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Elder Abuse and Quality of Life: A Study Among Elderly in Rural and Urban Households of Maharashtra

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Abstract

The irreversible and inevitable process of ageing, initially seen as a concern of the aged persons and their families alone, has now gained wide public attention. For nations like India with a higher percentage of older cohorts, care and safety of elders have become one of the emerging concerns in Public Health which rationalises the need for in depth studies on 'elder abuse' to safeguard and uphold the pride, integrity and dignity of India's ageing population. An extensive literature review also supported the need to identify the underlying hidden aspects of elder abuse. This study was aimed towards interlinking these multiple dimensions of elder abuse with QOL undertaking gender concerns too. It also aimed to explore the role of power dynamics on elder abuse, the coping strategies and support needs of the elderly. The study utilised both primary as well as secondary data to meet the objectives. While the secondary data (based on a study by UNFPA) revealed a high prevalence of elder abuse among the oldest elderly coupled with the lowest scores of QOL, the primary data via interviews threw light on to the darker sides of power dynamics and exploitation of elders within their own households. The findings also reflected the interlinkages between gender and abuse. This study underscores the need for further studies which can explore the inextricable linkage between these three aspects, which would definitely be beneficial in designing gender based policies and strategies to safeguard the health and life satisfaction of the aged population.

Keywords: Elder Abuse, Quality of Life, Coping, Gender, Power

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Introduction

Ageing, being ineluctable leaves little option for any living being including humans to flee from its grasp. But this natural cycle of ageing is witnessing certain paramount changes since the last few decades, forcing the nations world-wide to address the challenges of ‘demographic shift. The increased life expectancy coupled with the declining fertility rates across the globe has increased the percentage of the aged population all over the world. Globally there were 703 million older persons aged 65 or over in 2019 and the number of older persons is projected to double to 1.5 billion in 2050 (United Nations, 2019). Ageing being a worldwide phenomenon, India is no exception to this. According to the Population Census 2011, India is home to nearly 104 million elders (Office of the Registrar General, 2011) who represent a larger population than the combined entire populations of several countries in the developed world, posing serious challenges for health, economy and development. Among all these challenges, the supreme concern for a democratic nation like India must be towards ensuring the basic needs and rights of senior citizens like safety, security and health. In this regard, a major issue of our elders is the ‘mistreatment’ and ‘abuse’ they face, mostly from their close family members which may deny a good quality of life to our elders.

This concept of QOL among the elderly is a multidimensional one which encompasses the subjective sub concepts of successful living, happiness or active life as evidenced from the work of Bowling (Bowling et al., 2013). Lately, QOL has become an important concern in discussions regarding ageing and related social problems like elder abuse. The feminisation of ageing has shown its effect on the concept of QOL also. A study on the Quality of Life of older women in Austria revealed that ‘abuse’ and ‘dependency’ are major risk factors behind low quality of life in older age (Lang & Enzenhofer., 2013). Still there are only very few studies focusing on this aspect. As far as current trends in ageing is concerned, both these concepts i.e., ‘elder abuse’ and ‘QOL’ which are of utmost importance for the aged people, must be viewed through a gender lens too. This is possible only with studies which can explore the interconnectedness between these three aspects viz. abuse, QOL and gender which would definitely be beneficial in designing gender based policies and strategies to safeguard the health and life satisfaction of the aged population.

Objectives

This paper aims to identify the differentials in elder abuse and QOL of elders across the rural and urban areas of Maharashtra. It also aims to explore the coping strategies and support needs of the elderly along with the role of gender and power dynamics in elder abuse.

Methodology

The present study was done using a mixed methodological approach. A quantitative approach was used to analyse the secondary data source and a qualitative approach was employed to explore the in-depth and broader dimensions of elder abuse. The present study drew secondary data from a National level survey conducted by United Nations Population Fund (UNFPA) named ‘Building Knowledge Base on Population Ageing in India’(BKPAI), conducted in seven states of India with the highest propor-

tion of elderly, among which data pertaining to the state of Maharashtra alone (owing to its relatively significant position in the demographic composition of elders in India) was analysed in this study. The sample for each state (same for Maharashtra also) was fixed at 1,280 elderly households. The sample size was equally split between urban and rural areas and 80 Primary Sampling Unit (PSU) equally distributed between rural and urban areas were selected using probability proportion to the population size (PPS). In Maharashtra an almost equal number of households were selected from rural (608) and urban (590) areas and the final sample included a total of 1,435 elderly men and women aged 60 and above from 1,198 households across the state of Maharashtra.

The primary data for this study too was collected from the state of Maharashtra from households located at different places of Mumbai Suburban district, Thane and Palghar districts using In-depth Interviews (IDI), Focus Group Discussions (FGD) and Key Informant Interviews (KII). The elderly persons for both IDIs and FGDs were recruited using snowball sampling technique (following the purposive sampling of study areas), after establishing initial contacts with key persons in the communities and the Key informants (persons working for elder welfare) were identified through relevant websites and also from personal knowledge and were contacted via email or telephone to schedule the interviews. The primary task of the researcher was to create an overall QOL Index exclusively for this study out of the secondary data set from the UNFPA study. The data collection for qualitative part required the construction of separate interview guidelines for IDI, FGD and KII and the required data was collected between October 2018 and December 2018.

Major findings

DIFFERENTIALS IN AGE GROUPS			
Age in years	Rural	Urban	Total
60 -69	483 (63.5)	488 (72.4)	971 (67.7)
70-79	208 (27.3)	134 (19.9)	342 (23.8)
80 and above	70 (9.2)	52 (7.7)	122 (8.5)
Mean (SD)	67.91 (6.686)	66.87(6.884)	67.42 (6.79)
χ^2	$\chi^2=13.47, df=2, p=0.001$		

Figure 1: Differentials in age groups

Figure 1 shows that the mean age of the participants in this study was 67.42 years. The age of the elderly ranged between 60 years to 120 years. For the ease of analysis, the age was grouped into three categories viz. 60-69, 70-79 and 80 and above. In both rural and urban areas, the majority of the elderly belonged to the 60-69 years' age group. The oldest elderly (80 & above) was higher in number in the rural areas (70 persons), compared to the urban areas (52 persons). Cross tabulation also revealed

that there existed significant association between the place of residence and the age groups of the elderly, whereby rural areas had the highest number of oldest elderly persons whereas urban areas catered for the highest number of young elderly individuals.

ELDER ABUSE AND OVERALL QOL SCORES AMONG DIFFERENT AGE GROUPS OF ELDERS		
Age in years	Presence of elder abuse (Frequency (%))	Mean (SD) of overall QOL index
60 -69	288 (29.7)	63.08 (8.53)
70-79	100 (29.2)	58.16 (10.17)
80 and above	60 (49.2)	50.89 (13.47)
Test statistics, df and P value	$\chi^2 = 20.05, df = 2, p = <0.001$	$F = 108.742, df = 2, 1432, p = <0.001$

Figure 2: Presence of elder abuse and mean scores of QOL

Figure 2 depicts the frequency and percent distribution of elders who faced abuse ever in their lives along with the mean QOL scores of overall QOL index among different age groups of elders. It was found that the presence of elder abuse was highest among the oldest elders (aged 80 & above) in comparison to the younger cohorts of elders. An elder abuse screening test done in Kerala too revealed that older elders were more vulnerable for abuse (Sebastian & Shekher., 2010). In reverse to this, the mean scores of QOL were found to be highest in the 60-69 year age group in comparison to the older cohorts. The oldest elders (80 & above) were found to have the least mean scores of QOL. Figure 2 also shows that the ‘p’ values for age groups, was highly significant (‘p’ value = <0.001), both in terms of elder abuse and the mean scores of overall QOL index.

DIFFERENTIALS IN ELDER ABUSE ACROSS RURAL AND URBAN AREAS OF MAHARASHTRA			
Ever faced abuse	Rural	Urban	Total
Yes	266 (35.0)	182 (27.0)	448 (31.2)
No	495 (65.0)	492 (73.0)	987 (68.8)
$\chi^2 = 10.52, df = 1, p = 0.001$			
Note: Figures in brackets denote column percentage			

Figure 3: Differentials in elder abuse

As shown in Figure 3, 31.2 percent out of the total elderly population studied, was found to have faced abuse or neglect at some point in their lives. Among rural areas this was 35 percent whereas in urban areas the percent of abused elderly was only 27. This reporting of abuse was found to have significant differences across rural and urban areas.

DIFFERENTIALS IN MEAN QOL SCORES OF ELDERS ACROSS RURAL AND URBAN AREAS								
Categories	Rural		Urban		Total		F value	P value at df =1433
	Mean	SD	Mean	SD	Mean	SD		
Overall QOL Index	60.19	9.96	61.64	10.29	60.87	10.14	0.041	0.007

Figure 4: Differentials in mean scores of QOL

Figure 4, clearly shows that the mean scores for the overall QOL index was higher for elderly belonging to urban areas when compared with the elders of rural areas and this difference was found to be statistically significant. A study by Usha and Lalitha (2016), to assess the QOL of senior citizens in Kerala, India too stated that senior citizens in urban areas showed significantly better QOL than the senior citizens in rural areas.

Being a phenomenon believed to be deeply intertwined with familial relations and societies, 'elder abuse' deserved much deeper understanding which necessitated the supplementation of the quantitative data with some form of qualitative data too. In this context, primary data was collected to explore into the coping strategies adopted by elders to deal with abuse, the support needs of elders and the role of gender and power dynamics in elder abuse.

Coping strategies adopted by elders

Coping strategies were explored to understand how well our elders were handling the problem of abuse by themselves. There was a basket of diverse responses from elderly belonging to different regions. Since the problems of abuse were mostly reported by the urban elders, coping strategies were also reported mainly by urban only. When rural elders were asked about the same, even those who suffered abuse told that it was their destiny. These rural elders were not even having the understanding of the need for coping strategies.

Coming back to the urban elderly, different participants had adopted different ways to cope with abuse. Most elders resorted to measures like 'purposeful avoidance of interaction with perpetrators of abuse' and 'keeping silence' during times of abuse in order to cope up with abusive situations. A male respondent from an urban slum had said, *'When they say something I move away from that place. When I move out then*

after some time things will get settled automatically. Some others believed that remaining quiet and not responding to verbally abusive words was one nice way to keep oneself calm. An urban female respondent had said, *'I don't have much conversation with them. That's why there is no fight. I just do my work ... If they go out somewhere, I don't ask.'* Some preferred to take God's name and seek peace instead of fighting back as reported by one of the female elderly participants from an urban area where she said, *'I don't do anything as such, but I try to be calm and remember God at that time.'*

Some elders were of the opinion that, even if it was better to keep quiet during times of chaos, it was necessary that later elders made their children understand that their deeds were wrong and hurtful. A male elderly from a rural area said, *'At that time, we should be calm and be quiet. But later when any such incident repeats, then we should make them realise that their behaviour was not good.'* Very few of the elders were of the opinion that 'sharing problems with friends or trusted others' made them feel relaxed. But many were against this opinion as they believed that sharing their problems with other elder friends would never solve their own problems as their friends themselves were also living under the same stress. One of the male participants from a FGD had said, *'I share with my friends. What will they do? They say it's the same with us also.'*

Thus different elders resorted to different ways to deal with abuse. It was interesting to note that one participant even said that she found solace in signing songs whenever she felt sad due to abuse.

Support needs of elders

Identifying the support needs of elders is inevitable while discussing the issues and problems of elders. Elders' support needs were primarily grounded with meagre expectations of some money and food from their children, especially from their sons. 'Money' or income from any source was found to be the primary need of elders. One male participant from an urban area had responded, *'When they don't give money, we feel sad. Without money, we can't survive.'* Apart from their children, they had expectations from the government too. Most elders were depressed by the fact that they were not getting their 'old age pensions' and they openly expressed their disappointment towards the system. An elderly female from a rural area had angrily said, *'No one gets pension here, they have been saying for years that you will get pension but they never gave it to us.'* Another male respondent from an urban area had said, *'We don't get anything. We have filled a lot of forms and submitted them but there is no clue of this old age pension.'*

While those without any income were surely depressed, on the other hand those elders who had savings and who were getting retirement pensions were quite free of tension and seemed to be happier and content in their lives. A female participant from the rural area had proudly said, *'Both of us get pension... and we don't need anything from the children.'* With regard to the same, another female widow respondent from a rural area had said, *'I am getting the pension of my husband and therefore I can buy medicine.'*

Another catch in concern with this was regarding the rising cost of health care which eventually made health services unaffordable for a larger section of our elderly population. A male participant from a rural area had said, *'I feel that those who get pension and who are little better financially, only they can go to private hospitals for their treatments and they only can afford the expensive medicines.'* Another female participant from the rural area too conveyed the same fear stating that health was the biggest issue for elderly people and that whenever they fell sick, the family members surely got irritated thinking about the medical expenses they will have to bear.

When enquired about the support they received from their spouses and other family members, many of the elders claimed that their spouses were very supportive and even their siblings were so much supportive. Another thing which caught the attention of the researcher was the need for awareness and counselling for many of those elders who simply wished to push off their lives somehow till death. One male participant from a rural area had said, *'Now what to cry about, what can happen, it is like that, I think that why I am living life, there is no meaning to it.'* The key informants too pointed out the need for 'awareness' among elders, so that they can remain independent to some extent and fight for their rights. Many key informants reported that they helped the elders to understand the thin line between respect and the need to be a decision maker.

Another important thing pointed out by key informants included the need to gather sufficient evidence in cases where the elders wanted to prove that they were being abused so as to ensure proper support from the system and to bring it into the attention of policy makers about the need for elder care policies. Again this collection of evidence is possible only when our elders are empowered to be vigilant and wise during times of abuse. This again necessitates the need for 'awareness' programs for elders. Key informants also made it a point that the Government needs to intervene further in providing all possible assistance to the elders be it medically, socially or financially. One of them had said that if the Government intervened properly, it would solve 90% of the problems of the elders. One of them had said, *'The elders are having much expectations from the government.'* Again this points to the core fact that fulfilment of elders' support needs largely depended on the actions taken by the government.

Role of gender and power dynamics in elder abuse

The role of gender, power and control in elder abuse was explored with a view to understand the darker sides of elder abuse which often remained hidden within four walls of houses. Most of the elderly revealed that their family members often used different coercive tactics to win over them. Some of the elders reported that many times they had to face continuous verbal threats and in some cases physical harm too from their close ones in connection with the latter's attempts to obtain money or property from the elders. One female elderly participant from an urban area had told me, *'He does not do anything. He always pressurises me to pay the rent, to pay the electricity bill, water bill and all. But how can I pay as I don't earn anything.'* Several other elders too faced similar coercions from their children, especially from their sons. Another elderly widow from an urban area had asked me, *'He asks me to sell my house and give him his share... But where will I go after that? Will I go on the streets?'* An elderly male respondent from the tribal area had an even worse story to

share. He told, *'My brother's son comes and beats me up for land, he has given his share of land to someone and now he is coming to me to take my share of land'*

Another urban female elderly had reported that her children had started to keep her empty stomach and they did not give her any food till she surrendered before their demands of money. Another type of threat faced by elders was in the form of fake attempts of suicides by their daughters-in-law. Some elders said that whenever they said or did anything which their daughters-in-laws didn't like, she would immediately start threatening them with 'suicidal attempts.' Referring to the same an elderly female from an urban area had stated, *'My daughter in law would hit me often with her legs She would even run out of the house threatening to end her life if I ever said anything. Hence I can't do anything'*. Several key informants too shared their experiences where many elders had revealed to them regarding the threats faced by them from their children.

These revelations clearly underscore the fact that most elders, especially widows suffered a lot of threats from their perpetrators who tried to weaken the spirits of these elders and thereby gain control over them. Thus most elders faced emotional breakdown and were leading their lives in total 'fear.' It was saddening to find that 'old age' which should have been a graceful one with good old memories and love from dear ones was actually a nightmare for most of the elders. Many elders spent their later years in fears and tears. Some of these fears were rooted in their feelings of worthlessness as very well said by one of the key informants. She said, *'In cases where they lived with families, they feel that 'I am of no use now, I don't earn anything. I am simply sitting; so will I be separated from my family? Will the family be willing to take care of me? They have all these tensions every time'*. Similar concern was shared by a male elderly from rural area as he told, *'When I was earning money that time I was giving to them, and now they are saying that you are not earning any money, what can we do in that. They might drive me out of the house.'* Some elders even feared that their children might dump them in the old age homes.

Apart from this many elders feared their daughters-in-law. One female participant from the urban area had mockingly said, *'Earlier mother-in-law used to trouble daughter-in-laws. But now the situation is different. Now whatever daughter-in-law says mother-in-law has to listen.'* Sharing a similar opinion one key informant had told that elders were even afraid of smaller things like breaking a glassware or something. She said, *'They fear that if the glassware breaks, then in the evening, the daughter – in – law will question, also they are fearful about their own individuality and worth being questioned by their daughters-in-law.'* Several elders, especially the females had shared a similar opinion that they were really afraid of handling the modern equipments, particularly the glass-wares and some of them had even told that they were even blamed by their daughters-in-laws if at all they ate a little more food or consumed more 'water' for their daily chores.

Thus we can see that most elders lived in fear and these fears were not basically regarding any physical harm or illnesses or safety, instead many of their fears were grounded on meeting their basic needs where they even feared to 'eat' or 'drink' according to their wish and needs. Since many of these concerns were addressed by the female participants and since most of them blamed their daughters-in-law for the

same, it clearly pointed towards the hidden aspect of gender and power which often decided the course of elder abuse in households.

While interviewing the elderly males, a few of them had commented that it was their wives who faced more problems than they themselves. When enquired about the reason behind that, an elderly male respondent from rural area had told that *'Old woman stays at home every time and has more problems, but old man is like, he goes out, moves around and so it is ok with him.'* This points to the harsh reality that increased hours of stay at homes made elderly women more vulnerable to abuse than their male counterparts. Same opinion was shared by a female elderly participant in an FGD session where she said, *'It happens more with women. Because women live with them all the time and daughters-in-laws don't like that. They think that they don't get any freedom. Because of this they trouble these elders more.'* Another respondent from the same FGD session had stated this issue with these words, *'Women hear more, suffer more and bear more too.'*

Again this problem seemed to affect widowed elders more in comparison with those elders who lived with their spouses. While talking about the same, an educated female elderly participant who was living with her husband in a rural area was of the opinion that, *'If her husband is there, then he takes care of her. But when he is not alive then her condition becomes very pathetic That's why she should try to earn something if her husband dies.'* This opinion is pointing towards another major challenge faced by the elderly widows who are often forced to do some kind of jobs for their existence. One of the key informants had said, *'Even there are ladies who are aged above 60 years and 70 years who are still in search of jobs. They come to me asking about 'are there any jobs like household work or food making etc.', even at this age. So this shows that even at this age they are suffering.'* Again finding a job was not an easy task for many elders, especially for the females. One female participant from a rural area had reported that many times they had to hide the actual reason behind searching the job in order to protect their dignity.

At the same time, we cannot neglect another reality that most elderly men are also engaged in some sort of work, mostly to fulfil their gendered roles where they are expected to take care of their families till they die. Many of the male elderly participants in this study, especially those belonging to the urban slums were still working hard to earn money to support their families. Another crucial point of discussion arises as some of the female elderly respondents had reported that for them abuse was not a new thing as they were subjected to different forms of abuse starting with their marriage itself. One female elderly respondent from urban area had said,

'I was married and then my mother-in-law She used to beat me. My husband did the same and even my brother in law also did the same Later I started working again I used to earn and I used to give the money to my mother in law Now all my sons except the younger one treat me very badly, they don't give me anything. They don't even talk to me properly and I am still working for myself and my sick husband.'

Similar stories of abuse were shared by some other elders too where they tried to put into words all those sufferings which they had been bearing since several decades.

Study revealed that elders had differing opinions on whether daughters were expected to support them. Majority of the elders wanted only their 'sons' to take care of them. Whenever they mentioned that 'children' did not take care of them, they were always referring to their sons only, leaving a big question in front of the researcher, why daughters are not counted? When explored about the same, a female respondent from an urban area had said, 'It is not good to ask daughters. My own son doesn't care about me then why should I ask my son in law to look after me?'. Another female participant had reiterated the same view stating that, 'No one will pay us, I am not having any son, my daughters got married, I am all alone, who will give me money.' These responses clearly reveal the influence of 'gender' and 'gendered roles' even in the minds of elders where they firmly believed that daughters need not take care of their parents.

But there were a very few elders with a different viewpoint who believed that care of the elderly parents was the shared responsibility of both sons and daughters. An elderly male respondent from the urban area had told me that 'everybody should take care equally, whether son or daughter. It's wrong if a son takes more care and daughters take less care.' Same opinion was shared by one female elderly respondent from a rural area as she said, '*It's the same with daughters also. We take care of her too the daughter is also having some responsibility*'. These mixture of responses from elders raise many questions regarding the implied 'gender dynamics' behind elders' expectations from their own children.

The study findings clearly revealed that 'power dynamics' operated within the families almost uniformly in both rural and urban areas and in both places female elders suffered more than their male counterparts. A review of literature to understand the feminist perspective on gender and elder abuse (Nerenberg, 2002) too suggested that more research, debate and analysis are clearly needed to achieve a clearer understanding of how the economic, social and political status of the women and the elderly, as well as the cumulative effects of ageism and sexism, contribute to elder abuse.

Conclusion

The findings from this study indisputably proves that most elders in Indian households were leading their lives in agony and distress. The major reasons identified behind this suffering is the lack of financial security which made these elders entirely dependent on their offsprings. The study also established that rural elders were much more vulnerable than their urban counterparts and hence needs more attention and care. The role of 'gender' in elder abuse is explicit from the qualitative findings from this study, as elderly females were often found to bear more abuse due to their gender bestowed submissive status in the society. Elderly men too were found to be operating within the framework of gender constraints where children expected them to be breadwinners for lifetime as several elders (especially those from urban slums) were still working hard to support their families. All these findings converge at the point where the policy makers are expected to come up with targeted interventions to address this issue of major public health concern and any failure in addressing the same would pose serious threat to the health, safety and quality of life of our elders.

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***Do Sociodemographic and Gender Determinants of Late-life Suicide Differ in Older Swedish Users and Non-users of Antidepressants?
A National Population-based Study***

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Abstract

The treatment of depression is a main strategy for suicide prevention in older adults. Our aim was to examine factors related to suicide in older adults (75+) with and without antidepressant therapy. We used register data for all Swedish residents aged ≥ 75 years (N=1 413 806) between 2006-2014. We identified all persons who died by suicide (N=1305; 907 men and 398 women) and matched 50 controls to each case. A nested case-control design was used to investigate the sociodemographic factors associated with suicide among users and non-users of antidepressants. Risk factors were analysed in a conditional logistic regression model in the entire cohort and in men and women separately. Being born outside of Nordic countries was associated with increased suicide risk; a threefold increase in risk was observed for women not treated with antidepressants. Being married was a protective factor in men but not in women. Blue-collar occupations before retirement were associated with increased suicide risk in non-users of antidepressants, particularly in men. Upper white-collar occupations were associated with increased suicide risk in women who used antidepressants. Our differential findings on factors associated with suicide in men and women treated or not by antidepressants suggest the need for gender-specific approaches targeting psychosocial factors for the prevention of suicide in late-life that go beyond the healthcare sector.

Keywords: Suicide, Sociodemographic Factors, Antidepressants, Cohort Study, Older Adults, Population Registers

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Introduction

Despite the fact that suicide rates are the highest in the oldest population in many countries (Bertolote & De Leo, 2012), there is a lack of research focusing specifically on this segment of the population (Fässberg et al., 2012). Results of studies on suicide conducted in “younger” older adults cannot be extrapolated to the oldest population as risk factors differ with age in both clinical and population-based cohorts of older adults (Erlangsen, Bille-Brahe, & Jeune, 2003; Waern, Rubenowitz, & Wilhelmson, 2003).

Depression is considered a strong risk factor for suicide in older adults (Conwell et al., 2010). Most suicide preventive strategies have therefore focused on optimising the diagnosis and treatment of depression (Lapierre et al., 2011). Antidepressants (ADs) have been associated with decreased suicide risk in late-life (Barbui, Esposito, & Cipriani, 2009; Gibbons, Hur, Bhaumik, & Mann, 2005). However, despite their wide use, especially in those aged 75 years and above (Swedish National Board of Health and Welfare, 2018), suicide rates remain high in the oldest population (Statistics Sweden, 2018). One explanation is that suicide has a multifactorial aetiology, and psychosocial factors can drive the association between depression and suicide (Troya et al., 2019). A better knowledge of sociodemographic factors associated with suicide among older adults with and without AD treatment will help to inform and tailor suicide prevention efforts.

The availability of high quality national register data in Sweden makes it possible to examine phenomena associated with suicide in relation to AD use. The aim of our research was therefore to examine, in a population-based register study, sociodemographic factors associated with suicide in a total national cohort of Swedish residents aged 75 and over, with and without exposure to antidepressant therapy. We also aimed to carry out gender-specific analyses because of the large difference between suicide rates in older men and women, and the current dearth of gender-specific findings in late-life suicide research (Fässberg et al., 2012).

Method

Study design and study population

We conducted a population-based register cohort study including all Swedish residents aged 75+ between January 1, 2006 and June 30, 2013. All individuals were followed until December 31, 2014 or until migration or death if it occurred during the follow-up time.

Data sources

Data from national registers were linked through the personal identity number. The Swedish Prescribed Drug Register was used to identify AD users based on the ATC codes (N06A, except N06AA). Suicide deaths were determined by the Cause of Death Register based on the ICD-10 codes: X60-X84, Y10-Y34, Y87.0, Y87.2). Sociodemographic data were collected from the longitudinal integration database for health insurance and labour market studies (LISA) and the Total Population Register. Individuals with a previous episode of self-harm or diagnosis of depression in

specialised care were identified from the National Patient Register. Persons residing in institutions were identified by the National Care and Social Service database.

Sociodemographic characteristics

We considered the following variables: Gender, age group (75-79, 80-84, 85-89, ≥ 90), marital status (married/registered partnership, single, widow/widower, divorced), annual disposable household income (in quartiles), social allowance, country of birth (Sweden, Other Nordic countries, Outside of Nordic countries), residence in institution, education level (mandatory, upper secondary, higher) and occupation category at retirement (upper white collar, lower white collar, blue collar).

Statistical Analysis

A nested case-control design was used to investigate the factors associated with suicide in the total cohort and among users and non-users of AD separately. Each person who died by suicide was matched with 50 individuals of the same gender and age group who did not die by suicide. The nested case-control data were analysed using conditional logistic regression with each case and its controls forming a separate stratum. All sociodemographic variables were included in the univariate and the adjusted models. We also included in the adjusted models the concomitant use of other psychoactive medications, occurrence of non-fatal self-harm during the preceding year and use of specialised psychiatric for depression care as a proxy for severe depression. Gender interaction was incorporated into the model.

The study was approved by the Regional Ethical Review Board in Gothenburg (no: 111-15).

Results

In this national cohort including 1 413 806 persons aged 75+ and followed over an eight-year period, a total of 1305 persons (907 men and 398 women) died by suicide. Being married was a protective factor for suicide in men in both AD users and non-users, but such associations were not seen in women. Suicide risk was elevated threefold in women who were born outside of the Nordic countries and without AD treatment. There was a complex pattern of associations regarding occupational history and suicide when considering AD use and gender. An elevated suicide risk was observed in upper white-collar women who used AD, and in blue-collar men who did not.

Conclusion

Our research identified particularly vulnerable groups of older adults and advocates for the need for new gender-tailored suicide prevention strategies. The optimization of treatment of late-life depression remains an important target for suicide prevention in our oldest adults, but this should be combined with innovative public health interventions to reach those not treated for depression. Research is needed in other countries and settings as socioeconomic conditions, availability of mental healthcare and cultural differences may have an impact on risk of late-life suicide.

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Adopting Orphan Migrants in Japanese Elderly Care Services: A Diversified Model for Ishikawa Prefecture

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Abstract

The percentage of individuals over the age of 65 is increasing rapidly in Japan. This growing number of senior citizens requires prolonged medical care along with other supports. There is no direct route to increase the population growth rate instantly to serve the increasing number of senior citizens. On the other hand, millions of orphan children throughout the world are dying without food, shelter, and social security. Migrating those orphan children from other countries to Japan could be an alternative way to save their lives as well as raise them under Japanese education and manner and provide them the opportunity to serve Japanese medical, healthcare, and other services. With this view, the research aims to 1) analyze the scenario of workforce shortage in Japan; 2) examine different ways of workforce supply, and 3) demonstrate different issues of adopting orphan migrants to the Japanese community. Accordingly, the research followed the exploratory research strategy based on different pieces of literature, statistical data, and case studies from different sources. The results are presented in different graphs, tables, and figures. Based on the findings, the research formulated an alternative workforce development strategy for elderly healthcare services by establishing human bondage between the orphans and elderly people. The research also examined the tentative funding, calculated the expected expenditure, and explained a diversified model for the proposed project. In addition, the research discussed different issues of implementing the model in Ishikawa prefecture Japan as a pilot project of adopting orphan migrants.

Keywords: Elderly Care, Japan, Workforce, Orphan Migration

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Introduction

With the improvements in healthcare, medicine, and medical technology, the healthy life expectancy of the world population has been increasing since the last few decades. Living a long healthy life is a good sign in Japan and considered a positive life-fact among other nations in the world. However, having a longer life and well-being, proper health care, including mental support, should be the essential element to ensure a peaceful and valued elderly life.

In the case of ensuring proper care for the increasing number of senior citizens, health, and care industries need to supply more workforce based on the increasing demand. Currently, many industrialized nations in the world have an increasing demand for elderly care. In Japan, elderly care is considered as an extremely important matter to ensure prolonged healthcare services. As per the information provided by the Japan Statistics Bureau, currently, Japan has the highest rate of elderly citizens 34% above the age of 60 in the world. This trend will keep continuing, and people over 65+ will increase by around 40% by 2060 (NIPSSR, 2017).

In order to overcome the increasing demands in the care sector, many industrialized countries like the USA, Germany, Canada, Spain, and South Korea are one step ahead and accept a good number of foreign workers in the health and care sectors. In Japan, on the other hand, the Japanese immigration policy remains a bit far away from accepting foreign immigrant workers (Deutsch, 1999). Although this trend has been changing recently, many foreign workers would not be interested in coming to Japan to find their future career due to uncertainty and strict rules (Okunuki, 2018). As a result, Japanese healthcare industries may face new challenges.

There needs an alternative and sustainable way to contribute to the Japanese elderly citizen's well-being and health care issues. Adopting orphan migrants age group 5-8 from different parts of the world, who are living under extreme hunger and a high risk of death, can be an alternative solution.

Statement of Problems

Modern Japan is home to the highest number of citizens above the age of 65 in the world. At the same time, the population of Japan declined by almost one million during the 2010-2015 period (*Statistical Handbook Japan*, 2018). The Japanese government has been aware of this issue and taken different initiatives, including pensions policies, health care benefits, institutional care, home care, and many more for elderly citizens. Besides, the current government also has estimated that the population of Japan will decline by approximately 15%, or 20 million people, by 2040, which will create more new challenges (IBA, 2016). So, the decline of the population and the rising number of elderly citizens will naturally result in a huge labor force shortage. Hence the problems may be summarized as follows:

- The continuous decreasing trend of the Japanese population results in various social, economic, and geopolitical problems.
- The increasing number of elderly citizens results in more pressure on the regular workforce.
- There is no immediate route to increase the population growth rate.

Purposes

Based on the above situations, the primary purpose of the research is to propose an alternative workforce development strategy for Japanese elderly society based on establishing human bondage between the orphans and elderly people. Other purposes include:

- a) analyze the scenario of workforce shortage and determine different ways of workforce supply in Japan;
- b) examine the scope of adopting orphan migrants to the Japanese community, and
- c) formulate a project-based proposal for contributing to the future workforce in Japan

Methodology

This research is based on an exploratory research method. Research data were collected from secondary sources like journal articles, thesis papers, statistical reports, news articles, case studies, government websites, databases, etc. MS Excel was used to create tables and graphs. The results are presented in different graphs, tables, and figures.

Japanese Workforce Facts

The working-age group from 15 to 64 increased constantly during the post-war years and reached a peak of 87.26 million in 1995. After that, it entered a period of decline, and the population decreased to 77.28 million in 2015. However, this research tends to focus on the situation in the current year 2020, and the year 2040, and 2060 in terms of the Japanese workforce and elderly citizen's issues.

According to the results of the medium-fertility projection, the population of the working-age group is expected to continue to decrease below 75 million in the current year 2020, 60 million in 2040, and will drop to 47 million by 2060 (see table 1).

Year	Age Group 15-64 (000)	% of the Total Population
1995	87,260	--
2015	77,282	60.8
2020	74,058	59.1
2030	68,754	57.7
2040	59,777	53.9
2050	52,750	51.8
2060	47,928	51.6

Table 1: Projection of working-age group 15-64, (Source: NIPSSR, Japan, 2017).

The working-age group indicates the age group 15-64 population and workforce indicates the actual number of people who are involved in different professions.

Currently, Japan has an increasing demand for the workforce in many sectors. The demand is mostly expected from nursing care, farming, and 12 other industries (Review, 2019). The available data showed that the total workforce in the medical and

welfare sector was 7.47 million in 2014. It is projected that the demand will rise around 23% and 1.63 million more workforces will require by 2030. The demand will also increase more in the next decades (Times, 2015).

Japanese Elderly Citizen Facts

National Institute of Population and Social Security Research (NIPSSR) projected that one in three people in Japan will be elderly by 2040. It also estimated that based on the medium-fertility and the medium-mortality assumption by 2060, 1 in 2.5 people will be 65 years old and over, and 1 in 4 will be 75 years old and over (CabinetOfficeJapan, 2016). Table 2 shows the projection of the increasing number of elderly citizens from the year 2000-2060 based on medium-fertility projection.

Year	Age Group 65+ (000)	% of the Total Population
2000	22,271	17.5
2015	33,868	26.6
2020	36,192	28.9
2030	37,160	31.2
2040	39,206	35.3
2050	38,406	37.7
2060	35,403	38.1

Table 2: Projection of Japanese elderly people, (Source: NIPSSR, Japan, 2017).

The following figure shows the ratio between individuals 65+ and individuals 20-64 to support each elderly person from 1990 to 2060 in Japan.

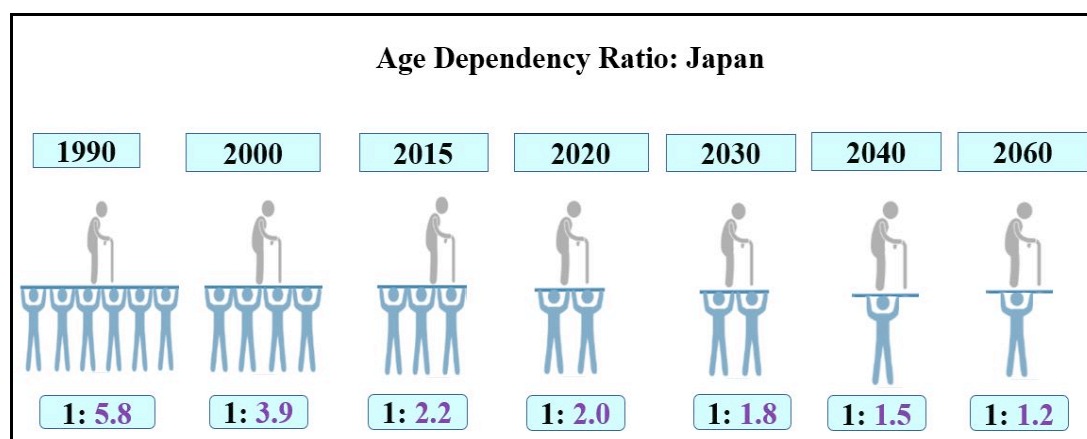


Figure 1: Age dependency ratio, Japan.

Figure 1 shows that there were around six working people to support one elderly person during the 1990s, less than four in 2000, around two and a half in 2015, two in 2020, and one and a half working people can afford a single elderly person by 2040 (NIPSSR, 2017) (News, 2018). The number of supporting people will keep decreasing until 2060.

The lower fertility rate, one-child trend, live as a single individual, rural depopulation, etc. results in declining, filled with elderly people, and not enough younger people to provide care for them. It is very pathetic to know that, in the year 2016, around 6.6 million elderly citizens in Japan were living alone, and many of them were at the risk

of isolation and lonely death (Miyanaga & Poudyal, 2019). Moreover, it is predicted by the NIPSSR in April 2019 that 40% of Japanese people both in rural and urban will live alone and live by themselves in 2040 (Abe, 2019). So, what could be the tentative solutions to ensure proper care and accompanying them?

Tentative Solutions

Previous literature shows that countless studies and researches have been done and still, there are many ongoing pieces of researches on 'Japanese elderly care issues' with a diverse solution point of view. Among them, (Mizuno, 2016) discussed different issues on 'Abenomics' and 'Womenomics' which inspire Japanese women to join in the industries, inspiring corporations to employ more women into different sectors. Many researchers examined and suggested bringing enough foreign workers might fill up the demand in the industries and could immediately supply caregivers for elderly citizens (Lopez, 2012) (Sigurðsson, 2017). On the other hand, some researchers also proposed using non-human apparatus in serving medical sectors. Sigurðsson (2017) believes that medical robots for elderly care may add a new solution. Similarly, Artificial Intelligence and care robots might help Japan to maintain expected levels of products and services (Dallin, 2016).

Improvements in technology, especially robotics, AI, automation, are highly considered to overcome these issues. In recent years Japan is considering elder-care robots equipped with AI could be a great possibility to fulfill the demand for the increasing number of senior citizens (Sigurðsson, 2017). Perhaps Japanese elderly care technology could serve as a major tool not only in Japan but also in other countries, which may boost the Japanese economy.

Despite having many wonderful services, however many elderly citizens do not feel comfortable with the accompany of machines. They expect not only physical support but also spiritual support. Spiritual support is something that robots cannot provide, only people can do. They need love, sympathy, care, and the accompany of human companion in their elderly age when they are lonely and incapable. If technology shows significant development, probably some physical supports may be covered by care robots.

There are many other proposed solutions to fill up the workforce shortage, but many of these proposals are simply unworkable. Increasing the amount of working time is not a new issue, the Japanese are already overworked (Lewis, 2019). Increasing the age of retirement, elderly citizen as a resource, increasing the number of female workers, birth rate, the number of care facilities, Abenomics 1.0, and 2.0 could not find success (Sigurðsson, 2017).

Japanese immigration policies are not much willing to seek employment from abroad. At the same time, recent public opinion polls consistently found that more than half of the Japanese do not support large-scale immigration (Semuels, 2017). Since the government started accepting foreign nurses and caregivers in 2008, it was challenging for them to pass national exams in Japanese, and it took time to adjust to a new society and work environment in Japan (BBC, 2015). Similarly, Japanese people also need to adjust to them which cannot be done overnight.

So, it is more difficult to find skilled workforces in the health and care sector comparing to other sectors (Japan Times, 2018). It seems Japan needs to produce enough manpower inside Japan for this sector which is very difficult. Alternatively, if they bring foreign workforces, they need to provide the necessary education, medical training, and language learning facilities.

Orphans Migration as Alternative Solution

However, as far as we know, there is no research conducted on a humanitarian point of view. In addition, no research discussed establishing a natural human relationship before providing and receiving care services, for example, adopting orphan children to save their lives and let them grow-up under Japanese education and manner so that it could be flexible both for the children and Japanese people to adapt to each other. Later these children will contribute to other people's lives in a way that they just do not do the work based on their profession but from their affection. This is the missing part of the current elderly care service in Japan. The professional people who are hired and paid for the service may not have the feeling of that kind of heart. The research also focuses the sustainability issues through the Corporate Social Responsibility (CSR) and Return on Investment (ROI) point of view to encourage the involvement of Japanese companies/organizations in a broader perspective to create greater business value in Japanese society.

This study proposed a completely different way to increase the population as well as contribute to filling up the gap in the health and elderly care sector. The approach is to bring double orphan children in Japan from other parts of the world age from 5-8 who are living under extreme hunger and life insecurity. The research proposes the age group 5-8 because this age range would be more convenient to adapt to a new environment. They can spend a year, learning very basic Japanese before entering elementary school. Japanese children start their elementary school at the age of 6, which also could be a convenient age for learning a new language for foreign orphans (Committee, n.d.). We propose to keep the age range from 5-8 because it may not be possible to find only 5 years of age group children.

The research designed and proposed a way to provide them all facilities in life, including food, shelter, security, education, and immigration in Japan. After that, they will have a secure life and contribute in the Japanese elderly care sector. As mentioned before, this research has proposed a diversified model to establish a new institute/organization for them in Ishikawa prefecture. If the project is succeeded, then it could be extended in other prefectures in Japan.

Worldwide Orphans Scenario

An orphan is a child under 18 years of age who has lost one or both parents to any cause of death, defined by UNICEF and global partners (Finklestone, 2019). As per the estimation of UNICEF, the orphan population is 153 million in the year 2018. However, other sources claim that there are over 400 million parentless children in the world (Bakır, 2018). If orphan children had their own country, it would rank 9th in the world population (Finklestone, 2019). Few important facts about the world orphan children are given below:

- Children with no parents are considered as “double orphans.”
- Children with one parent who lost either father or mother are “single orphans”.
- 26 million children among 153 million orphans are considered as double orphans (DARAGO, 2016).
- More than 60 million orphan children go to bed hungry every night. (“World Orphans Day,” n.d.)
- 400,000 orphans die every year because of malnutrition (“World Orphans Day,” n.d.).

Table 3 below shows the countries having major orphans in the world (“World Orphans,” n.d.), (Kuligowski, 2019), (“SOS Children’s Village, Canada,” n.d.).

Countries	Number of Orphans
India	20,000,000
China	576,000
Cambodia	553,000
Bangladesh	4,400,000
Ethiopia	6,000,000
Guatemala	370,000
Haiti	750,000
Iraq	5,000,000
Kenya	2,500,000
Rwanda	1,000,000
South Africa	3,900,000
Uganda	2,500,000
Syria	800,000
USA	443,000

Table 3: Countries having major orphans.

Orphan Migration Ethical Issues

The world policymakers need to re-distribute the world population and create balance in the society. For example, the research found that 400,000 orphan children die every year because of malnutrition (“World Orphans Day,” n.d.). On the other hand, Japan needs about 200,000 immigrants per year to keep the population over 100 million (Dallin, 2016; Soble, 2014). It is found that in many parts of the world, there are a large number of orphan children without food and shelter. They are embracing death frequently for many reasons. On the other hand, in many places, there are enough food, security, shelter, and resources but very fewer children, fewer people, fewer workers, and more elderly people. So, global leaders need to come forward and take proper initiatives to overcome these challenges from the ethical point of view.

Supervisory Board

The research proposed a project-based model for establishing an institute or organization which will run by a group of supervisory boards to manage and supervise all administrative and management activities. In this case, initiators may consult with some international organizations like Save the Children, UNICEF, The Mother Teresa Foundation, WHO, etc. to start the proposed program. However, it is worth mentioning that the program will have its own policy and value with ideas from other institutes or organizations.

First, it will need approval from the Japanese government and the concerned international advisory boards and legal advisors. After that Ministry of Foreign Affairs and Ministry of Health, Labor and Welfare, Japan, may take the lead to be the central supervisory board and policymaker. Alternatively, in this case, the Japanese government may choose the central supervisory board as per the government strategy. Accordingly, Ishikawa City Corporation and Ishikawa Chamber of Commerce may supervise, run, and provide all supports to the institute locally under the guidance of the Ministry of Health, Labor, and Welfare. As a fund provider ICC and JICA may look after the proper utilization of the money in the project. Figure 2 below shows the different roles of the supervisory boards to run the program successfully.

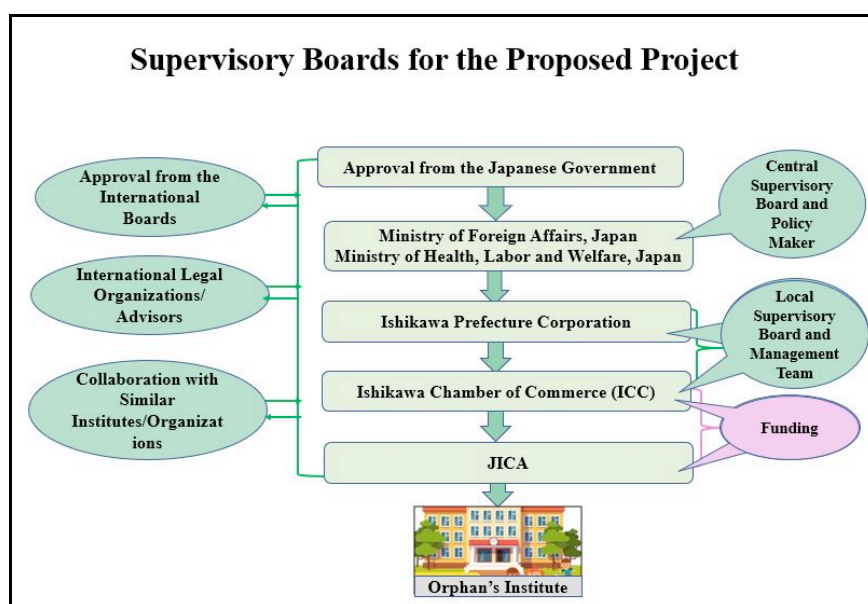


Figure 2: Supervisory boards and funding model.

Legal Support

Concerned international legal organizations for the orphans will provide the necessary guideline, policy, and support under international adoption law to smoothly migrate the children in Japan. International Organization for Migration (IOM), UNICEF, and the International Labor Organization (ILO) can provide the necessary support for this program. Similarly, Japanese legal support agencies/authorities will also work jointly with the international boards to ensure human rights and proper justice for the children under Japanese legislation.

Proposed Model

The following diversified model represents the complete picture of the proposed project. The three major groups on the top row in figure 3 indicate the International boards, the Japanese government, and funding agencies. These groups will perform major and primary functions. The Japanese government will take the lead to make necessary collaboration and co-operation with different international boards, i.e., UN, UNICEF, WHO, IOM, etc. to get approval to start the project smoothly. International boards will support and approve to receive children from different parts of the world. They will also provide international policy planning, legal support, and other necessary issues to migrate the orphan children in Japan safely. After that, the Japanese government will approve the project formally. At the same time, it will provide Japanese government policy and guideline, legal and administrative direction, assign funding agencies and the central supervisory board and, all necessary arrangements to start up the orphans' institute.

Funding agencies will provide necessary funds based on the estimated expenditure for the project. It can be a yearly basis or long-term basis. After the children graduated and entered their work, a certain amount of money will be deducted monthly basis for a certain period and transfer to the funding agencies as Return on Investment (ROI).

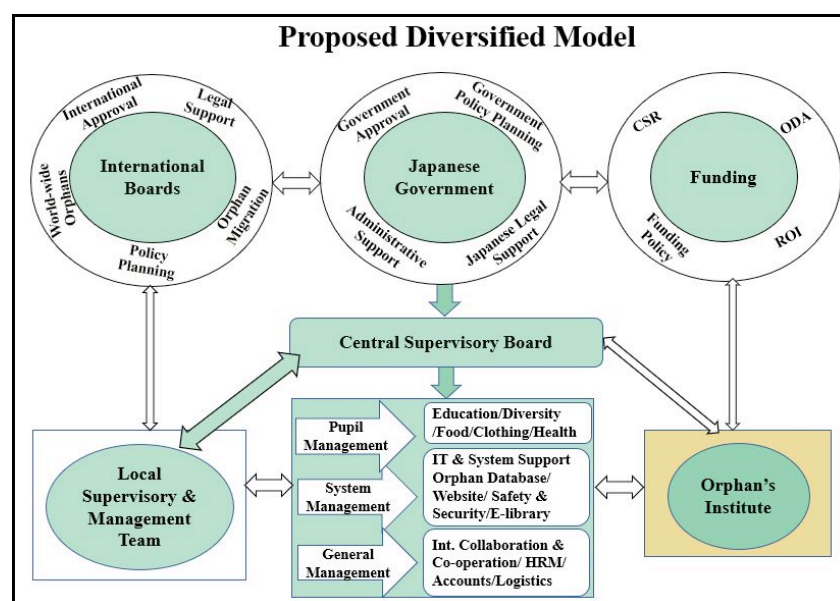


Figure 3: Proposed diversified model.

The central supervisory board will make the special policy for the institute based on the government policy guideline and supervise and monitor whole activities.

At the bottom level, the left group indicates the local supervisory board or the admin and management team. This group consists of the core people who will basically run the institute practically. Administration and management include three major functions, (i) pupil management, (ii) system management and, (iii) general management.

(i) Pupil management includes providing all educational supports, especially educate them the diversity to adjust with different people, places, environments, and societies.

It will also ensure food, clothing, medical, sports, library, and all other necessary facilities to the children.

(ii) System management consists of ensuring all the IT and system support, including institute website, orphan’s database, education, and learning technologies, computer systems, network management, office management databases, and software, general safety and cybersecurity, etc.

(iii) General management includes national and international collaboration and co-operation, human resource management, staff training, accounts, logistic supports, R&D, projects, and publications, etc.

Finally, all these activities will contribute to start the institute and run the project to achieve long-term goals.

Expected Expenditure

In Japan, primary and secondary education covers 12 years of study. It takes 6 years in elementary school, 3 years in junior high school, and 3 years in senior high school. Compulsory education includes a total of 9 years of education fixed from elementary to junior high schools. Higher education includes junior colleges, colleges of technologies, universities, graduate schools, miscellaneous schools, etc. However, Haku Tax Accounting Office, Tokyo, Japan, provided information about the amount of government tax, which is spent as educational expenses per student per year in Japan. The yearly expenditure for each student is about 840,000 yen for elementary school, 960,000 yen for junior high school, and 900,000 yen for senior high school (“Expenses for compulsory education,” n.d.).

Again, bellow figure 4 represents the list of consumed items and average monthly consumption expenditure of two or more persons in Japan. The average monthly consumption expenditure was 283,027 Yen for two or more persons in 2017 (*Statistical Handbook Japan, 2018*). We have divided this amount into two then added the government expenditure with it to calculate the total yearly cost of a student. Here only yearly expenditure of an elementary school student is added to estimate the total cost.

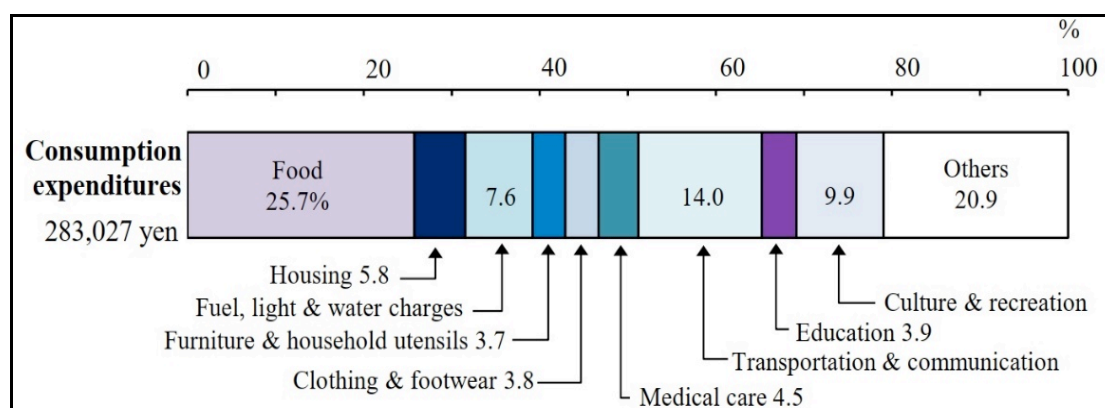


Figure 4: Average monthly consumption cost of two or more persons in Japan, 2017
 Source: Statistical Handbook Japan, 2018.

Based on the information provided in figure 4 and adding the average amount of government expenditure per student, we have estimated the total consumption cost. Table 4 shows that the total consumption cost per child per year is **2,538,162 Yen** and, 500 children per year are **1,269,081,000 Yen**.

Govt. expenditure, per elementary student (1year)	840,000 Yen
Total expenditure 1 child (1 year)	2,538,162 Yen
Total expenditure 500 children (1 year)	1.269 Billion Yen

Table 4: Total consumption expenditure including government expenditure per student.

In table 5, we have calculated the percentage of tentative amounts from the ODA fund for the proposed project.

Total amount: 1,124.086 billion Yen	
1% of ODA=	11.24 Billion Yen
0.50% of ODA=	5.62 Billion Yen
0.15% of ODA=	1.68 Billion Yen

Table 5: ODA contribution from Japan to JICA in 2016.

In 2016, the total contribution for ODA from Japan was 1,124.086 billion Yen, (JICA, 2017), which was 12.7% increased from 2015. If only 0.15% of total ODA is increased for the proposed project for 500 orphans' children per year cost, even it exits the estimated **1.269 Billion Yen** yearly cost. So only **0.15%** increased funds from total ODA may support to run the whole project successfully.

However, this is the initial estimation. The amount may be increased based on the country's inflation rate and other conditions. So, 8%-10% additional cost may be added every year with the total expenditure. We also calculated 1% of ODA, and 0.50% of ODA, to keep the options that if incase more fund is needed than the estimated **0.15%** of ODA.

Tentative Fund Support for the Proposed Project

Many national and international organizations in Japan are working for humanitarian issues, education, health, water, and sanitation, infrastructure, food security, agriculture, and disaster supports, etc. Every year these organizations are spending a huge amount of money for development purposes. Some of the targeted organizations which can support the project are discussed below.

From the Ishikawa prefecture statistical webpage, it is found that there were 3,270 manufacturing industries in this area in 2016. Among them, 150 companies are listed under the Ishikawa Chamber of Commerce (ICC). If the 150 companies come forward under the platform of ICC and invest 5% of their yearly profits as Corporate Social Responsibility (CSR) funding, the project could be started.

On the other hand, among international organizations, JICA from Japan is renowned over the world for its international contribution which is known as the Official Development Assistance (ODA). The financial and technical assistance that

governments provide to developing countries as part of this economic cooperation is called ODA. JICA is the world's largest bilateral aid agency and in charge of administering Japan's ODA (JICA, 2017).

However, based on the above discussion, the research has proposed three ways to collect funding for the program. The research does not encourage collecting funds as a donation instead it strongly recommends receiving the fund as an investment and plans to return the fund after a certain period as Return on Investment (ROI).

Firstly, this research expects to receive a CSR fund yearly basis from 150 companies under the Ishikawa Chamber of Commerce (ICC) and spend on the proposed project. With the help of this fund, the orphan children will receive all the facilities. After 12 to 13 years of education and training, when they will grow adult and join their job, a certain amount of money will be deducted monthly basis for a certain period from their salary and transfer to ICC as Return on Investment (ROI).

Secondly, collect funding from JICA. The fund will be received, utilized, and returned the same way as the ICC CSR fund.

Finally, if only the ICC fund is not enough to run the program, in that case, ICC CSR +JICA may create joint funding to support all the activities for the proposed project. In this case, the JICA fund would be utilized in a different way and consider it as an investment rather than a donation.

The Implication of the Project

The proposed institute/organization will receive orphan children from different parts of the world and provide all the facilities to raise them under Japanese education and manner. This process will create time, and space, which could be flexible both for the children and Japanese people to adapt to each other.

At the same time, any Japanese parents, especially affordable elderly parents who do not have children or whose children are living in a far place, can adopt children from the orphan institute. In this case, they will receive children under the circumstances of some formal procedure. As a result, many children will find a new home with new fatherhood and motherhood. These elderly adoptive parents may also open their hearts to accept them and fill up the lonely space in mind. The research emphasizes the meaning of elderly care in children and parental care. Or it can be expressed by more natural family care rather than the so-called formal occupation. When these children grow up and become caregivers, they just do not do the work based on the obligation due to their profession but from their heart full of kindness and responsibility. This part is missing in the current elderly care service in Japan. Many discrimination and abuse cases are often found in the elderly care services (nippon.com, 2019). The professional workers who are hired and paid for the service may not have that kind of feeling to do the work from the sense of responsibility and kindness.

The rest of the children who will not be adopted by any parents, the institute itself will raise them up and bring new children to maintain the flow.

Conclusion

This research considers aging and long-life expectancy as an optimistic and natural process of human life rather than difficulty. One of the greatest outcomes of scientific discovery is to ensure a prolonged life. Nobody wants to die soon. Problems may be considered as the lack of positive outlook towards senior citizens, imbalance in world-wide human resource distribution, lack of policies and initiatives, and lack of great leaders to find diverse ways to make a better solution. Though there are many ways to proceed but accepting orphan migrants and raise and provide them the opportunity to contribute to other human beings could be one of the ways and add new fuel to the elderly care workforce issue. Besides, orphan migration should also be considered from the humanitarian point of view. After completion of necessary education and training, they can contribute to different positions in the Japanese medical and health care sectors, especially in the elderly care sector to contribute to humankind.

Limitation and Scope of Further Research

Collecting the fund could be the greatest challenge in the implementation of the project. Without ensuring secure sustainable funding sources, it would be difficult to implement all other plans.

On the other hand, this research mainly focuses on two basic social issues; supporting both Japanese elderly and foreign orphans in Japan. However, Japanese society may not be fully ready to provide a truly comfortable environment for foreign kids to grow without negative life experiences. However, it is optimistic that they are on the way to proceed through diversity education and many supporting activities for the foreigners in Japan.

The project for introducing “Diversity Studies” to the public school curriculum from nursery school to the senior high school in Nomi City in Ishikawa prefecture could be an important test case to see how the city government and an educational institution can collaborate to create a new global environment in the community and grow a global mind in each citizen. In the further development of the research, it is expected to expand this aspect more elaborately so that it can contribute to the making of a truly functioning system for the project with no pressure.

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Designing Functional Apparel for Seniors With Chronic Physical & Mental Impairment

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Abstract

The United Nations “World Population Prospects 2019” global trend forecasts a decline in fertility and an increase in the ageing population, accompanied by body organs and cognitive levels declining with age, including the risk of dementia. The convenience of getting off clothes is important. Clothing is a basic human need, which is equally the case for physically challenged patients. The purpose of this research is to find a feasible way to offer those people an easy, less painful way to dress. To meet the special needs of these patients, the researcher evaluated three modest garments. In view of the complete structure of Taiwan's textile industry, providing 70% of global functional textiles, and in 2017, the researcher obtained the First Class Women's Clothing Technician Certificate. Through the testing process, the researcher assessed the needs and problems when wearing the clothing, and used functional fabric with breathable, antibacterial, water proof nursing, and odor-proof characteristics to design modest apparel to improve the comfort and convenience of patients. The researchers applied in-depth interviews and observations to collect data to understand factors missing in garment design. The researcher found that modest apparel is suitable for physically-challenged seniors who want independence and self-confidence in their lives.

Keywords: Ageing Impediments, Modest Apparel, Functional Fabric

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Chapter 1 Introduction

1-1 Authoring Background

Finnish Minister of Advanced Welfare Ilkka Taipale has said "People have to recognize that ageing is not just a health issue, it's a social welfare issue." Ageing is omnipresent.

"Ageing" is not simply the meaning of recession or disease, but a natural and necessary process. Population ageing is a global trend, and the World Health Organization (WHO) in 2002 put forward the concept of active ageing, which is defined as a process to improve the quality of life in the elderly and achieve the most appropriate health, social participation, and safety. When the health, social participation and safety of the elderly reach the most appropriate state, and the full social capital is accumulated, and the rich wisdom and experience of active life are absorbed, a strong force will be internalized to contribute to the benefit of the people.

For a meaningful and successful elderly life, the most important thing is to face and accept the facts of ageing in a positive and direct manner; to readjust and evaluate one's elderly activity in order to integrate the personal values and life objectives; and, to maintain personal self-esteem in order to maintain life's meaning and a state of comfort in the old age, is the source of its important way of life and happiness, while learning the active and open life of the elderly is also the key factor to achieve successful ageing (Chen Yanzhen, 2015, elderly welfare services).

1-2 Creation Motivation

The United Nations World Population Prospects 2019 points to a global trend of declining fertility and a surge in older people over 65. The decline in global fertility and the increase in human life expectancy are the main factors of population ageing. In 2019, Taiwan entered an advanced age society in which Ageing & Gerontology have become a dominant trait. The body organs of the elderly are degraded, cognitive functions decline with the age increase, and the risk of mental retardation is increasing among elderly people with chronic diseases and physical and mental disorders.

In 2016, the researcher continued her doctoral program, and because ageing is a major movement of future national society and families, the researcher obtained a first class women's clothing technician's certificate, in 2017, believing more in aesthetic style and design, allowing the elderly to wear clothing and incorporate conscious concerns. Combining theory with practice is one of the research motives.

The development of elderly service market and industry has been rising with the improvement of social welfare system, the improvement of living quality, and the development of medical science and technology, so enterprises and governments have gradually attached importance to it. How to maintain the health and enjoyment of the elderly is a very important issue. The happiness of the elderly is not only an extension of life expectancy, but also possession of a healthy body and mind (Hong Lin Shumen, 2014). The elderly consumer market and derivative industries are the second motivation for research.

To satisfy the physiological and psychological requirements for convenience and functionality is the concern of the design. The design focuses on human activities and independently completes the wearing and detachment function of the clothes, which has the physiological requirements of aesthetic fashion, human function and providing for oneself in daily life. The design of suitable clothing structure is the third motivation.

1-3 Garment creation ideas

1. This paper discusses the caring design of the elderly people with chronic diseases and physical and mental disorders. It is difficult for elderly people with chronic disease and physical and mental disorder to live in daily life. For example, when a wheelchair is used, how to allow clothing to be easily removed and suitably designed to allow patients with chronic diseases to be comfortable and live with dignity.

2. The study of the characteristics of functional fabrics allows elderly people with chronic diseases and physical and mental disorders, via functional textiles, to feel (inside) and exhibit (outside) confidence and once again plan their own life and existence.

3. Incorporating aesthetic style and design in an effort to enhance the mental care of older people when they dress. I like my profession, and creative design is to translate concepts and ideals into physical things that one can recognize and society can value.

Chapter 2 Literature Exploration

2-1 Global trends-Aging population

The World Health Organization (WHO) defines population ageing as a phenomenon in which the national population distribution is skewed towards higher ages. The ageing of the population is worldwide and has appeared more in developed countries; recently, it has also begun to emerge in developing countries. This trend is accelerating in developing regions, meaning that the elderly will be concentrated in developing regions. Fred Pearce, a well-known international scientific writer, pointed out in *The Great Shock of Population* (2012) that the 600m elderly people who live today account for 8% of the world's total population. As people live longer around the world, according to United Nations estimates, the total number of aged people over 65 will double to 1.1bn in the next 20 years, accounting for 13% of the population.

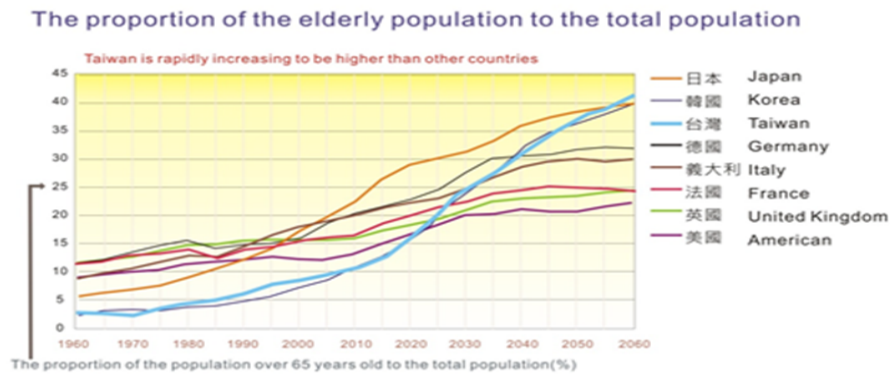


Figure 2.1 The proportion of the elderly population to the total population
 Source: Republic of China National Development Council.
 The graph is compiled and produced by the researcher.

Global ageing is accelerating, and Taiwan's ageing rate is also rising. The current figures show that Taiwan and South Korea have a lower proportion of elderly than the advanced countries, and the proportion of the elderly in Japan, Germany, and Italy is more than two times Taiwan's proportion. China became an ageing society in 1993 and is estimated to become an extremely old age society by 2026. The imbalance in population structure has been growing.

2-2 Taiwan textile industry

Taiwan's textile industry is based on the processing and export of imported raw materials and the establishment of factories to produce petrochemical raw materials, expanding artificial fibers and vertically integrating the continuous production system of upstream and downstream industries, including the manufacturing of human fibers, spinning, weaving, dyeing and finishing, garment and apparel products.

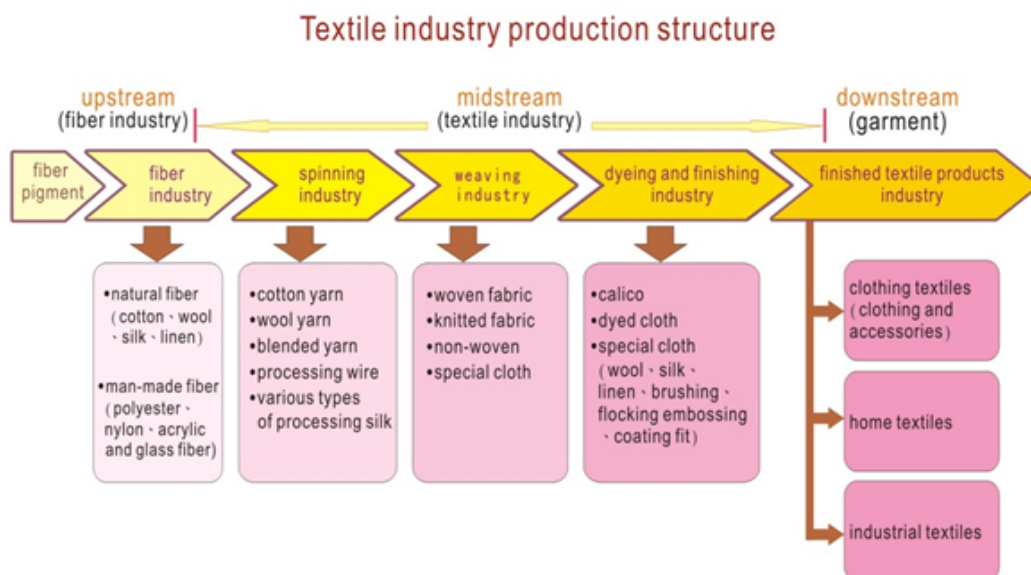


Figure 2.2 Textile industry chain
 Source: Republic of China Textile Industry Development Association
 The graph is compiled and produced by the researcher.

Since 1971, Taiwan's textile industry has been integrated upstream and downstream, with a complete industrial structure and a leading position in the world in terms of the output of synthetic fibers. Seventy percent of the world's functional textiles come from Taiwan. The textile industry in Taiwan is vertically integrated with a consistent upstream and downstream production system, which includes the manufacture of human fibers, spinning, weaving, dyeing, finishing and clothing. Clothing with comfort and technical functions in the future is the focus of Taiwan's textile industry to upgrade and enhance value.

2-2-1 Functional fabric

In response to the global extreme climate change and the issue of energy conservation and carbon reduction, consumers are increasingly paying attention to the quality and functionality of textiles. At present, the functional fabric industry has become the mainstream of the new generation of textile industry. "Functional Fabric" or "Performance Fabric" refers to the special processing of textile, which give it antibacterial, deodorization, ultraviolet (UV), moisture resistance, thermal insulation, anti-flammable, waterproof, wind proof, static proof and other functional uses, and can improve the added value of textile (World Web of Materials, 2019). In the 21st century, the development direction of the textile industry emphasizes ecology, environmental protection, health and safety.

Efficacy classification table

safety of life	health care
radiation protection, electro-magnetic wave , anti-static anti-flammable anti-UV material far infrared light storage	anti-fungal insect control anti-bacterial anti-mite /mosquito far infrared deodorant
comfortable life	smart function
sweat-absorbing moisture-absorbing moisture-permeable waterproof heat-insulating morphological memory fiber anti-fouling	physiological sensing conductive medical dressing woven shoes

Figure 2.2.1 Composite functional textiles

Source: Bpaper Good News, Issue 42, 2015.

This graph is compiled and produced by the researcher.

2-3 Ageing phenomenon

Physical and Mental Disorder, the term "physical or mental disorder" used by the World Health Organization, is defined as follows: A disorder is a general term, including injury, limited activity and participation. Injury is a matter of physical function or structure. Limited activities are the difficulties encountered by people in

carrying out their tasks or operations. The limitation of participation is the problem of participation in personal life.

According to the Ministry of Health and Welfare, in September 2019, 1.182m people were given physical and mental impairment certificates (handbooks), representing 5.01% of the total population (2018/4.98%), of which 55.84% were men, representing 5.64% of the total male population, compared with 4.39% for women. In terms of age, 35% of the 45-64 age group and 40% of the over-65s.

Chronic diseases are a persistent or long-term health condition or disease. The U.S. National Center for Health Statistics defines a chronic disease as a condition that lasts for more than three months, or is a permanent injury caused by an illness or a congenital condition. Common chronic diseases include malignant tumors, cerebrovascular diseases, heart disease, hypertension, hyperglycemia, diabetes, chronic liver disease and cirrhosis, nephritis, nephritic syndrome and renal lesions, arthritis, asthma, chronic obstructive pulmonary disease and AIDS. The proportion of Americans over 65 with chronic diseases approaches 75%. According to the Ministry of Health and Welfare's 2017 survey of the living conditions of the elderly, about 41% of Taiwanese people between 55 and 64 have chronic diseases, increasing to 65% for those over the age of 65, and the proportion of people with chronic diseases increases with age in both sexes. In addition to the increase in the proportion of people with chronic diseases, statistics from the Ministry of Health show that the proportion of people over 65 years of age with chronic diseases has increased year after year.

There are three main reasons for the dramatic increase in chronic diseases: the rapid growth of the elderly population, health risk factors (such as smoking) and insufficient physical activity. As the number of chronic conditions increases, the risk of a person's daily functional decline, hospitalization, or even premature death increases significantly. (US CDC data, 2018)

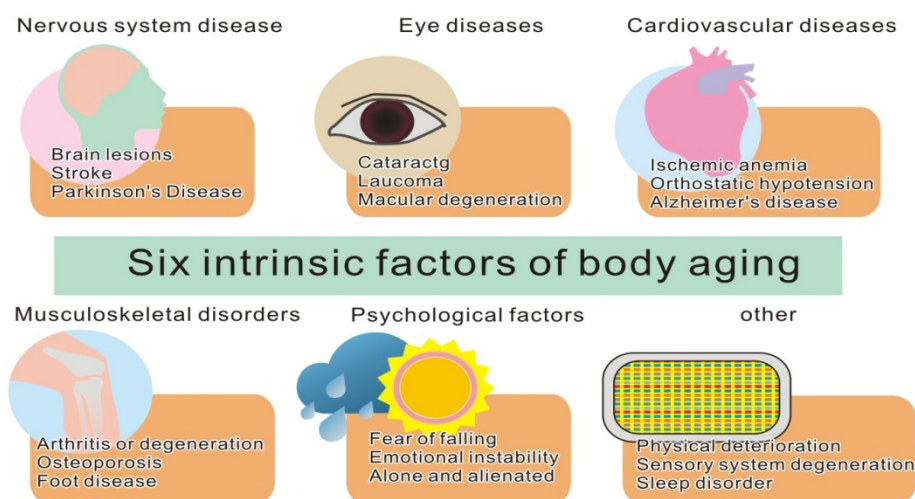


Figure 2.3 Six internal factors of body aging Source: Geriatrics
This graph is compiled and produced by the researcher.

Chapter Three Research Methods:

The researcher applied in-depth interviews and observations to collect data to understand the missing factors in garment design. Through observing the body shape and stature changes of elderly people aged 65, 75 and 85, the layout was designed to further understand the influence of body shape on the design direction of elderly people's clothing.

A. Changes in body shape of front, back and sides of 65, 75, and 85-year-old males

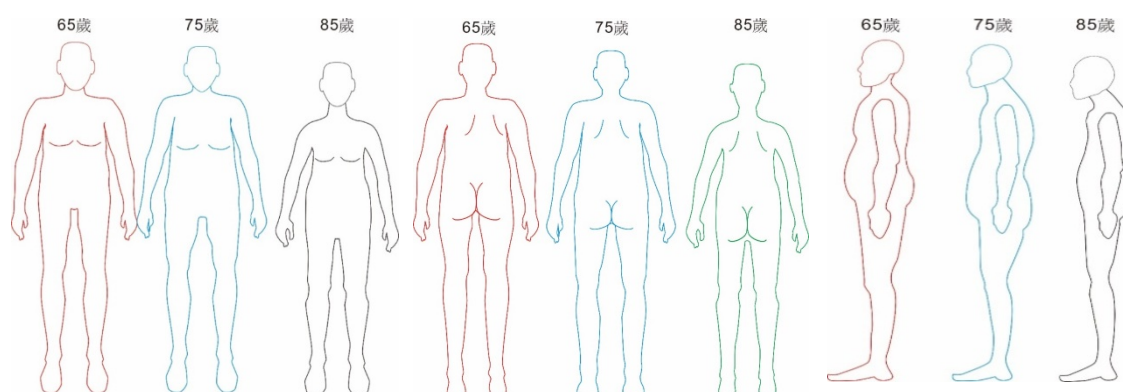


Figure 3.1 Changes in front, back, and sides of 65, 75, and 85-year-old males.
Plotted in this study is compiled and produced by the researcher.

B. Changes in body shape of front, back, and sides of 65, 75, and 85-year-old females

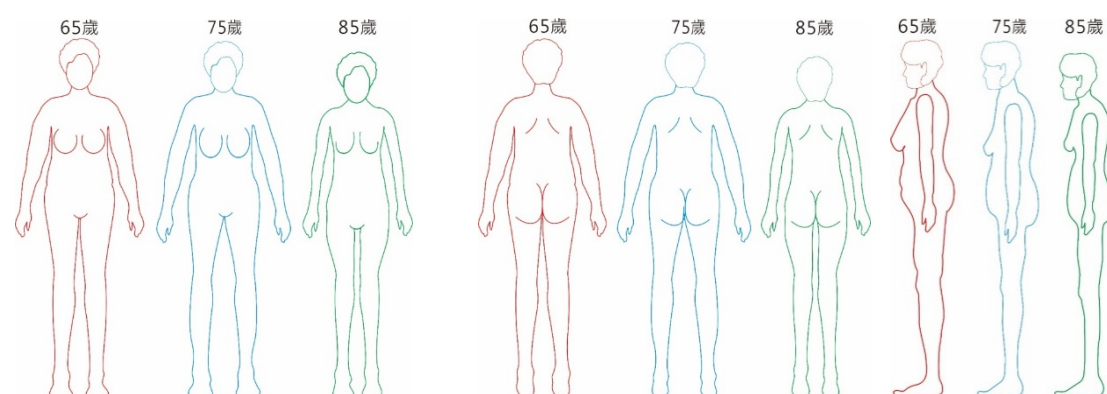


Figure 3.2 Changes in front, back and sides of 65, 75 and 85-year-old females.
Plotted in this study is compiled and produced by the researcher.

In-depth interviews were conducted with elderly people with physical and mental disorders to improve or change the inconvenience in daily life clothing, and design the protective or adaptive clothing related to chronic diseases and related physical and mental disorders.

The chronic diseases and physical functions of elderly people make it difficult for patients to dress or put on clothing, affecting their opportunities and willingness to go out and interact with others. It is important to consider how to keep your clothes from being affected by illness and physical function, and to try to be as decent and generous as possible. The observation of the clothing of elderly people shows that

chronic diseases and physical disorders cause inconvenience to the existing body, and that clothing can help to improve the daily life capability/function.

How clothes can improve wearing inconvenience (e.g. stroke, loss of intelligence - limb disorders: wheelchair use, chronic diseases: urine bags, drainage devices).

Through in-depth interviews, the researcher clarified the chronic disease inconveniences and needs of the elderly, compiled the data, designed the related physical and mental disorders modest apparel (or adaptive clothing), and then, through the experimental method, made the related clothing in order to improve the psychological and physical comfort. The researcher found that adaptive clothing can help people with ageing disabilities gain independence and confidence in their lives.

Who can benefit from wearing modest apparel? including:

Special Need	Associated Problem	Adaptive Clothing Solution
Alzheimer's Disease	Individual disrobes at inappropriate times.	Locking Clothing
Oedema	Swelling of feet and legs leads to difficulty wearing conventional footwear or pants.	Adaptive Shoes and pants are adjustable in size and offer non-restrictive closures.
Incontinence	Reduced bladder control and urgency	Clothing that can be removed easily and quickly and can accommodate incontinence aids discreetly and comfortably.
Parkinson's Disease and Arthritis	Loss of fine motor skills	Buttons and zippers are replaced with easy touch Velcro or magnetic closures.
Contractures, Arthritis, Paraplegia, Quadriplegia	Inability to bend muscles or move joints	Open back clothing which allows the clothing to be put on frontwards, eliminating the need to bend or rotate muscles or joints.

The caring design of the elderly's modest apparel makes the wearer appropriately dressed and comfortable. First, understand the advantages and disadvantages of the body, adapt the advantages, and cover up and correct the defect. Second, pair the occasion with suitable clothing colors, and using bright colors, can increase energy, vigor, and delight. Third, use functional fabric clothing products to provide comfortable and flexible leisure clothes. The idea of "improving self-care ability" is

injected into the design. Based on the relevant theory of comfort and functionality of the garment, it will be an innovative functional design idea for the elderly garments.

Chapter 4 Creation

4-1 Chronic Disease Clothing Design Series

Alzheimer's disease (a disorder of the brain that causes memory loss and trouble with communicating), Parkinson's disease, and stroke are the three major diseases of the elderly, with significant health effects. The main symptoms are hand and foot trembling, stiff, slow motion, and unstable standing. According to a World Health Organization 2018 publication, Alzheimer's is the world's fifth leading cause of death, behind ischemic heart disease, stroke, chronic lung obstruction, and lower respiratory infections. Among high-income countries, Alzheimer's is even third (Qiu Mingzhang, Tang Liyu, 2009, Guideline for Care of Mental Retardation (unpurified water culture)), and Alzheimer's is the most common disorder.

Clothing for adults with special needs, who may need to help themselves or their caregivers dress. Anyone with special needs can meet their suitability. For those with special needs, wearing a simple T-shirt can help make it easy. By using the antibacterial deodorization cloth and the metabolic activity of the micro organs generated by the antibacterial agent, the proliferation of the cells, the growth of the odor cells and the formation of the odor on the textile can be inhibited, so that the wearer can experience a comfortable and healthy life.

The application of light reflection safety material requires a loose or telescopic relaxation design when meeting the activity can also improve the suitability of the clothes, can enhance the visibility of the wearer in the bad sight conditions or critical situations at night, and reduce risk.

Modest apparel design A.
Chronic Diseases Clothing Design Series: One-Piece Top



Creative ideas:

This series is designed for stroke hemiplegia patients with arm disability and movement disorder.

For the design of the clothes for the disabled, caring design, the focus of solving the problem is how to use the healthy single hand to complete taking off the clothes.

The designer applies the PTFE/PU composite film bonding technology to fabric with water proof and moisture permeability.

The collar seat is matched with the sharp angle upper and lower collar of the 1970s style and the clothes body is designed in different colors; the clothes are in a piece structure; the opening of the clothes is arranged on the left side (opposite to the same); the pocket of the left front slice is extended with a belt which uses the activity of the left upper limb to finish putting on the clothes.

The adjustable length of the sleeve is designed for the wheelchair user to avoid the influence of hook movement, the sleeve is not too big or too long, and the width of the back is slightly larger than the width of the front chest in the clothing structure.

The length of the back is shorter than the length of the front sheet, the friction of the back coat pendulum is reduced more than the cloth, the modified design and the hidden additional parts are helpful for the people with the wearing difficulties to more easily carry out the self-wearing and the garment has a moisture-proof and water-proof safety protection function.

Modest apparel design B

Chronic Diseases Clothing Design Series: Wheelchair pants for lower limb care



Creative ideas:

These pants are designed for stroke, spinal cord injury and wheelchair patients.

In the design of the wheelchair patient, the opening and closing mode of the front side can prevent the user from affecting the wearing and disengaging performance due to the narrow space of the chair surface of the wheelchair. The invention takes into consideration the pulling of the waist, the hips and the knees, increases the design of the relaxing amount of the trousers and the appropriate loosening amount of the thigh, reduces the stacking fold when keeping the sitting position, reduces the drawing of the cloth of the knees and the hips, and, increases the overall appearance of the front, the side, and the back of the trousers.

When observing and caring for the wheelchair bound, because the lower limb is unable to lift the legs, the patient is not accustomed to placing the feet on the pedal, the invention is designed to add an annular band at the thigh and the lower leg. The band can conveniently be used to lift the feet to the foot pad by a hand, so as to prevent the feet from being dragged and injured on the ground. The invention is characterized by: the design of a loose belt is applied to the back waist of the trousers; the cloth at the opening of the trousers is connected with the waist of the trousers by a Velcro patch; the Velcro patch can enlarge or reduce the waist of the trousers according to the requirements, avoiding zipper and the button complications.

The functional professional surgical cloth (Ever Surgical Textile Level 3) uses the PTFE/PU composite film bonding technology, so that the wearer has waterproof, moisture permeable, soft and static-proof safety functions.

4-2 Apparel Design Series for Physical and Mental Disorders - Mouth-making apparel and cancer

In the 2009 “White Paper on Health 2020,” the Ministry of Health and Welfare of the ROC Executive Yuan listed the health protection of the handicapped as part of the national health policy for the first time (Wang Kuo-yu, 2008). According to the Survey of Living Conditions of Persons with Physical and Mental Disorders conducted by the Ministry of the Interior and the Labor Council of the Executive Yuan (2013), from 2011, physical and mental disorders accounted for 35.58% of the largest proportion of the categories in China.

What is Colostomy? During the operation, a portion of the colon or rectum is cut off, and the end of the colon is sewn on an opening in the abdomen, thus becoming a colon-shaped mouth (false anus). Because the incision is sewn on the abdomen, it does not contain a sphincter to control the excreta, so the feces can be directly discharged out of the body at the colon incision. Patients themselves do not feel the ejection, nor can they control their discharge, so they need to put a pocket in the location of the mouth to collect feces (Colostomy care).

When designing clothing with an opening for Colostomy care, it is particularly necessary to pay attention to the common problem of skin sensitivity, because the following conditions can cause inconvenience in wearing clothing: being allergic to mouth material and the feces often contacting the skin. The invention adopts the following characteristics: use of antibacterial cloth; the shirt-style simple

manufacturing style; the left front sheet retains more cloth; the upper sheet and the lower sheet are made into detachable clothes body for cleaning the mouth; a hidden mouth-making pocket is designed; the mouth-making pocket is safely stored; the mouth-making weight of the patient is reduced; the growth of bacteria and fungi is controlled, the smell of disturbing people is eliminated; and, the confidence and dignity of the patient are increased.

The wound drainage tube bag can be arranged in the pocket which is specially designed in the interior of the clothes, and can move along with the wound part and change the size of the drainage tube bag, so as to avoid pulling and sliding of the drainage tube. The present invention can restore the social function of the patient and reduce the patient's sense of disease. The design allows a cross valve urine release switch of the urine bag to leak the urine from the skirt, skirt, and skirt without taking the urine bag out. The design allows the urine to be removed from the skirt, skirt, skirt, skirt, and skirt. Urinating bags are also a constraint, and clothing design promotes the idea of zero-constraint care, so that old people get sick and still have dignity and security.

Modest apparel design C

Chronic Diseases Clothing Design Series-Multifunctional Postoperative Care Clothes



Creative ideas:

The dress is designed for the patients with the drainage bag of breast cancer after operation, a large intestine cancer pocket, and a urine bag.

The body was cut in a fit, showing an obvious waist, and showing the woman's graceful posture. The colors are diverse, light pink, light yellow, dark green, light blue, and the style is no longer a simple "robe-and-vest" style, with a separate jacket and trousers, a wrapping suit and a shirt suit. The colorful patient clothes not only make the cold and ice ward more warm, but also make the clothes pleasing to the eye and convenient to wear.

The shirt-style dress has simple and special charm by using the moisture-permeable water-proof composite film to fit the cloth; the skirt wave cutting and expanding design is to increase the circumference of the skirt pendulum, so that the body has a larger movable space in the skirt; the length of the skirt is designed above the knee, which is in line with the human engineering. The upper body is sewed to fit the garment, the shirt is deconstructed and layered, and although the tradition is broken, clear and identifiable elements of the shirt are retained, and the body, the sleeves, and the collar are cut in different colors. An opening is formed at the front chest along the collar and shoulder, which is convenient for patients needing intravenous injection treatment. The opening at the side of the sleeve makes the patients with drips more convenient to wear and remove, thus reducing the trouble for nursing personnel. The patients with a drainage pipe on the body can place the drainage bag in a hidden drainage pocket at the inner side of the waist, and the hidden drainage pocket can be adjusted with the condition of the patients.

The hidden urine bag of the seam on the inside of the skirt solves the problem that the patient needs to carry the urine bag when moving, and the urine guiding tube and the urine bag with the urine are exposed to the outside, thus causing the patient to feel awkward.

Chapter 5: Conclusion

Ageing, like every process of life, is confusing in the moment and hard to define, a natural journey of life, but a disturbing one in modern society.

In the past, people have had more time left after retirement, but the risk of mental disorders is rising in the face of significantly extended old age, physical organ degradation, cognitive decline with age, chronic diseases and physical and mental disorders of elderly people. According to a survey conducted by the Ministry of Health and Welfare in 2017, the number of people aged 65 and over with chronic diseases, such as arthritis, dementia, heart disease, cancer and diabetes, increased by 65%, with both men and women having increased maladies with age. The Dementia Association's Prevalence Survey shows that the proportion of the elderly is also increasing year by year, and will become larger over time. According to a study of mental development for 18,000 people aged 20-76, 34% were dependent, 56% were independent, and less than 10% were successful in switching into symbioses.

The researcher, who obtained a First Class Women's Clothing Technician Certificate in 2017 and incorporated aesthetic style and design to allow older people to consciously pay attention to the clothes they wear. The convenience and functional design that meets the physiological and psychological needs is called caring design. This paper discusses the caring design of clothes for the elderly with chronic diseases and physical and mental disorders. It is difficult for the elderly with chronic diseases and physical and mental disorders to live in daily life. For example, when the wheelchair is used, how to make the clothing easy to wear or adapted to assist those with chronic disease, so that the elderly can live with dignity. The study of the characteristics of functional fabrics allows elderly people with chronic diseases and physical and mental disorders to pass through the function of clothing, enables them to feel more confident about their lives, and helps them once again rediscover their meaning of life.

The third act of a drama is where the climax lies. From the beginning, the middle, the end...How to live a solid, wonderful life? How is life's happiness defined? How to pursue the goal? Living a happy old age. Because our bodies may degrade or disappear over time, but the spiritual level is always upward, and the inability to reconcile physical and psychological development is the greatest challenge we face in our ageing process. Life is not about ageing, it is about living, it is about living well.

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