans on how to react in general, which will later influence how a person

will take the right action (Golberstein et al., 2018). In the perspective of elderly care services, current researches regularly show that positive perception, with regard to health and happiness, and knowledge among health care professionals regarding older people, of care plays a dynamic role (Mark et al., 2019; Ortiz-Pardo et al., 2019; Tsai & Papachristos, 2015). However, similar studies on how caregivers and aging care center operators perceive, and how they promote health-related matters and their education of elderly care, or the aging population are not rigorously studied. The effects between the Perception of Health and Happiness and delivering Quality Care indicate that the Perception of Aging Care practitioners such as aging care center entrepreneurs about elderly health and happiness can enhance quality care.

Consequently, the perception of health and happiness also affects elderly care by means of delivering quality care, as (Ortiz-Pardo et al., 2019) considered the direct impact of the perception of health and happiness on quality-based care in health care. This is due to the addition of optional geriatric and compulsory courses for health care professionals, which relates perception to the health and happiness of the elderly, and which ultimately benefits better quality care (Kehyayan et al., 2015; Ong et al., 2009) for the elderly. Past research revealed lesser examinations of the above-mentioned direct and indirect relationships of the factors, as aforementioned. From this discussion, the following two hypotheses are postulated:

H1a: Perception of Health and Happiness has a positive effect on Quality Care.

H1b: Delivering Quality Care mediates the relationship between the Perception of Health and Happiness and Elderly Care Service.

Behavioral Attitude, and Quality Care for Elderly Care Services

Behavioral Attitude is defined as a propensity to assess the thing in a certain way, which comprises the assessment of people, issues, objects, and events. Thus, assessments can be positive or negative, and sometimes uncertain, and some even yield mixed feelings. Hence, it comprises of experience, learning, and societal factors (Ortiz-Pardo et al., 2019). Previous research highlighted that health care practitioners' Behavioral Attitude towards the elderly is relatable to the public, as the placement of medical students in the elderly care center with a well-developed elderly care program, demonstrates positive attitude (Adelman et al., 1992; Bernard et al., 2003; Tsai & Papachristos, 2015; Xing et al., 2017). Hence, the Behavioral Attitude of healthcare practitioners directly influences the quality of care in the health sector. The relationship between the Behavioral Attitude and delivering Quality Care indicates the positive Behavioral Attitude of health care practitioners such as aging care center entrepreneurs (Mark et al., 2019). Also, the mediating effect of delivering Quality Care between Behavioral Attitude, and elderly care services denotes the effective service provided by the aging care center toward elderly care services as predicted. A limited study investigated delivering quality care as a mediator to improve elder care. Therefore, from the above arguments, two hypotheses are developed:

H2a: Behavioral Attitude has a positive effect on Elderly Care Services.

H2b: Delivering Quality care mediates the relationship between Behavioral Attitude and Elderly Care Services.

Health Promotion and Education, Quality Care and Elderly Care Services

Health Promotion and Education are considered as acquaintance, understanding, and expertise, which can be attained through learning, education, and experience as it is associated with a theoretical or practical understanding of elderly care (Hall et al., 2011; Yang et al., 2015). Past literature highlighted the participant's poor knowledge of health promotion and education regarding aging and attitude towards older people in the nursing sector (Alsenany, 2007; Yang et al., 2015; Zakari, 2005). In a similar manner, Ferreira and Ruiz (2012) also discussed less educational training programs regarding elderly care. Besides, the quality of elderly care is highly related to health care practitioners in the aging segment, as it will affect their working lives and ways, the way the practitioners provide care services to an aging population (Adebusoye et al., 2011; Eltantawy, 2013). The relationship between health promotion and education, and quality care depicts the knowledge concerning health promotion and education that can affect the elderly care through quality care among health practitioners such as aging care center entrepreneurs. From the above discussion, we formulated two hypotheses as follows**:**

H3a: Health and Promotional Education have a positive effect on Elderly Care Services.

H3b: Delivering Quality Care mediates the relationship between Health and Promotional Education and Elderly Care Services.

Perception of Health and Happiness, Proactive Environment, and Elderly Care Services

Past research highlighted various explorations regarding the evaluation of the Perception of Health and Happiness, among Health Care professionals such as nursing and medical field, and demonstrate the conflicting results showing the negative attitude of medical professionals towards elderly care services (Happell & Brooker**,** 2006; Söderhamn et al**.**, 2001). Other studies, however, show a positive attitude of health practitioners towards the care services of older people (Ayoğlu et al**.**, 2014; McKinlay & Cowan, 2003). The proactive environment is considered as an active process of rational restructuring of the environment by providing practical support and facilitation for proper health care and support to the elderly (Ortiz**-**Pardo et al**.**, 2019; Shimbo et al., 2004; Vincent et al., 2007). Hence, the effect of Perception of Health and Happiness, and Proactive Environment can influence the elderly care services through quality care among health care practitioners, such as aging care center entrepreneurs**.** Pertaining to this explanation, two hypotheses are formulated as follows:

H4a: Perception of Health and Happiness has a positive effect on elderly care services.

H4b: Proactive Environment mediates the relationship between the Perception of Health and Happiness and Elderly Care.

Behavioral Attitude, Proactive Environment, and Elderly Care Services

The Behavioral Attitude of the personnel who care of the elderly plays an essential role in the quality of care services (Cozort, 2008; Hanson, 2014; Liu et al., 2012). Past research revealed that a Proactive Environment is considered to be a base for understanding the effect of human behavior on the environment (He et al., 2011), and it helps in shaping Behavioral Attitude (Chopil et al., 2009; Elder, 2003; Salleh, 2004). According to Hungerford (2005), behavioral attitudes, personal responsibility, and the focus of control play a remarkable role in the creation of an encouraging environment. The impact of Behavioral Attitude and Proactive Environment can affect the elderly care services through Quality Care. Subsequently, due to drastic demographic changes (i.e., increase in aging population and related issues of elderly care) rendering it imperative to prepare professional caregivers and practitioners such as aging care centers' entrepreneurs, in the elderly care service sector (Bleijenberg et al., 2012; Mark et al., 2019).

From the above discussion, we formulated two hypotheses as follows:

H5a: Behavioral Attitude has a positive effect on Elderly Care Services.

H5b: Proactive Environment mediates the relationship between Behavioral Attitude and Elderly Care Services.

Health Promotion and Education, Proactive Environment and Elderly Care Services

Knowledgeable and skilled healthcare practitioners are needed for Health Promotion and Education, as studies demonstrate less knowledge of geriatric care among health care professionals (Bleinjenberg et al., 2012; Eltantawy, 2013). The knowledge of Health Promotion Education and a Proactive Environment may influence the elderly care services through the delivery of Quality Care. Previous research done on health care professionals such as the nursing sector indicated that the absence of relevant knowledge of Health Promotion and Education could be represented in the adverse effects on caring for older people with dementia (Poreddi et al., 2015; Prince, 2004). As health is being promoted by building a favorable environment for educating the aging care practitioners, such as aging care centers' entrepreneurs, about health needs, the acceptance of death and provision of support to societal members at the end of their lives are indeed essential (Kanwar et al., 2013; Kehyayan et al., 2015). From the above discussion, we formulated two hypotheses as follows:

H6a: Health Promotion and Education have a positive effect on elderly care services.

H6b: Proactive Environment mediates the relationship between Health Promotion and Education, and Elderly Care Services.

Quality Care and Elderly Care Services

Quality may be explained in terms of the attainment of specific standards, and its relation to strategies for the overall improved outcome equipped with professional knowledge. The quality care comes with improved services rather than the mere restructuring of the procedures, and it eventually aims at the overall health care improvement (Lukas et al., 2007; Windsor et al., 2016). High-quality care comprises of services based on the right care strategy of fulfilling the users' demands and needs. Previous literature has proposed seven characteristics of quality services, namely: equity, efficiency, safety, effectiveness, incorporation of care and efficiency, timelessness, and people centeredness (Carman et al., 2010; Ong et al., 2009; Mark et al., 2019). Furthermore, quality is considered as a blend of Perception of Health and Happiness, Behavioral Attitude and Health Promotion, and Education as knowledge demonstrates the strategic overview of practices for better care services.

In contrast, the Behavioral Attitude shows the worthiness of Quality Care, and, as well, acknowledges the significance of quality care. Quality care can affect elderly care among health care practitioners such as aging care centers' entrepreneurs (Hagen, 2013; Kehyayan et al., 2015; Ong et al., 2009; Singh et al., 2018). From the above explanation, we formulated one hypothesis as follows:

H7: Delivering Quality Care has a positive effect on Elderly Care Services.

Proactive Environment and Elderly Care Services

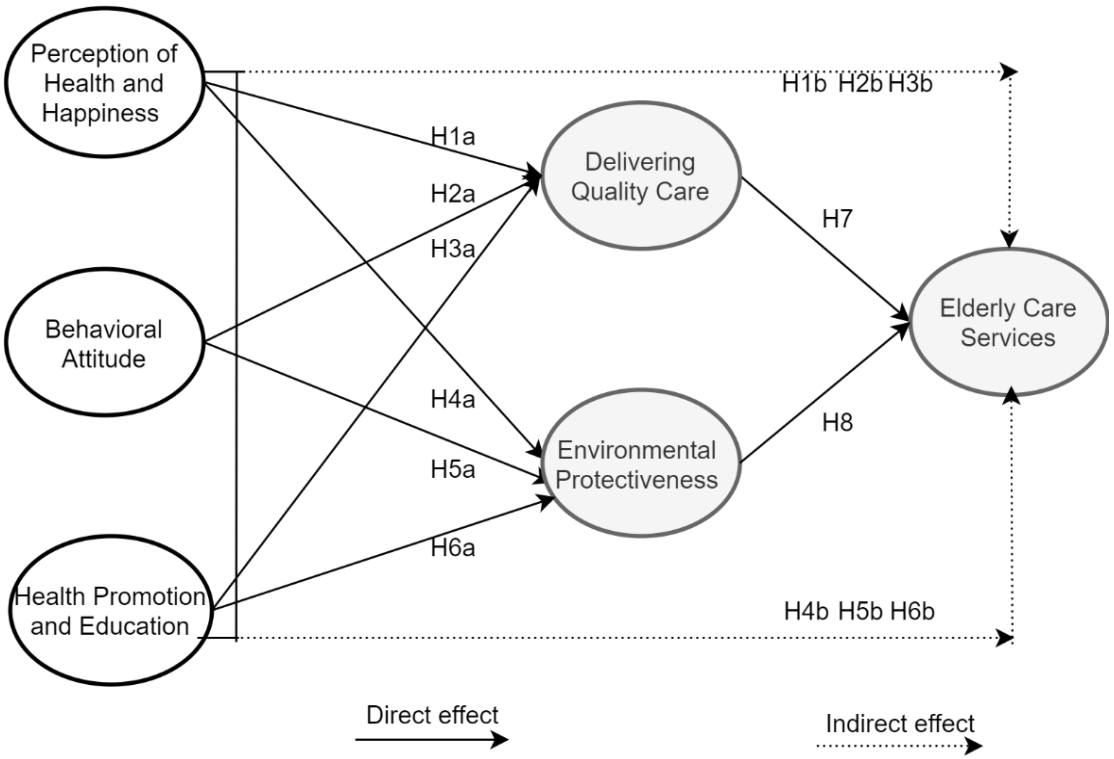
Previous literature suggested that due to a longer life span, chronic illness is becoming the main reason for the disability of the aging population. Thus, the aging care centers' services and proactive environment are considered very important for elderly care (Ong et al., 2009). The aging industry has shown remarkable growth in a couple of decades all across the world due to the increasing aging population (Greenberg et al., 2009; Hagen, 2013). In this regard, Aging Care Centers play a vital role in maintaining a proper environment for the elderly, along with ideal health care services. Thus, optimum health status may be achieved when the basic needs of the elderly are appropriately fulfilled. This includes long healthy life, protection against physical harm, strengthening and enhancing skills, ownership rights, and capability acquired in middle life, and these may remain the same throughout one's life (Kueh et al., 2016; Rhee et al., 2019). As the aging care centers are responsible for providing health care and support to the elderly, consequently, the health needs and happiness of the elderly could then be fulfilled **(**Golberstein et al**.**, 2018). Thus, illness treatment, health restoration, and mitigation of the sufferings of older people are considered an essential obligation of aging care centers' staff and caregivers**.** The proactive environment may influence the delivery of elderly care services among health care practitioners, for instance, aging care centers' entrepreneurs (Hall et al**.**, 2011; Ortiz**-**Pardo et al**.**, 2019**).** From the above discussion, we developed a hypothesis as follows**:**

H8: Proactive Environment has a positive effect on elderly care services.

Theoretical Framework

The main theoretical anchor of the present study is Perception (health and happiness), Attitude (Behavioral), and Knowledge (Health Promotion and Education), as these create a bond between the aging care centers' entrepreneurs and elderly care services. The present study conceptualizes the quality care and proactive environment as a mediator, which requires knowledge, Perception, and Attitude for quality Elderly Care Services (Kueh et al., 2016; Mark et al., 2019). Hence, this conceptualization confirms the validation of the research framework. The theoretical framework consists of three independent variables (Perception of Health and Happiness, Behavioral Attitude, and Knowledge of Health Promotion and Education) with a mediator (Quality Care and Proactive Environment), and a dependent variable (Elderly Care). The Quality of Care and Proactive Environment was selected as the mediator to comprehend the relationship between the independent variables (Perception of Health and Happiness, Behavioral Attitude, Health Promotion, and Education), and the dependent variable (Elderly Care Services), as Quality Care and Proactive Environment are considered optimal for elderly care services. The effect and influence of independent variables were examined on the dependent variable, namely elderly care services by using the two underpinning theories, i.e., Behavior Change Theory (Jensen, 1992) and Jean Watson's Theory of Human Caring (Watson, 1997). Figure 2 depicts the theoretical framework of the study.

Figure 2: Theoretical Framework



Research Design and Questionnaire Development

The study paradigm follows positivism, which shows the real measure, and establishes a quantitative research approach as a research design of the methodological procedures. The statistical analysis (Brannen, 2017; Kleinbaum et al., 1982) has successfully been used in the field of elderly care services, especially in the aging care centers in Malaysia (Kido et al., 2012). The methodology was followed by a survey-based method for collecting data. Mertler & Vannatta (2002) stated that the survey-based method makes it easier to assemble the massive data set of individual respondents at the same time; thus, it is considered a flexible method of data collection. Consequently, the survey-based method can collect a larger data set sample effectively by following a quantitative research methodology (Hair et al., 2006).

In the present study, the Aging Care Centre entrepreneurs' perception relating to the belief, motives, and attitudes is used to develop an effective survey design. Therefore, the present study requires a self-administrative questionnaire, which assumes that the respondent would read and respond to the questions. The questionnaire is divided into two main sections: demographic profile, and constructs measurements. The demographic profile includes gender, age, ethnicity, education level, and experience. All the constructs are adapted from past studies: Perception (with three items) from Facts on Aging Quiz 1 (FAQ I), Attitude (with three items) from Kogan's (1961) Attitude Scale, knowledge (with four items) from Palmore (1998), Quality Care (with four items) from Palmore (1998), and Proactive Environment (with five items) from Facts on Aging Quiz 1 (FAQ I), (Mark et al., 2019; Singh et al., 2018).

Data Collection, Sampling, and Procedures

A probability purposive sampling technique is adopted as Pillemer & Finkelhor (1988) as in an acceptable sample size with no definitive and straightforward rule, which has attained considerable debate in the research field. In this way, the population frame for the present study constitutes entrepreneurs who are managing the aging care centers all across Malaysia. The registered and unregistered care centers working under religious organizations were also included. The unit of analysis makes it possible to ensure the model testing relationship for the elderly care services business as a whole. For this purpose, researchers distributed 500 survey-based questionnaires to aging care centers, and 328 valid responses were returned. The data collection was done with the help of a structured questionnaire. The questionnaire comprised of six sections: Section A consisted of demographic information, and Section B comprised of items that highlighted the information about constructs. There were three items regarding (Perception of Health and Happiness, and Behavioral Attitude), and four items relating to (Knowledge about Health Promotion and Education), four items for (Quality Care), and five items for (Proactive Environment). All the items were measured using a five-point Likert scale, i.e., strongly disagree, disagree, neutral, agree, and strongly agree. The construct, such as the Perception of Health and Happiness, Behavioral Attitude, and Knowledge of Health Promotion and Education, were considered the prerequisites for creating the helping-trusting-caring relationships with patients, families, and members of the health care team. The research model hypotheses used the PLS

(Partial Least Square) for the data analysis. The PLS needs a large sample for less stable estimation purposes, and it can be used for sample size as small as 50 and as large as 5000 (Hulland, 1999).

Results and Findings

Descriptive Analysis

Table 1 shows the profile of respondents. The details demonstrate that the majority of the ageing care centres' entrepreneurs are male (75.3%), and the rest are female (24.7%). Regarding the age group, 13.8% respondents belong to 25-30 years, while 20.7% to 31-36 years, 29.5% to 37-41 years, 20.7% to 42-46 years and 15.3% belong to 47 years onward. The ethnicity skewed towards Malays at 38.2%, with 33.1% Chinese, 12.0% Indian, and 16.7% belonging to other nationalities. Furthermore, the qualification of the respondents depicts 38.8% having a bachelor's degree, with 46.2% having a master's and 15.0% with a doctoral degree. The experience of the respondents is as follows: 40.4% with 6-10 years, followed by 32.7% with 11-15 years, and 26.9% with 3-5 years' experience.

Table 1: Respondents' Profile

Profiles	**Measurements**	**(n= 328) %**
Gender	Male	75.3
	Female	24.7
Age (years)	25-30	13.8
	31-36	20.7
	37-41	29.5
	42-46	20.7
	47- onward	15.3
Ethnicity	Malay	38.2
	Chinese	33.1
	Indian	12.0
	Others	16.7
Education level	Bachelor's	38.8
	Master's	46.2
	Doctoral	15.0
Entrepreneurial Experience of Ageing Centre	3-5 years	26.9
	6-10 years	40.4
	11-15 years	32.7

Measurement Model

The Measurement Model indicates that all the construct items' factor loadings are more than 0.6 when the recommended value for management and social science studies is 0.5; hence, the coefficient values are shown greater than 0.5 (Hair, 2010). Cronbach's alpha (α) and composite reliability (CR) criteria were employed to assess the reliability of the constructs (Hair et al., 2017a; 2017b). Table 2 shows that the values of α and CR are higher than the suggested value of 0.7 for all constructs (Rasoolimanesh et al., 2019), which indicates an adequate level of reliability (See Figure 3). The value of the average variance extracted (AVE) or convergent validity was higher than 0.5; thus, it confirmed the acceptable convergent validity values for all constructs (Hair et al., 2017a; 2017b) (See Table 2 and Figure 2). Appendix 1 depicts the full name of the items.

Table 2: Reliability of the Construct's Measurements

Constructs	Items	Loading			
Perception of Health and Happiness	PHH1	0.92	0.90	0.94	0.54
	PHH2	0.91			
	PHH3	0.92			
Behavioral Attitude	BA1	0.84	0.82	0.89	0.74
	BA2	0.84			
	BA3	0.84			
Health Promotion and Education	HPE1	0.67	0.86	0.91	0.72
	HPE2	0.89			
	HPE3	0.91			
	HPE4	0.89			
Quality Care	QC1	0.67	0.78	0.85	0.54
	QC2	0.87			
	QC3	0.73			
	QC4	0.67			
Proactive Environment	PE1	0.82	0.92	0.94	0.76
	PE2	0.85			
	PE3	0.89			
	PE4	0.89			
	PE5	0.88			
Elderly care services	ECS1	0.98	0.97	0.98	0.91
	ECS2	0.82			
	ECS3	0.98			
	ECS4	0.98			
	ECS5	0.98			

Note 1: M = Mean, SD = Standard Deviation, α = Cronbach's Alpha, CR = Composite Reliability, AVE = Average Variance Extracted.

Note 2: See the full name of items in Appendix 1.

Discriminant validity was assessed through two conservative approaches, namely the Fornell-Larcker criterion and Heterotrait-Monotrait Ratio of Correlations (HTMT), to differentiate the constructs in the framework (Henseler et al., 2014a). To establish the discriminant validity using

the Fornell-Larcker criterion, the square root of the AVE of each construct should be higher than the correlation between all constructs, and this is presented in bold in Table 3. Moreover, the HTMT value should be lower than 0.90 ($HTMT_{0.90}$) or 0.85 ($HTMT_{0.85}$) for the constructs to establish discriminant validity (Henseler et al., 2014a). Table 4 displays the acceptable ($HTMT_{0.90}$) for all constructs, indicating that the discriminant validity was established for all constructs (Hair et al., 2017a; 2017b).

Table 3: Results of Discriminant Validity using Fornell-Larcker Criterion

	Fornel-Larcker Criteria						HTMT criteria					
	1	**2**	**3**	**4**	**5**	**6**	**1**	**2**	**3**	**4**	**5**	**6**
BA	**0.86**											
QC	0.69	**0.73**					0.85					
ECS	0.48	0.58	**0.95**				0.83	0.67				
HPE	0.69	0.72	0.46	**0.85**			0.53	0.85	0.50			
PHH	0.83	0.64	0.41	0.64	**0.91**		0.60	0.84	0.59	0.53		
PE	0.52	0.71	0.56	0.47	0.47	**0.87**	**0.89**	**0.75**	**0.44**	**0.73**	**0.54**	

Note: BA = Behavioural Attitude, QC = Quality Care, ECS = Elderly Care Services, Health Promotion, and Education, PHH = Perception of Health and Happiness, PE = Proactive Environment.

Structural Model

Direct Hypotheses Testing

The assessment of the structural model indicated that two direct hypotheses were not supported, and six direct hypotheses were significantly supported (Figure 2, and Table 5): The Perception of Health and Happiness, Behavioral Attitude, Health Promotion, and Education, delivering Quality Care, and Elderly Care Services. The statistical findings identified that the hypothesis (1a), Perception of Health and Happiness insignificantly affects the delivery of Quality Care with the values (β=0.11, t=1.58, p>0.05) is not supported. Besides, the findings identified that hypothesis (2a), Behavioral Attitudes positive and significantly affects the delivery of Quality Care, and values (β=0.28, t=4.08, p<0.01) are supported. Also, the findings revealed that hypothesis (3a), Health Promotion, and Education positively and significantly affect the delivery of Quality Care with the values (β=0.44, t=8.62, p<0.01), respectively, is supported. In addition, the results recognized that the hypothesis (4a), Perception of Health and Happiness insignificantly affects the Proactive Environment with the values (β=0.06, t=0.84, p>0.01) respectively, is not supported. Furthermore, the findings postulated the hypothesis (5a), whereby Behavioral Attitudes positively and significantly affect the Proactive Environment with the values (β=0.32, t=4.38, p<0.01), respectively, is supported. The findings also revealed that hypothesis (6a), Health Promotion and Education positively and significantly affects a Proactive Environment with the values (β=0.20, t=3.57, p<0.01) respectively, is supported. Moreover, the findings identified hypothesis (7), delivering Quality Care positively and significantly affects Elderly Care Services with the values (β=0.37, t=6.16, p<0.01) is supported. Finally, the findings formulated the direct hypothesis (8), that Proactive Environment positively and significantly affects Elderly Care Services with the values (β=0.29, t=4.08, p<0.01) is supported (see Table 4 below).

Table 4: Results of Direct Hypothesis Testing

Hypothesis	Relationships	β	t-value	p-value	f^2	Decision
H1a	PHH→ DQC	0.11	1.58	0.057	0.00	No
H2a	BA → DQC	0.28	4.08	0.000	0.05	Yes
H3a	HPE→ DQC	0.44	8.62	0.000	0.24	Yes
H4a	PHH→ PE	0.06	0.84	0.200	0.00	No
H5a	BA → PE	0.32	4.38	0.000	0.04	Yes
H6a	HPE → PE	0.20	3.57	0.000	0.02	Yes
H7	DQC → ECS	0.37	6.16	0.000	0.11	Yes
H8	PE→ ECS	0.29	4.40	0.000	0.06	Yes

Note: PHH = Perception of Health and Happiness; BA = Behavioural Attitude, HPE = Health Promotion and Education, QC = Quality Care, PE = Proactive Environment, ECS = Elderly Care Services

The path coefficients describe the strength of all the endogenous and exogenous constructs. The Perception of Health and Happiness, Behavioral Attitude, and Health Promotion and Education showed a more substantial direct effect on delivering Quality Care and Proactive Environment. The influencing factors on delivering Quality Care explained 59.5% of the variance, while Quality Care explained 38.6% in Elderly Care Services, and the R^2 values are supported. On the other hand, the influencing factor of Proactive Environment explained 30.1% of the variance, and the R^2 values of the results are acceptable (Cohen, 1988). Cohen (1988) also suggested that values 0.35, 0.15, and 0.02 show large, medium, and small effect sizes ($f2$), respectively. Accordingly, Table 5 depicts that Health Promotion, Education, and Quality Care relationship has the largest effect size (0.24); consequently, the Perception of Health, Happiness, and Proactive Environment relationship has the smallest effect size (0.002) (Hair et al., 2017a; 2017b).

Indirect Hypothesis Testing (Mediation Assessment)

To test the mediations, the bootstrapping procedures were applied with a 2000 resample, and they sought to test the significance of indirect effects and hypotheses H1b to H6b (Nitzl et al., 2016; Preacher & Hayes, 2004; 2008). Accordingly, H1b significantly associated Health Promotion and Education and Elderly Care Services through Quality Care, and it showed that (β=0.04, t=2.79, p<0.01) and 95% Bias corrected Confidence Interval (BC-CI): [LL=0.11, UL=0.22] values were achieved to support the mediation. Next, hypothesis 2b shown the association between Behavioral Attitude and the Elderly Care Services through Quality Care with (β=0.12, t=6.91, p<0.01) and 95% Bias corrected Confidence Interval (BC-CI): [LL=0.06, UL=0.16] values are supported. Besides, hypothesis 3b did not associate between the Perception of Health and Happiness and Elderly Care Services through Quality Care (β=0.04, t=1.56, p<0.059) and 95% Bias corrected Confidence Interval (BC-CI): [LL=0.00, UL=0.09], indicates that it does straddle a zero between and identify mediation and not supported. Also, hypothesis 4b did not associate

between Health Promotion and Education and Elderly Care Services through the proactive environment and showed (β=0.02, t=0.81, *p*=0.20), and 95% Bias corrected Confidence Interval (BC-CI): [LL=0.03, UL=0.10], which indicates that it does straddle a zero between and identify mediation and not supported. Moreover, hypothesis 5b significantly associated between Behavioral Attitude and Elderly Care Services through the proactive environment and the values showed (β=0.09, t=3.11, *p*<0.001) and 95% Bias corrected Confidence Interval (BC-CI): [LL=0.05, UL=0.15] indicates that it does not straddle a zero between and identify a supported mediation. Finally, hypothesis 6b significantly associated between the Perception of Health and Happiness and elderly care services through the Proactive Environment, and the values showed (β=0.02, t=2.75, *p*<0.01) and 95% Bias corrected Confidence Interval (BC-CI): [LL=0.03, UL=0.10], which indicates that it does not straddle a zero between and identify a supported mediation.

Table 5: Results of Indirect Hypothesis Testing (Mediator Assessment)

Hypothesis	Relationships	Beta	t-value	p-value	Confidence Interval Bias-corrected	Decision
H1b	HPE→DQC→ ECS	0.16	4.96	0.001	[.11-.22]	Yes
H2b	BA→DQC → ECS	0.10	3.20	0.001	[.06-.16]	Yes
H3b	PHH→DQC→ ECS	0.04	1.56	0.059	[.00-.09]	No
H4b	PHH→PE→ ECS	0.02	0.81	0.207	[-.01-.06]	No
H5b	BA→ PE → ECS	0.09	3.11	0.001	[.05-.15]	Yes
H6b	HPE→PE→ ECS	0.05	2.75	0.003	[.03-.10]	Yes

Note: PHH = Perception of Health and Happiness; BA = Behavioural Attitude, HPE = Health Promotion and Education, QC = Quality Care, Proactive Environment PE, ECS = Elderly Care Services.

Discussion

This study adopts the Behavior Change Theory and Jean Watson's Theory of Caring as the base theories to determine the construct involving the Perception of Happiness and Health, Behavioral Attitude, Health Promotion, and Education, Quality Care, and Elderly Care Services. The findings revealed that Perception of Health and Happiness insignificantly affects elderly care services through Quality Care. Previous researches (Mark et al., 2019; Ortiz-Pardo et al., 2019; Tsai & Papachristos, 2015) have shown a significant effect of Perception of Health and Happiness on quality care services in studies conducted in the nursing sector, whereas, it shown insignificant results in the aging care sector.

Besides that, the results showed that the Perception of Health and Happiness insignificantly affects elderly care through a Proactive Environment. Previous literature revealed the conflicting results, i.e., positive or negative, in terms of the evaluation of the Perception of Health and Happiness and Proactive Environment (Ortiz-Pardo et al., 2019; Vincent et al., 2007), as most of the works are done on medical professionals towards elderly care. Health and Promotion are

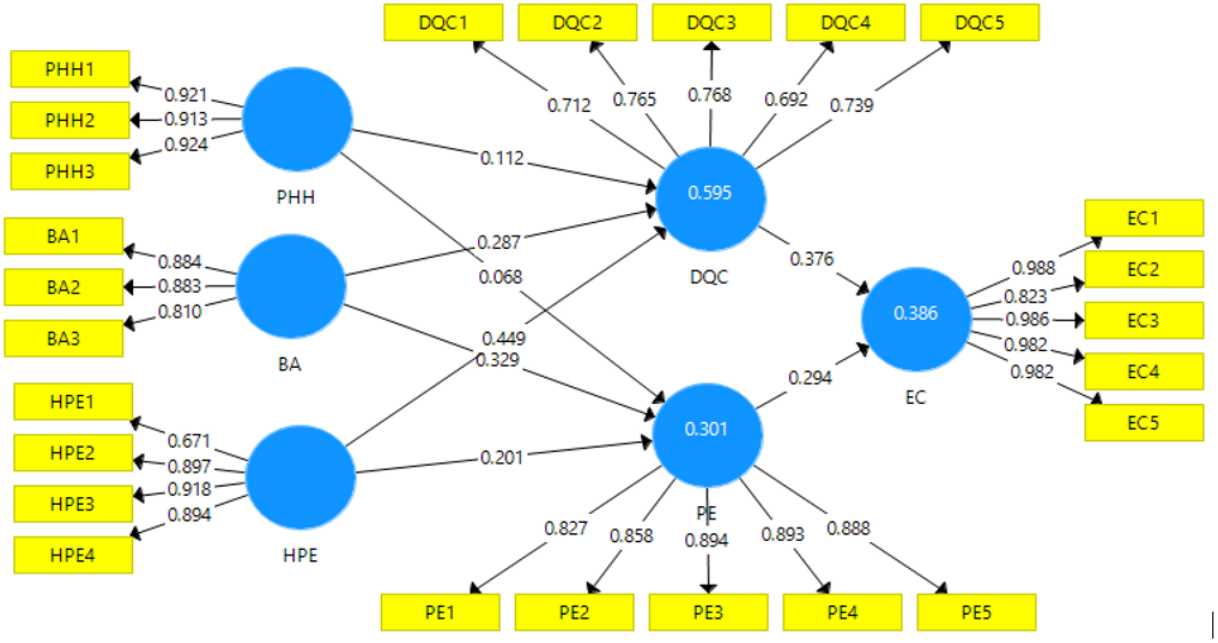
considered a necessary construct for the elderly care service; however, it shows an insignificant effect in the present study. The plausible reason may be due to the absence of proper policies and the weak interaction of health and promotion in Aging Care Centers.

Furthermore, the above findings have revealed that Behavioral Attitude significantly affects the delivery of quality care as highlighted in past research that Behavioral attitudes positively affect the delivery of quality care and in the creation of a favorable environment (Hungerford, 2005; Mark et al., 2019). Behavioral Attitude has positive and significant effects on elderly care through the delivery of quality care. The mediating role of the delivery of Quality indicates that the Behavioral Attitude of the employee enhances the quality of care toward Elderly Care Services. According to Bleijenberg et al. (2012), Behavioral Attitude positively examined the quality care in identifying aging care performance.

Similarly, the above findings also postulated that Behavioral Attitude significantly affects Proactive Environment based on the coefficient, t-value, and *p*-value. An argument arises in the previous study by Tsai and Papachristos (2015) that illustrated the fact that Proactive Environment creates the organization for better attitudinal performance. The above findings assess the mediation effect of a proactive environment in a significant manner between Behavioral Attitude and elderly care. Behavioral Attitude significantly affects elderly care through a proactive environment, as the previous literature demonstrates that the Behavioral Attitude of health care professionals and Proactive Environment can directly influence the quality of care (Bernard et al., 2003; Xing et al., 2017). Also, the above findings depict a significant relationship between Health Promotion and Education, and the delivery of quality care. However, an empirical view regarding Health Promotion and Education highlights the quality enhancement in the services offered (Zakari, 2005). The results of this study reveal that the knowledge of Health Promotion and Education significantly affects elderly care through the delivery of quality care. Past literature shows the insignificant effect of knowledge of Health Promotion and Education on elder care in other fields such as hospitals and the nursing sector (Alsenany, 2007; Yang et al., 2015). Furthermore, the findings also suggest that Health Promotion and Education significantly affect the Proactive Environment. According to Bleinjenberg et al**.** (2012), Health Promotion and Education matter for the employees in an organization to enhance quality care or service.

Consequently, the results depict that the knowledge of Health Promotion and Education significantly affects the Elderly Care Services through Proactive Environment. In relation to this, (Eltantawy, 2013) argued about the need for knowledgeable health care practitioners to embark into sound health promotion and education as previous literature revealed that the knowledge of Health Promotion and Education in the industry had been limited (Kanwar et al., 2013; Kehyayan et al., 2015). Thus, to enhance the elderly care services, the empirical results prove that it depends on the Behavioral Attitude and knowledge of health promotion and education. Finally, the findings imply that the delivery of quality and proactive environment have positive and significant effects on elderly care in Aging Care Center. Nonetheless, the delivery of quality care should be treated as the most important phenomenon for the improvement of organizational services. Hence, the above-mentioned significant values of the hypothesis indicate that elderly care centers must have an internal improvement and must offer care services for the elderly. Besides, a Proactive Environment shows a positive and significant impact on elderly care in the aging care center. Thus, a favorable environment is considered very important in the aging care center as it actively enhances the elderly care.

Figure 3: Result of Structural Model Assessment



Smart PLS 3.0 software (Ringle et al., 2015) was employed to conduct the PLS-SEM analysis of the 328 samples to assess the structural model. The above figure was extracted from the Smart PLS after the analysis to show the outer factor loadings, correlation coefficient values, and R2 values the direct and indirect relationships of the research framework. Furthermore, the reliability and convergent validity were evaluated, where the researcher assessed the reflective measurement. The PLS path modeling method was developed by Wold (1992), and the PLS model is essentially a sequence of regressions in terms of the weight vectors (Henseler et al., 2014b). Overall, the testing results demonstrate how the quality care and proactive environment mediate the effect of the Perception of Health and Happiness, Behavioral Attitude, and Knowledge of Health Promotion and Education. For a better understanding of these factors for the elderly care centers, it is essential to examine how the Quality Care and Proactive Environment influence the elderly care services.

Conclusion

This paper develops the conceptual model and tests the constructs related to the measurement model. The present study investigates the mediating relationship of quality care services and proactive environment between the Perception of Health and Happiness, Behavioral Attitudes and Health Promotion and Education in the context of Malaysian entrepreneurs running the aging care centers. The results highlight that the Quality Care and Proactive Environment have significant and positive mediating effects on elderly care services. The Behavior Change Theory, and Jean Watson's Theory of Human Caring are the base theories for a better understanding of the theoretical links. The study model depicts the empirical support from the hypotheses. The

findings demonstrate that aging care centers entrepreneurs' behavioral attitudes and knowledge of health promotion and education have a positive effect on elderly care services.

Moreover, the result reveals that quality care and the proactive environment are considered as an essential mediator to help the aging care centers' entrepreneurs to gain sustainable elderly care centers' overall performance. To the best of the researchers' knowledge, very few studies have tested the effects of the influencing factors on the elderly care services and indirectly through quality care and proactive environment. Therefore, these findings can be a unique theoretical contribution of the current study. Also, the examination of these direct and indirect effects on elderly care services have been carried out in the context of Malaysian aging care centers, which can be considered as another contribution of the current study. The results of this study offer several practical implications. The aging care center should not only promote the influencing factors of quality care to improve elderly care, and it should take action for better services.

Meanwhile, the aging care centers should not only promote the influencing factors of the proactive environment to improve their environmental proactiveness, and they should take proactive efforts to guarantee better elderly care services. Furthermore, the results of this study suggest that aging care entrepreneurs should truly understand elderly care services, measure quality care, and the proactive environment to explore their experiences in managing the care service business. Aging care centers need to connect with the most valuable resources and seek creative approaches to attract, retain, and grow the elderly care business and to create and implement new and invaluable ideas related to the processes and services of aging care centers.

Limitations and Future Research

The findings of the study reveal various limitations, as this study utilizes the subjective measures to evaluate the constructs of the model instead of the utilization of the objective measures for the verification of the statements by other data. Tracey and Hinkin (1998) elaborated on the adaptation of the subjective measures in organizational studies. Moreover, the targeted samples are considered acceptable due to data collection aided by the standardized questionnaires that were answered by the entrepreneurs of aging care centers who mostly have professional knowledge and work experience in the aging care centers. However, the generalizability of this study might be limited, since various organizational and target environments might not accept these findings outside the sample population. Another limitation of this study is that the research was conducted by using the quantitative methodology; thus, statements from target respondents could be biased, but such biased answers have not threatened the study based on the testing results. The in-depth interview can help researchers to get a better understanding of the processes and mechanisms involved in this study. Hence, the mixed methods should be considered while conducting future studies. This research has practical implications for the managers and operators of aging care centers to evaluate their strengths and weaknesses in running the centers' operations. Thus, a better understanding of quality care and proactive environment as the mediating roles may help the centers' operators and managers to design different strategies and formulate plans for better services, performances, and overall improvement.

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Appendix-1

Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)					
Perception of Health and Happiness	1	2	3	4	5
The older adults are experienced and dependent.					
The misery comes with aging.					
Old age leads to health issues and provides happiness by care					
Behavioral Attitude					
The caregiver must be patient towards the elderly.					
We feel it is challenging to manage the elderly with changing situations.					
The overall management of the elderly care center business is hectic.					
Health Promotion and Education					
We feel like the elderly tend to behave like a child.					
The center provides cost promotion and learning to elder					
The memorizing capabilities of the elderly person are affected due to structural changes in the brain.					
Adequate nutrition maintained in the elderly by assisting them in choosing foods to provide nutritional needs as well as elderly preferences					
Quality Care					
To Respect older adults is caring for older adults					
The staff protects the rights of older adults					
Individualized nursing care is critical.					
The staff should know how the aging effects and how-to response in the treatment					
Proactive Environment					
The care center typically responds with competitor's initiate					
The care can be provided to the elderly with altered sensory Perception by reducing environmental noise.					
The care can be provided to the elderly to speak louder and slowly with a non-verbal cue when appropriate					
Meeting regulatory compliance					
The care center has a new service and technology					
Elder Care Services					
The bedsores in elderly prevented by keeping the skin clean and dry, and the bed linens wrinkle-free & dry					
The digestion problems in the elderly prevented by maintaining proper position, privacy, and adequate ventilation, encourage to relax while attempts to defecate.					
The urinary continence in the elderly can be regained by performing perineal exercises and fixing a toileting schedule					
The anatomical areas most often affected by the development of pressure sores in the elderly are iliac crest and ischial tuberosity.					