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Videoconferencing to improve communication and well-being of elderly in care home

— Relatives' perspective

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Abstract

With the growing number of elderly and the prevalence of loneliness and isolation today, there has been a growing interest in using technology to enable them enjoy the ageing process while still in contact with their relatives in order to boost communication and improve their well-being. The aim of the research is to study the perspective of relatives' on improving communication and well-being of the elderly in care home by videoconferencing. The potential effect of this concept intervention is based on Pender's Health Promotion Model with the purpose of improving health and social interactions between the elderly and their relatives who live far away from them.

Using a quantitative method, the focused group were those who have elderly in care home. Fifty-six respondents answered the online survey. The twenty-eight questions were related to the key research questions and aimed at identifying the actual viewpoint of relatives regarding the intervention, their concern about communication and the well-being of the elderly. Google Doc Survey Analysis Tool was used to analyse the data collected.

The results showed that relatives have positive expectations about the videoconferencing intervention and its potential to reduce loneliness, increase well-being and communication of elderly in care homes. Thus, the application of Pender's model is suitable to improve well-being and communication as well as other situations that would enhance mental, physical, emotional and psychological health of the elderly especially by nurses and the managements in care homes. Granted, the cost of the videoconferencing concept and technology can be high but when the cost of loneliness and poor well-being of the elderly in care home is higher, then there may be the need to ensure that the implementation of the videoconferencing designed for older adults are facilitated based on the real need of the elderly ones based on their relatives' perspective.

Language: English Key words: Elderly, Loneliness, Care home, Relatives' perspective, Communication, Well-being, Videoconferencing

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1 Introduction

As a result of the world's rapidly changing scene, it has embraced technology in its various forms and complexity. It has been integrated into everyday life (Eurostat, 2017, p. 112; Schuster & Hunter, 2019, p. 1186). These include the world of education (Ball et al., 2018), communication, social lives and networks (Ellison et el., 2011; Morris et al., 2013; Rasmussen, 2019), transport (WHO, 2018), political processes (Kreiss & Mcgregor, 2018), research, investigations and artificial intelligence, transactions, in almost everything surrounding us, ranging from household gadgets and extensively in the health sector for diagnosis, operations, and treatments with outlined benefits, just to mention a few. The numerous roles it plays in our everyday lives are inexplicable (Feenberg, 2012; Piau et al., 2014, p. 97). However, the number of end-users of technology irrespective of age, as well as the interest in it, keeps growing; its side effects are not unseen or ignored including the fear that technology development will do more harm than good to help solve obtainable concerns of the world (Chu et al., 2011; Marston et al., 2019).

Notably, several barriers still arise, limiting its full potential and benefits. It attracts costs in terms of implementation (Vaportzis et al., 2017, p. 9) especially if the technology is complex, its interconnectivity among users, high cost, willingness of end-users to accept it, train and understand how to use it as well as usability including respecting the ethical rights of others especially when it comes to health and care services for the elderly (Piau et al., 2014, p. 97; Pires et al., 2018, p. 273). Although the elderly may have a low adoption rate of technology due to several reasons (Eurostat, 2017), they often show greater interest when they see its relevance to their health and well-being (Abdullah et al., 2011; Heinz et al., 2013; Vaportzis et al., 2017, p. 9 & 10).

The motivation behind the choice of topic is based on experience during my nursing practices in elderly care home. There were situations whereby a spouse in a care home practically shed tears and refused to take medications, eat or drink, wept over the fact that the spouse was not residing there as well as the deep feelings of loneliness. Efforts were made to invite the spouse, who is elderly as well, to the care home. The spouse came, fed and gave the medications as the client willing accepted them, thereafter the couple dined and communicated for a considerable time. As a result, the situation improved and the client's well-being was restored at that moment. Another situation was that an elderly client never had a visit from any relative throughout a whole year. The situation was seemingly inevitable because the only relative of the elderly, who is the only child of the

client live abroad with the family and that relative was also approaching the ageing stage too. Crying over loneliness is quite emotional especially for the elderly and not being visited at all can be traumatic especially when the elderly sees fellow residents being visited by their relatives.

There are some researches that have established the success of the use of video-phones in nursing home basically to promote social interactions and connectedness, there are other studies about the use of videoconferencing for virtual home visits and video communication for aiding doctors with patients' consultations. Furthermore, past studies have highlighted aged peoples' degree of acceptance of new technology (Heinz et al., 2013) and other works have presented suggestions about videoconferencing, pinpointing its health productivity on the elderly. Therefore, the research seeks to consider relatives perspective on videoconferencing, their degree of acceptance and view on improving communication and well-being. The study concentrates on two areas, those aged who live in care home and those relatives who live distance away from the care home where their elderly resides.

1.1 Ageing

According to Britannica, The Editors of Encyclopaedia (2018), old age in human beings refer to the ending stage of the normal human life span. Sometimes the definitions of old age can be inconsistent if considered from the biological point of view, however, old age, aging or ageing is commonly demarcated as 60 or 65 years of age or older. Those in that age bracket are prone to the risk of social exclusion and vulnerable to isolation and loneliness (Aung et al., 2017; Fakoya et al., 2020, p. 2; MacLeod et al., 2019, p. 77).

Ageing is an inevitable phenomenon (Trybusińska & Saracen, 2019a), a major global challenge (WHO, 2021) and increasing age means a decline in physical, functional and psychological definitions (Flatt, 2012, p. 1; WHO, 2021). The pace at which the world's population is ageing is strikingly faster than decades ago and the number will double by 2050 (Eurostat, 2017, p. 7; United Nations, 2017). In 2010, about 13 percent of the population in the United States were sixty-five years and above (Bookman & Kimbrel 2011, p. 118). In 2015, the number of elderly ones aged 60 years old and above worldwide numbered 900 million but by 2050, the world's population of this group is projected to total about 2 billion. In the recent times, statistics shows that about 125 million people worldwide are already aged 80 years or older while China alone will realize almost 120

million by 2050 and the world's population will host 434 million in this elderly age group at that year (WHO, 2018). Italy is the country with the oldest population in Europe (21.4%) and Sweden falls among the group as well with 19.4% of the population being elderly, aged 65 years and above (Ilinca et al., 2015, p.6 & 8). Eurostat (2017, p. 16) stated that the number of elderly aged 65 years and above is growing in every EU Member State. A large number of European countries as well as Brazil, Japan, China and India will need preparative measures to adapt to the switch or shift to ageism and population ageing (WHO, 2018). In general, humans are ageing rapidly and it comes along with health complications (Czaja et al., 2019; Linehan et al., 2014, p. 4). Therefore, the need to establish suitable measures to take care of those in the age group so that growing old becomes a cheerful period in an ageing friendly environment and would not mean being less healthy, socially isolated or rejected by the family and the society as a whole (Bookman & Kimbrel 2011, p. 117; Dury, 2014).

1.2 Cultural differences in caring for the elderly

Notably, traditional cultures have various ways of taking care of their elderly ones (Roberto & Blieszner, 2015). Some cultures expect close and much interdependence on their children (Bai, 2020, p. 258). So, they live with their adult children mostly adult females due to the conventional reliance on them for manageability of care and health in the home (Bookman & Kimbrel 2011, p. 118; Roy et al., 2018, p. 25; Shu et al., 2011). Also, they are often obliged to assume that responsibility in being more central in the caregiving role as the profamily ideals would likely transmit the role to them (Morgan et al., 2016, p. 617; Oladeji, 2011, p. 3). Some elderly live in their own homes where relatives will be around the community whilst their regular regime and security is maintained and they receive care there (Fjordside & Morville, 2016; Palm, 2013; Randström et al., 2013) while others prefer or are arranged to live in nursing homes to live the last stages of their lives since it is not unusual to expect the death of elderly ones who reside therein (Damiani et al., 2011; van der Steen et al., 2012).

In few cases their children show little willingness to cohabit with them (Dong et al., 2020, p. 2; Rioux, 2010; Yuesheng, 2014) thus the use of formal home care services (Hoover & Rotermann, 2012). Nevertheless, most of the elderly ones have a preference of staying in their own homes, as they benefit psychologically from ageing in known environments to which they have habituated and have become accustomed over the years (Bookman & Kimbrel 2011, p. 121; Piau et al., 2014, p. 106), choosing to remain independent as much

as possible and have a home death (Calanzani et al., 2014, p. 8; Canadian Institute for Health Information, 2011; Gomes et al 2013). As asserted by Heathcote (2012, p. 7), choosing their own home is because their home is linked to their identity and they do not wish to be separated from it. Furthermore, they have built their lives within and around it. Among these various ways of caring for the elderly, this research would focus on care homes.

1.3 Care homes

Care homes are places where personalized services are offered to small groups of adults, often elderly and they provide accommodation, meal services and more significantly giving assistance with the Activities of Daily Living (ADL) (Karlsson et al., 2020, p. 53; Piau et al., 2014, p. 106) when the elderly or family members are not able to provide such care and support (Bai, 2020, p. 255; Bookman & Kimbrel 2011, p. 123). Decisions made about moving into care homes are indeed very important since they involve financial cost (Bookman & Kimbrel 2011, p. 117; NHS, 2019). Care homes differ based on the different levels of care being given. Care homes can include those that do not provide nursing services and those that do. Care homes which do not provide nursing care are sometimes called residential homes because they cater for the clients' personal care and needs only but, when necessary, registered nurses and doctors are called in. Care homes where nursing services are provided are called nursing homes where they care and attend to the clients who have complex clinical requirements that would involve regular observation from registered nurses (Morciano et al., 2021, p. 2). This research will refer and consider both homes, that is, care homes with and without 24 hours on the spot nursing staff as well as private home care services as same or can be used interchangeably (Gordon et al., 2014, p. 98).

Notably, in some situations, some of these residential homes are far away from the location of their children or perhaps the close relatives live farther away (Niebler et al., 2019, p. 181) or work abroad (Bai, 2020, p. 256; Ermisch & Mulder, 2016; Gillespie & van der Lippe, 2015) which makes visiting regularly a challenge. The use of technology is presumed to create an atmosphere of connection and bond the family ties, thereby having an impact on the lives of older adults and enhancing affection with their families (Hope et al., 2014; Marston et al., 2019). Hence, the origin of the idea of videoconferencing in care homes including in homecare settings. There may exist an assumption that the well-being

and communication between the elderly and their relatives may possibly be improved, especially if they live miles apart or perhaps there has emerged an urgent reason why relatives need to physically stay away from their older adults.

1.4 Availability and access to technology

Nonetheless, certain barriers may exist. It can be appreciated that older people may be sceptical about the use of technology (Licciardello et al., 2016, p. 38; Norval et al., 2014, p. 3924; Vaportzis et al., 2017, p. 10) or may prefer to use it only for most important reasons such as to solve issues of social isolation, safety purposes and information dissemination. Nevertheless, some older individuals have limited access to digital technologies or interventions and they do not have the knowledge or required skills to completely utilize them or due to physical impairments (Lee & Coughlin, 2015; Neves et al., 2015). As reported by ITU News (2018), approximately one-half of the world's population have internet access, however, older persons are persistently found to be unexpectantly offline. For example, Age UK (2016, p. 1) reported that in the United Kingdom, 4.2 million persons who are 65 years and older have never accessed or used the internet for any reason. In some situations, they have minimal knowledge about how to access into it and those who are able were well informed with high social status (Marston et al., 2019).

Meanwhile elderly persons in less technologically advanced countries are least likely to use or have access to digital technologies and as for those elderly living in care institutions, they may perhaps be struggling to obtain the needed support in order to connect with their family and relatives (Bai, 2020, p. 256; Poushter, 2016). But elderly ones who are aged 65years and above in technologically advanced countries, such as the United States of America, use the internet especially Facebook for social reasons and the rate has risen from 45 percent to 56 percent within 2013 and 2014 and efforts are being made to encourage them on that track in order to enhance their well-being (Duggan et al., 2015, p. 5; Ríos, 2017, p. 4). The elderly in China have expressed satisfaction with their lives due to the use of technology to curb isolation (Zhou, 2018). Even though studies have revealed that ageing increase the hindrance to the use of technology (Lee et al., 2011).

Fascinatingly, the rapid rise in the number of elderly aged 65 years and older who make use of the Internet has swiftly increased in recent times, signifying an optimistic attitude towards technologies (Age UK, 2010). Although there has been fears that technology may

possibly replace face-to-face communication or personal interaction and that it may subtly intrude on confidentiality and privacy including the question about ethical issues (Cornejo et al., 2013; Nyemba et al., 2011; Vandemeulebroucke et al., 2018). However, several reviews have reported huge successes and very high score of satisfaction with telecare and telemedicine especially among older adults in as much as it improves the health outcome of the elderly (Butcher, 2015; Newbould et al., 2017; Tsai & Tsai, 2015; Wade et al., 2015).

1.5 Technology and the elderly

The use of technology to connect people in different locations and to interact especially for elderly clients in nursing institutions with their family members may serve as an alternative to face-to-face visits but not a replacement to the physical contact which is highly appreciated (Ellison & Boyd, 2013, p. 158; Johnston et al., 2012; Özsungur, 2019). This is because frequent or regular physical and social interactions are strikingly linked to positive affect, vibrant health and longevity (Sander et al., 2017; Vogelsang, 2016: Zheng et al., 2019, p. 11). Also, Read-Paul et al. (2019) suggested in their study that mobile web-based videoconferencing stands a chance of being achievable, suitable, and a productive method of bringing the distance between elderly ones and their families closer despite the challenges of advanced age and feebleness. In some instances, some relatives have great bonds and ties with their parents or elderly but they have to leave these elderly ones perhaps to distant workplace (Bai, 2020, p. 256; Ermisch & Mulder, 2016). Hence, they wish to continue and preserve their social relationships with the elderly so that in the event of losses in later life, it would suffice as a source of comfort and this channel may promote the connection and social support that they need (Lin et al., 2016, p. 383; Stephens et al., 2015, p. 721). This shows that situations like these are considered to be amenable or controllable through technological interventions (Berrut et al., 2013; Khandelwal et al., 2012) in as much as technology can serve as an assistive device to the elderly, for instance, the use of assistive robots, robot animals for lonely elderly with emphasis on communication systems (Brown et al., 2019; Khosravi et al., 2016; Nekham, 2021, p. 22; Vandemeulebroucke et al., 2018; Vandemeulebroucke et al., 2021).

2 Background

It is important to acknowledge the fact that people are living much longer and this is projected to increase by 30% among the elderly people in the world by the year 2060 with

most of the cases happening in the advanced countries especially in the European Union and America (Eurostat, 2017, p. 16; Niedzwiedz et al., 2016). An estimation of more than 25% of Canada's population will majorly be 65 years and older while 32% will be 80 years old by the year 2036 which means that the number of older adults since 2015 has long exceeded that of children below 15 years of age (Roy et al., 2018, p. 2; Statistic Canada, 2015; Statistique Canada, 2012). As humans age, they experience health changes throughout their life as well as changes in their connections with families, friends and social makeup (Sachs-Ericsson et al., 2014), however, they still appreciate their freedom of choice and desire to be treated with respect and dignity (Linehan et al., 2014, p. 6). The WHO (2020) defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". In a broad sense, health includes well-being and the capacity to manage and function despite debilitating health. Older adults' physical and emotional state such as their sensory function, happiness and the nature of their relationships with others is very important because it influences their health (Waite & Das, 2010).

2.1 Factors affecting well-being of elderly

Certain factors affect the well-being of elderly persons. It includes loneliness and anxiety (Hazer & Boylu, 2010, p. 2083; Li & Miller, 2017, p. 270), the power of resilience and the ability to cope with difficulties which raises the possibility to stay functional (Fontes & Neri, 2015, p. 1491; Tomás et al., 2012, p. 323), personal resources and attributes (Carmel et al., 2017, p. 621) such as good health status, continuous activity, optimism, high self-esteem, sense of meaning or mental health (Gerino et al., 2017, p. 7), interpersonal capability, spirituality, and social amenities such as social integration and networks (Fontes & Neri, 2015, p. 1491). For example, in Finland, most elderly ones have a strong will-to-live and this individual competence has augmented their survival level (Karppinen et al., 2012, 792). Therefore, it is pertinent that different strategies and empowerments are designed to meeting the needs of the well-being of the elderly (Carmel et al., 2017, p. 621; Djukanović et al., 2015). Furthermore, it has been suggested that measuring the interpersonal interactions of ageing persons is beneficial, certain devices such as the sociometric device has been used to monitor and promptly detect social isolation among them and such feedbacks have been used to analyse what and how to handle such social issues (Kang et al., 2010).

Among these other factors, loneliness has been classified as a significant public health issue as it causes early mortality, even as harmful as smoking, high blood pressure, obesity (Holt-Lunstad et al., 2010, p. 14 & 20) and this has instilled fear in most people as they worry about a probable decline in their quality of life and their future (Linehan et al., 2014, p. 4 & 20). Most especially for older ones in care homes where an increased probability to be socially isolated exists, hence, methods of decreasing feelings of isolation are scrutinized (Drageset et al., 2015, p. 1535; Nicholas et al., 2011).

2.2 Impact of loneliness and isolation on well-being of elderly

Prendergast et al. (2016) mentioned that "optimal wellbeing includes positive emotion, life satisfaction, happiness, meaning and purpose of living, positive relationships, and engagement". Well-being is subjective, it can be physical, social or mental. Among the noteworthy problems associated with ageing is loneliness. Loneliness is also subjective as stated by Lorenzen, et al. (2019) and can be measured using the various loneliness rating scales. More so, approximately half of elderly persons experience loneliness with a greater number of females experiencing loneliness when compared to males perhaps due to widowhood (Ausín et al., 2017; Bai, 2020, p. 256; Bookman & Kimbrel 2011, p. 124; Dahlberg et al., 2015; Trybusińska & Saracen, 2019a). Meanwhile some studies found males feeling more loneliness than females probably because women show greater enthusiastic spirit in building more social networks (Bai, 2020, p. 256; Hazer & Boylu, 2010, p. 2087; Rico-Uribe et al., 2018, p.13).

As reported by Hasan and Linger (2016) and Bai (2020, p. 254) the level of isolation increases when elderly ones are moved to care homes or when they have to live alone at their homes for a long period of time which often leads to a decline in social well-being. Coupled with the loneliness, they may also be having the thoughts that living in care homes may likely be a sign of loss of control and their autonomy (Calanzani et al., 2014, p. 8; Paque et al., 2018). Victor (2012) found out that older adults who resided in care homes have a higher risk of being lonely when compared to their counterparts who live within the community environment. Also, when there is a continued period of isolation, it may lead to serious effects on the mental health of older persons especially those who are unlikely to be technologically involved (Bai, 2020, p. 255; United Nations, 2020, p. 3).

Researches indicate a direct relationship between older adults' well-being, isolation and loneliness. The connection between social isolation, loneliness and well-being lies on the

natural instinct to satisfy our social needs as humans (Rico-Uribe et al., 2018, p. 14). Social isolation and loneliness are connected because the former is a risk factor for the latter to thrive on (Volicer & Simard, 2015, p. 966). There have been studies that linked social isolation to high number of deaths (Rico-Uribe et al., 2018, p. 14), health declination, morbidity as well as depression (Gardiner et al., 2018). Hope et al. (2014) and Neves et al. (2018) revealed that the high rate of social isolation in elderly is due to the preference of maintaining the relationships they already have made over the years rather than building new ones in their later lives. Isolation predicts poor health and well-being and the effect of isolation and loneliness can be harmful to health in elderly and it can cause declination of cognitive abilities, sensory dysfunction, loss of interests in relationships, low quality of life, poor appetite, diet and health (Pantell et al., 2013, p. 2059). Some of them feel unfit and deficient socially due to negative health states. The outcome of a research on these concepts indicated that they have adverse effect on the well-being of older adults and a greater number admitted and disclosed their causes of loneliness as lack of friends and absence of family and relatives. It is important to understand the factors that leads to it and initiate steps to protect them from experiencing it to a high degree (MacLeod et al., 2019, p. 25).

2.2.1 Prevalence of loneliness and isolation

As claimed in the study by Statistics Finland (2019), the prevalence of loneliness occurs among the elderly population who are seventy-five years and above and it certainly has an influence on their well-being. In line with European Union Science Hub (2018, p.1), approximately seven percent of the elderly in Europe are said to be constantly feeling alone. Four percent of the seven percent are in Finland. A quantitative study carried out in Finland, Poland and Spain by Rico-Uribe et al. (2016, p. 10), discovered that although a number of the elderly are lonely, Finland however emerged with slightly lower rate of loneliness in the elderly when compared to Polish and Spanish older adults as there existed a great coherence between loneliness and its effect on the health of the aged.

Evidence shows that there is significant correlation between loneliness and depression, various heart problems, increased alcohol consumption, Alzheimer's disease in those who experience loneliness in contrast to individuals who are not lonely (Bai, 2020, p. 257; Holt-Lunstad et al., 2015; Lin et al., 2016; Rico-Uribe et al., 2016). In the United Kingdom, about six to thirteen percent reported how they often or always feel lonely while 43% of older adults aged 60 and above are reportedly lonely in America (Linehan et al., 2014, p.

10; Volicer & Simard, 2015, p. 966). According to the UCLA loneliness scale, all the elderly residents in the Malaysian nursing homes were lonely (Aung et al., 2017).

Research on health matters have shown the positive health impact on persons who socialize which invariably means that loneliness can have adverse effects on quality of life and consequently reduce longevity especially if this silent ailment is not curbed (THL, 2020). Therefore, loneliness due to lack of social relationships as well as connections or interactions should be controlled (Sønderby & Wagoner, 2013; Xia & Li 2018, p. 838). In fact, situations of the sort may threaten their social networks and those in care homes or those that receive care at home have the risk of being unduly affected by such physical distancing circumstances (United Nations, 2020, p. 3; Volicer & Simard, 2015, p. 966).

2.2.2 Suggestions to alleviating loneliness and isolation

In order to improve elderly people's well-being, suggestions such as increasing social interactions and communication between them and others especially their family relations are often highlighted. The United Nations (2017) reported that as the aged live longer, it becomes glaring that they live without the closeness of their immediate relatives which cause high rate of depression and poor general well-being. Hence, intervention and preventive measures are necessary to restore happiness and value to elders because the ageing process brings along missing links by initiating meetings and creating a network of friendship. These aim at achieving health benefits and improving communication (Wernhart et al., 2019).

Intervention measures in past studies have suggested individual and group interventions with the previous intervention being gardening, reminiscence and laughter therapy, pet therapy, reading and watching television and the latter interventions being keeping busy (Quan et al., 2020; Theeke et al., 2015). Also, organizing social and psychosocial activities, promoting social integration, arranging leisure activities (Bai, 2020, p. 257), online connections with Skype or Zoom meeting (Taylor & York, 2020) and eating dates as a channel for social contacts thus improving quality of life and social connections. The advent of technological advancement is very instrumental in healthcare with positive responses from the various innovations in the recent times (Business Finland, 2018; THL, 2020). Also, quality care may need the implementation of technology in order to achieve good health and self-care for the elderly (Kachouie et al, 2014).

Hence, earlier studies advocate for patients that are struggling with loneliness to resort to technology-based communication via video conferencing, internet provided mediums to reach out to people so as to solve social isolation and loss of autonomy (Baker et al., 2018; Chopik, 2016; Hagan et al., 2014; Zhou, 2018). Technology indeed plays a vital role in these kind of situations (Piau et al., 2014, p. 97). Telephone conference is also a way that recent study report is effective in minimizing loneliness in adults that use it for mindfulness training through which calmness prevails to enhance continuous social interaction with others (Lindsay et al., 2019).

The well-being of elderly persons in care homes and homecare environment includes reducing loneliness and isolation as much as possible. Just as listening to music can affect well-being, creating or planning effective ways whereby elderly ones can experience love and feel comfortable is paramount. Moreover, Gruijthuijsen and Vanneste (2020) stated how much loneliness is not prioritized and a report conducted by Linehan et al. (2014, p. 10) in the United Kingdom pointed that if loneliness is not counted as a prime concern, it is possible that in 2030, conditions such as depression and other ill-health problems will be on the increase. Therefore, the importance of wholly integrating a focus on the issue and ensure support when needed.

2.3 Impact of family or relatives on well-being of elderly

According to Waite and Das (2010), families are of significant importance especially in old age, more so when they function as essential sources of social and emotional support. Tsai and Tsai (2011, p. 2) pointed that social support includes emotional sustenance and a major element of social support for elderly persons in care homes or in homecare is the continuous involvement of family members which improves emotions. Elderly ones have experienced shifts in family patterns over their life course down to the period of either ill health, retirement, loss of a spouse and with children leaving home (Coelho & Duarte, 2016). Relatives and families contribute to life's happiness and purpose for living. Families supply a major environment to achieve health and well-being and challenges to happiness can be overcome (Bai, 2020, p. 255).

Family involvement and functioning is an effective defence against loneliness for the older adults and promoting well-being (Barbosa et al., 2019; Lindley et al., 2009; Zhou et al., 2018). A well-functioning family enjoy positive communication about family life and among family members, thus increasing well-being of all (Shen et al., 2017, p. 8). In fact,

for adult children, it is necessary to provide care and are the primary source of support to their elderly parents or relatives as support banks (Oladeji, 2011, p.1). In line with Trybusińska and Saracen (2019a), the elderly ones develop greater loneliness when they have no relations or communications with their family, however, they feel a relationship when they are within family environment. This is majorly because family members, and particularly the adult children of the elderly, are often the major players when it comes to parents' and their social networks (Bai, 2020, p. 257; Meijering, 2015, p. 2). Studies have revealed that those who have diverse sources of social support display better mental health than those with a more limited social network (Litwin & Shiovitz-Ezra, 2011). The presence of quality relationships triggers positive well-being and confidence, thus removing stress and occurrence of health consequences in the elderly (Neves, 2013; Wong & Waite, 2016).

Furthermore, one way to elevate their quality of life is by maintaining contacts with the family. So, apart from updating and educating family members about the state of their elderly ones, seeking support from family members to help deal with matters concerning loneliness is very essential. They can also play the role of caregivers if they are well-informed about what to do and either by moving in with the elderly or vice-versa in order to alleviate loneliness and maintain a close lasting interpersonal relationship between them (Barbic et al., 2014, p. 2869; THL, 2020). Better still, adult females or daughters' have greatly participated in providing good care, more personal relationship with elderly ones with positive outcomes of caregiving and alleviation of older adults' anxiety (Bookman & Kimbrel 2011, p. 117; Chappell et al., 2013).

2.3.1 Family's contribution to well-being

The importance of family to the well-being of elderly ones cannot be over-emphasized (Oladeji, 2011, p. 5). As studied by Stephen et al. (2015, p.723), the closeness of family members has contributed immensely to a sense of value and improved well-being. Remarkably, the health and well-being of the elderly and their family members and relatives depend on one another. Waite and Das (2010) admitted that families play an important role when issues about ageing and elderly are concerned especially for isolated nursing home residents. In a study by Calanzani et al. (2014, p. 8), families or relatives may even view care homes as being associated with being away or apart from family. Their need and desire for family companionship is stronger with ageing and levels of life uncertainty. A study by Aung et al. (2017) affirmed that the frequency at which family

members visit the elderly in their homes has a considerable impact on their functional abilities, health, and feelings of loneliness. So, contacts with their families are encouraged (Linehan et al., 2014, p. 10) and visits from their siblings, grandchildren (Lou, 2010, p. 386), non-kin social contacts (Bakshy et al., 2012) and distant family members have in a way increased the opportunities for social interaction (Trybusińska & Saracen, 2019b). Studies have shown that elderly who have children experience lesser loneliness scores than those without (Bai, 2020, p. 257). Nevertheless, it is not explicitly certain that older adults without offspring feel more loneliness than their counterparts who have children (Hope et al., 2014; Neves et al., 2018).

In various ways, all these contacts can provide diverse kinds of social resources (Ellison et al., 2011). Granted, few elderly persons have no family relations and many others do not live as a household. Families or relatives offer association and supports especially when these elderly ones have children who have grown and left home, or perhaps are single or have lost their spouse (Bai, 2020, p. 255). Even more does social isolation spell reality to them as they have lost physical and mental fitness. Roberto and Blieszner (2015) noted that ageing does not mean the elderly person had been living with no hobbies or personal desires or likes, they perhaps lost them due to physical constraints but family or relatives are most likely standing in the best position to rekindle and revive the enthusiasm they once had for such leisure activities. Also, older adults who are lonely can barely regulate their emotions and are therefore unlikely to create or adopt positive feelings to fight their negative mood which again emphasizes the need for support from family and relatives (Bai, 2020, p. 257; Wong et al., 2016, p. 2487).

2.4 Impact of communication with relatives on well-being of elderly

One key to healthy aging is communication and social connections and that explains why social isolation and loneliness pose risks and threats to health and well-being (Waite & Das, 2010). Social relationships make positive impacts and a difference in human lives as it influences survival rate and mortality (Holt-Lunstad et al., 2010, p. 9; Linehan et al., 2014, p. 10; Steptoe et al., 2013). Research carried out by Trybusińska and Saracen (2019b) as well as Cornwell and Waite (2009) showed that social connection is intensified when there is co-residence of families or there is an increased frequency of contact with relatives including the presence of children and grandchildren and that positively builds well-being and mental health. For most older adults, they still appreciate the value and benefits derived from mutual interactions with family and friends in their later years since

they make up their social networks (Bakshy et al., 2012; Bell et al., 2013; de Jong Gierveld et al., 2015, p.126 & 133; Goode, 2011). Similarly, most family members experience emotional distress when they part with their elderly ones into nursing homes. For example, if the elderly has dementia or cognitive impairments, relatives may be worried that not being with or seeing the elderly regularly will make the elderly not to recognise them anymore (Dewey, 2020). Family members may develop mixed feelings of uncertainty, defeat, blame and inadequacy and may have opted for a care facility only when no other option was left. It is imperative to design effective methods to stimulate communication and improve well-being of elderly with their families and friends (Dong et al., 2020; Trybusińska & Saracen, 2019b).

2.4.1 Lack of communication and well-being

Leading cause of depression in older adults in institutions was linked to the absence of social support from family, relatives and friends. Relatives of older adults in nursing facilities were respondents in a survey to evaluate the effectiveness of virtual communication between them and their elderly family members. It yielded positive outcome as communication with relatives became paramount to the older adults. Apart from uplifting their morale, it improved their health and well-being. Although some relatives may decline to such communication medium because of lack of interest, unwillingness to take part, too busy schedule or a feeling that video calling is not necessary (Shen et al., 2017, p. 8; Wang, et al., 2014). However, health and satisfaction in the later years can be improved when there is a positive environment for social relationships and communication. Nowadays, computers and web devices are comparatively affordable and internet access is obtainable almost everywhere. In as much as getting internet connection is considered very important, families with little earnings may manage to have it (Barnard et al., 2013).

Poor family function, communication or involvement in a care process of loneliness was studied by Zhou et al. (2018) and a correlation was identified between the high level of loneliness felt and the elderly social relationship with family and relatives. Even if social relationship exists, it does not erase the fact that loneliness can develop. Loneliness is completely avoided if the social relationship is relevant and meaningful to the elderly (Volicer & Simard, 2015, p. 966). Therefore, maintaining a more frequent contact is recommended. It was suggested in the study carried out by Hazer and Boylu (2010, p. 2088) that regular contact with older persons is necessary to ensure that they feel needed,

relevant and valued. This issue concerns local communities and agencies as well because they can use their position and authority to increase the provision of programs and services suitable for the elderly such as low-cost leisure or activities and including them at all levels of planning. In addition, creating the atmosphere where relationships can thrive such as providing free access to housing facilities that can grow and promote socialization are suggested to policy makers (Linehan et al., 2014, p. 10).

2.5 Communication, well-being of elderly and videoconferencing

Van der Pers et al. (2015) clearly suggested that close proximity may pave the way for constant communication between the elderly parents and their relatives especially for their adult children in the sense that they can significantly add to the well-being of their parents. If they are not able to stay in close proximity, then technological ways may be adopted, although the relatives' proximity to the care home or the ties between both parties can determine their perception of interventions (Dillman, et al., 2012). For example, Tsai and Tsai (2015) noted that relatives who lived closer to the care homes or homecare location chose physical visits over using video conferencing. Video conferencing is defined as a live, visual and interactive connection between two or several persons who live in different locations with the objective to communicate (Wiesemes & Wang, 2010). Teleconferencing has been effectively used to deliver information in the health care system specifically in psychiatry and homecare. Videoconferencing is "for assessment, management of health care, clinical support, and diagnosis". Therefore, video communication has aided doctors in consulting with patients (Newbould et al., 2017). The various purposes for videoconferencing have been defined. Apart from clinical use, technological innovations such as videoconferencing has been used to promote social connectedness (Masi et al., 2011) and social relationships by linking feeble elderly clients and their family members with a focus on introducing visual images of each parties participating (Tsai & Tsai, 2010; Van Der Heide et al., 2012). In consonance with the United Nations (2020, p. 3), situations when physical distancing or restriction of movements are recommended, there may be needs to include and strengthen social support measures for the elderly and that may comprise increasing their access to digital technologies and inclusions.

2.5.1 Use of technology and its impact

A pilot study evaluating how technology can assist patients with Alzheimer's disease and their relatives noted that patients can successfully stay alone for a short while without their

relatives at home but a monitoring centre via video camera will continuously observe the patient and even use visiophonic communications when needed to ensure safety. Technological devices have also been used to monitor activities of daily living (ADL) in elderly with the goal of helping caregivers make objective assessments of their precise need in order to be able to fix the appropriate care package required to take care of the situation (Piau et al., 2014, p. 99, 106 &107).

Additionally, technological infrastructure is seemingly proposing an ideal channel to improve well-being and communication barriers or problems among older adults. Thus, studies show that older adults that receive less telephone incoming calls are more prone to loneliness compared with their counterparts that have quite higher incoming telephone calls (Petersen et al., 2016). Lindsay et al. (2019) highlighted the importance of teleconferencing for mindfulness training for older adults. All together, these studies hold the view that technology holds a critical power in the efforts to mitigate loneliness as stated by Morris et al. (2014), that the use of internet in older adults curbs the feelings of loneliness. It creates close bonds and ties especially with family members and that is the motivating factor for using the internet (Delello & McWhorter, 2017; Tsai et al., 2015). Thus, technology enablement brings lonely adults into a network of people, friends and families. Such engagements promote relationship building, assures elderly ones that someone cares and understands the challenge being faced, thus may inhibit the possibility to slip through the net into loneliness (Pearson, 2019; Petersen et al., 2016).

2.5.2 Practicality of technology on communication

Research carried out by Tsai and Tsai (2010) on televisits tested the practicability of utilizing cheap videophones to strengthen communication between nursing home residents and their relatives for a period of six months. It involved the relatives of the elderly persons in care homes with the aim of assessing the effects of virtual communication on family members through video-phone. These older adults had cognitive disabilities however, the result indicated that the video-phone conversation made a positive impact in the elderly and it increased their anticipation to see their relatives via the medium. It highlighted the calmness and satisfaction they derived in the usage. Their general well-being was improved. Interestingly, most of the elderly were competent at using this means of communication. It further improved their level of alertness and focus on their environment (Lazakidou, 2011). Notably, the research established that video-phones can be utilized successfully in nursing home even though the elderly persons are weak and

feeble in order to promote social interactions, irrespective of the distance between them and their families.

This thus proved that video-phone technology proposes the opportunity to curb the rate of isolation and loneliness among older adults in care homes and their families and relatives who are distance away or have mobility limitations (Cornejo et al., 2010; Schuster & Hunter, 2019, p. 1192). Other researches on the use of videoconferencing by primary care givers in form of virtual home visits are on the rise and are being evaluated (Bradford et al., 2013, p. 11). It has been explained that it allows for a face-to-face type of visual interaction, thus increasing the feelings of bonding by creating social presence, successful communication and alleviating loneliness. Although there are assumptions that it may discourage the frequency of physical visits (Tsai & Tsai, 2011, p. 9; Tsai & Tsai, 2015).

2.5.3 Challenges of technology

However, some elderly ones may face the challenge of technology literacy and competency due to various reasons such as low education, lack of confidence or interest, fear or mixed feelings about technology, health associated barriers and more (Heinz et al., 2013; Ramírez-Correa et all., 2019, p. 8; Vaportzis et al., 2017, p. 5) which buttresses the need to be abreast with technology and its usage (Heo et al., 2015; Pearson, 2019). Interestingly, most elderly persons are willing to implement measures that will improve their well-being and interpersonal communication in as much as those measures are readily available and accessible to them (Abdullah et al., 2011; Gao & Cheng 2020). Therefore, it is suggested that the benefits and acceptance of video communication to connect with elderly persons and their families be emphasized especially for those who are separated by distance (Schuster & Hunter, 2019, p. 1193).

Furthermore, Jebbor et al, (2019, p. 75) highlighted on the need to adopt measures that will tackle the issue of overcrowding in hospitals which is progressively becoming a challenge facing hospital managers as well as the inflow of visitors to hospitals. Consequently, research investigated the advantages of video consulting and pinpointed that it helped to cut down hospital stays and visits (Wade et al, 2015). However, one of the disadvantages is the lack of physical connection which cannot be compared to the actual face-to-face discussions (Shen et al., 2017, p. 2 & 9; Wälivaara et al., 2013, p. 92), touches and hugs received if visit is physical. In addition, the benefits of video usage cannot be underscored as it draws financial benefits especially when patients have to receive care without

physically showing up at the hospital, it reduces the risks of travelling and it saves time and resources for both parties involved (Butcher, 2015).

More so, there has been a noticeable impact of the COVID-19 pandemic on well-being of the elderly ones during the situation of its spread (United Nations, 2020, p. 2). Care homes were recommended to reduce overcrowding and people are advised to stay at home as much as possible, restrictions were placed on visiting care homes and was much later explained that visitations were allowed only in exceptional situations namely at the end of life (Morciano et al., 2021, p. 2). This was important to avoid spreading the virus since one of the ways it is transmitted is through contact. The Ministry of Health and Welfare, Finland advocated "do not visit people over the age of 70, keep in touch, for example, by phone, do not visit hospitals or health care facilities and do not travel abroad, do telecommuting if you can" (THL, 2020).

3 Aim and research questions

The aim is to study relatives' reaction to improving communication and well-being of the elderly in care home via videoconferencing. Many of the relatives may have various challenges that make it demanding to regularly visit the elderly. Additionally, during ongoing pandemic where movements may be restricted, family members and relatives are bearing the feeling of fear, panic and doubts as regards their elderly ones residing in nursing homes due to the age factor and vulnerability which puts them at a greater risk especially when they have underlying medical conditions (Ayenigbara et al., 2020, p. 223; Neumann-Podczaska, et al., 2020, p. 989; Nguyen et al., 2020). Thus, the research questions arise:

1. How motivated and willing are relatives ready to sharing their time with their elderly ones in care homes or homecare via videoconferencing?
2. How practical do relatives see videoconferencing in solving the problem of limited capabilities to visit the elderly despite its drawbacks or benefits?
3. What is relatives' perception of videoconferencing in relation to improving communication and well-being of their elderly ones?
4. What do relatives think about remote interaction easing the tension and anxiety for their elderly ones in times of a pandemic?

4 Theoretical framework

Caring is one of the major features in nursing and several numbers of caring theories have emphasized on its effect on health and promotion of physical, emotional healing and well-being (Davidson et al., 2011, p. 24; Ray & Turkel, 2010). The earliest identification of caring was identified by Nightingale (1992) in the theory of nursing, who set the pace for caring as an essential part in nursing. Excluding the administering of medications, nursing included the appropriate use of warmth and care to ascertain the health need of patients with the aim of achieving increased health and comfort (Nightingale, 1992, p. 6; Nightingale, 1859, p. 70). Others such as Katharine Kolcaba's theory of comfort emphasized on providing comfort to patients physically and mentally, to give relief, ease and transcendence to them (Kolcaba & DiMarco, 2005). Peplau theory of interpersonal relations and Perlman recommended improving social behaviours between nurse and client as a means of treating loneliness (Peplau & Perlman, 1982).

Another important fact is that in the ageing process, social well-being, life satisfaction and mental condition are vital aspects to prioritize (Douma et al., 2017, p. 235; Lou 2010, p. 377) and universally considered as a valid measure of quality of life for the elderly. Therefore, this research focused on the nursing theory of Nola Pender, The Health Promotion model highlights its relevance to the well-being of the elderly in care home as well as in homecare settings as it concerns nurses, patients and their families. The health promotion model places considerable emphasis on helping people in every possible or practical way to achieve higher levels of well-being and health with a future prospect of influencing the use of technology to promote happiness (Murdaugh et al., 2018; Pender et al., 2010).

4.1 The Health Promotion Model

The Health Promotion Model recognizes every individual as a unique entity with remarkable personal qualities, attributes and experiences that influence their successive actions. These peculiar behaviours are determined by some set of variables which are often times modifiable through nursing actions. The model explained health beyond the basic absence of diseases but encompasses a positive dynamic condition. Health promotion is targeted at increasing an individual's level of well-being in all ramifications. The model pays attention to three areas namely individual characteristics and experiences, behaviour-specific cognitions and affect, and behavioural or mental outcomes (Pender et al., 2011).

4.2 Major Concepts and sub-concepts of the Model

Health promotion refer to actions which are carried out with the desire to improve well-being and attain a level of human health potential. It is an advancement towards wellness while health protection is defined as the diligent actions taken to avoid illness, discover it in advance or the ability to keep functioning despite the limitations of illnesses. Individual characteristics and experiences refer to the earlier inmost behavior and personal behavioural attributes. Behavior-specific cognitions and affect refers to the viewpoint of the client in relation to the advantages of the action, hindrances to action, self-will or power, activity-related affect, interpersonal and situational factors. The model further explains behavioral outcomes as the patient's or individual's adherence to the action plan, instant change in choices and adoption of the health-promoting behaviour as benefitting to health either mentally, socially and all facets of the individual's life (Pender et al., 2011, p. 3 & 4).

Sub-concepts include personal factors which can be biological elements such as age, gender, weight, juvenility, activeness, physical exercise or balance, also psychological elements such as self-pride, self-commitment, personal capacities, perceived health status, and interpretation of health. Also, the socio-cultural elements such as ethnic background or origin, socialization, orientation, and socioeconomic status have a measure of influence on an individual. These elements mentioned can determine and pre-empt a peculiar behaviour in a person (Pender, 2017, p. 326; Sakraida, 2013, p. 440) as illustrated in The Health Promotion Model shown in Figure 1 below.

Furthermore, the model focuses on health promotion and well-being and it is based on social cognitive factors which can impact how much individuals are willing to engage in health promotion behaviours (Don & Harris, 2004). Khodaveisi et al. (2017, p. 165) studied the effect of this model on overweight and obese women and it was discovered to have enhanced their nutritional behaviour, hence healthcare providers can implement the model to amend other health behaviours and increase well-being. The model reiterates the importance of nurses recognizing characteristic behaviour and seeking for strategies to reform and bolster such behaviour even as much as improving communication and the existing situations (Sakraida & Wilson, 2017).

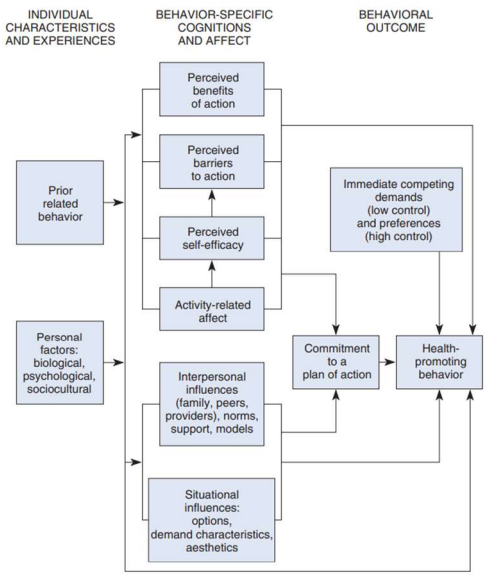

Figure 1. Health Promotion Model (Pender et al., 2010)

Also, it has highlighted the principal sources of interpersonal influences as families and age group companions. Therefore, the model is potentially applicable to all ages and fits into a variety of populations and settings (Aqtam & Darawwad, 2018, p. 486; Sakraida, 2017; Sakraida & Nola, 2010). Especially during the ageing period when humans are more likely to be helpless and physically deprived and one of its themes is intervention according to earliest manifestation (Don & Harris, 2004; Raingruber, 2014, p. 15). Certain multi-strategy schemes based on Pender's Health Promotion model has been used to alleviate and tackle loneliness in elderly women by enhancing social relationships, improving communications and well-being. For this reason, studies have confirmed the wide opportunities that technology opens to the delivery of various interventions that can promote the health and well-being of the elderly.

Many scholars have considered the use of technology as a social support and a means of improving social well-being and against loneliness and studies have linked technology to improved quality of life of the aged (Damant et al., 2017, p. 1698; Heeley, 2013; Yu et al., 2016, p. 1827). Therefore, health care givers especially nurses endeavour to identify and strategize applicable solutions in order to improve the health and well-being of patients (Alaviani et al., 2015, p. 134 & 138; Vaportzis et al., 2017, p. 1 & 2).

5 Method

In this chapter, the description of quantitative study method, the quantitative research approach used, data collection, finding participants, participation criteria, data analysis process, and ethical consideration are presented.

5.1 Quantitative Study Design

The quantitative study method gave a picture of relatives' attitude to videoconferencing as it concerns their elderly ones in nursing home. The goal of the study influenced this choice of method used. The choice of research method aimed for objectivity and precision; hence it required many sample sizes within a stipulated period of time (McCusker & Gunaydin, 2015, p. 540) of which the numbers can be used to interpret for a more generalized results with a measure of certainty and free from the bias of the researcher. One of its advantages is the rapid data collection and the random model of distribution. In order to gain insight into the opinions and perspective of the target and relevant audience (Adams et al., 2014, p. 73 & 121; Sinkowitz-Cochran, 2013, p. 1159), the method collected numerical data from the data collection channels which were sampled randomly and statistically analysed them in order to give a clearer understanding and explained the research questions, thus allowed for a deductive approach (Castellen, 2010, p. 7). Furthermore, the research needed a quantitative answer to the research problems (McCusker & Gunaydin, 2015, p. 538). Quantitative research method can be in form of a survey, observation, measurement (Sinkowitz-Cochran, 2013, p. 1159) or experiment and when the data is collected, it is analysed statistically.

5.2 Quantitative Research Method

The quantitative design used for the study is an internet-based survey. A survey helps to give informed answers or feedbacks to questions or hypothesis (Sinkowitz-Cochran, 2013, p.1163). The questionnaire was created online on Google forms which is a survey administration software provided by Google and it is solely available as a web application (Casey, 2016). A survey can be administered through various means such as person-to-person, telephone, mail, via computer or internet (Sinkowitz-Cochran, 2013, p. 1160). However, this method was preferred because apart from being eco-friendly, it was also economical if compared to the conventional printing and sending of paper-based survey (Touvier et al., 2010, p. 294) and it counted as an alternative to the traditional methods

often used (Van Gelder et al., 2010, p. 1292). It allowed for an unlimited number of participants to respond to the survey at the same time conveniently no matter the countries where they were located because of their broad connectivity to the internet (Pew Research Centre Internet & Technology, 2021) and it provided quick turn-out in data collection (Mutambara & Bayaga 2020, p. 4) when compared to the paper questionnaire because they have to be posted back to the researcher.

Furthermore, there are often improved data quality checks such that validation checks are included in the survey and are activated such that it quickly alerted respondents of any missing answers (Van Gelder et al., 2010, p. 1293). The quantitative approach is used to collect data via online survey using the Google Doc survey tool (Marston et al., 2019), it is a free online survey. In line with Creswell and Creswell (2017, p. 208), this survey design can provide a quantitative description of relatives' perspective towards videoconferencing as a means of improving communication and well-being of their elderly ones in care home or homecare.

5.3 Data Collection

A structured questionnaire was developed to collect the data in this study and it is attached as Appendix 1 in the Appendices. The questions were drafted based on the information needed, clearly written and comprehensible to avoid misinterpretation, they were also straight to the point and brief. The use of simple and familiar words helped to avoid unclear questions and ambiguous meanings (Krosnick, 2018, p. 264; Sinkowitz-Cochran, 2013, p. 1160 & 1161). There were twenty-eight questions in total, twenty-seven were closed questions and one was open which allowed respondents to reply in their own words. It could take a few minutes for respondents to answer the questionnaire. The questionnaire consisted of four sections. The initial set had 6 questions, it focused on classifications and socio-demographics such as the respondents' gender, age, marital status, number of children, type or nature of employment, followed by the second part which contained 5 questions about perceived understanding of distance and satisfaction with regular visits, the third had 2 questions about perceived barriers to videoconferencing idea and the last part had 15 questions about perceived self-doubts or convictions of the concept and preferences.

These set of questions ensured that the sample fitted the profile being aimed at (Salminen, 2012) which is very important because if the right kind of people are not interviewed, it is

possible that the goals of the study may not be successfully achieved. The subsequent questions were created such that they related or gave insight into relatives' thoughts as well as the research questions. For example, there were numeric rating questions. For the closed questions, the respondents were expected to choose their answers from the set of alternatives provided. These alternatives were clearly stated, concise and simple to understand so as not to confuse them (Krosnick, 2018, p. 266). The alternatives were arranged in form of multiple choices, linear or Likert rating scales such as 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree whereby respondents were required to choose the degree to which they agree or disagree to the various set of questions. It was designed in such a way that the meaning of each scale point was well defined and assigned with numbers, making it possible for respondents to have a clear understanding of the scales so as to rate themselves or translate their answers precisely (Krosnick, 2018, p. 269 & 270).

The use of Likert scale is mostly for comparative purposes of the study and to define the various analysis, often easy for respondents to answer and analyse (Adams et al., 2014, p. 125 & 133; Al-Hashimi et al., 2019, p. 46). Furthermore, to avoid misunderstanding of the statements, the rating scales were arranged in the same order and included positive and negative statements to ensure that the questions were properly read and understood by the respondents before choosing their answers (Mitchell & Rich, 2020, p. 105). One question had a checkbox whereby respondents can choose more than one answer from the alternatives and the last question was an open ended one which required a short answer. The validation check was also activated so that respondents were notified of any question that may have been omitted before they are able to finally submit their answers (Van Gelder et al., 2010, p. 1293)

5.3.1 Finding participants

The respondents for the research were selected mainly from three social media channels and not from or through any institution. It was sent to as many numbers of potential respondents as the survey link, the cover and consent letter were shared and published via personal WhatsApp account, Facebook personal wall, e-mail and a snowball method was adopted as well. The idea behind the online sampling was to make a broader study and to get the opinions of a wider range of participants from different walks of life and ethnicity. Once the links to the questionnaire were sent via the various applications, the respondents were encouraged and required to answer it during a stipulated period of time,

approximately two weeks after which no more responses were accepted. Reminders were placed a week prior to the expiration of the survey (Sinkowitz-Cochran, 2013, p. 1160). Data was collected between 22.01.2021 to 05.02.2021. It was closed after the said date so that the quality of the sample, data collection would be managed and automated via google Doc data collection tool which made the method easier and faster. The results were studied and analysed using Google Doc survey analysis tool.

5.3.2 Participation criteria

The target population included those who have an elderly person(s) residing in care homes or have homecare services rather than those who previously had elderly persons(s) in care homes, although it clearly exempted many potential respondents. However, it was expected that these target group would bring out the most precise information and that was the reason behind emphasizing that the survey was for those who had elderly ones in nursing homes or in-home care. The assumption also was that the group would display eagerness to be subjects for the research and show enthusiasm to participate in the study since it had to do with communicating and improving the well-being of their elderly ones. Therefore, the method was used to measure their attitudes and intentions about the topic (Gerrish & Lathlean, 2015).

Another screening criterion included family members who possessed smart mobile devices that are capable of making videoconference calls and are able to operate their devices without any assistance and have access to internet. Also, all relatives who live within or outside the location of the elderly care homes were included. This approach explained one of the aims of the study, concerning the limited capabilities that relatives face in visiting the elderly on a regular basis. Specific cognition was given to relatives who are the only social contact of the elderly persons and to those relatives who are separated by geographical distance or additional obstacles that keep them physically apart and prevent communication and frequent visits (Ajrouch et al., 2007).

Those who did not fit into the criteria were eliminated. For example, those who did not have any elderly person residing in care home or homecare service for their elderly ones and those who showed no interest in partaking in the study.

5.3.3 Validity of study

One of the tools for research to be accurate is validity and a good way to measure validity of a study is when a questionnaire undergoes a pilot study in order to check if the questions are clear to the respondents exactly the way it was intended. When the questionnaire was ready for distribution, a pilot testing was conducted for feasibility and clarity of design. Five participants were selected randomly from the target population which helped to check how easily respondents would understand the questions as well as identify certain inaccuracies such as vague question styles or layout and language ambiguity. These flaws were reviewed and corrected before the main distribution of survey took place which ensured validity. Pilot testing is often used prior to the actual study to minimize or erase future errors or defects that may arise during data analysis. It is usually not part of the data used. It also gives an idea of how much time it would take for respondents to fill the survey (Sinkowitz-Cochran, 2013, p. 1161-1163). After rectification of the gaps in the questionnaire, it was administered and distributed via the selected channels.

5.4 Data Analysis

At the closure of the survey, analysis began after all the data had been collected so that the information gathered were studied from a holistic approach. Analysing data in the study included the discovery of the relationship and trend between the variables collected, interpretation of respondents' choices and the relevance of the data to the overall research. This allowed for comparison of the variables to one another and to identify the changes and relationships among them so as to derive at conclusions (The community tool Box, 2013).

Data was collected from fifty-six participants who responded to the survey. All the data collected were analysed using Google Doc Survey Analysis Tool, therefore the responses were presented in form of descriptive statistics such as graphs, pivot tables, pie charts, numbers and percentages of the data into one single chart.

Pie and bar charts as well as column graphs were produced showing numbers of people, percentages and the different variables being considered, then the data were analysed to check for differences among the variables such as gender, age, geographical location and respondents' preferences and choices (Hague et al. 2013, p. 178). In the presentation and summarization of the data, frequency tables, graphs and charts are used to show for example, the specific number and percentage of respondents or response rate of the survey

while cross-tabulations can be used to show frequency distributions (Wilson 2010, p. 217). Since the interest was to understand the relationships between different variables, cross-tabulating pattern was used by creating Pivot-tables with Excel spreadsheet which showed the relationship of two or more variables. Also, the Pivot-table editor was used to create different kind of charts such that the data is presented in a readable manner.

6 Ethical considerations

Ethical considerations are foremost in all research starting from its design to its conclusion. They are usually considered during the research planning stage and before data is collected in order to avoid any potential harm (Finnish National Board on Research Integrity TENK, 2019, p. 8 & 17). It is important that research is ethically sound as well. It should be free of coercion. Researcher would need to request for the consent from the participants and make sure that they are in an informed position. They have to be granted time and opportunity to decide whether to go ahead to complete the survey or not. Confidentiality and anonymity are ensured such that the identity of the respondents will not be connected to the information that they have provided nor should it be disclosed during the analysis of the results. When a survey is anonymous and privacy protected, the respondents are more willing to pour out their hearts and give the information which the study seeks (Gerrish & Lathlean, 2015).

In order to achieve ethical acceptance, the online survey was voluntary to complete by each participant and they outrightly had the right to withdraw from answering it at any point in time they desired. The participants were provided with the link to the questionnaire and before the questionnaire were to be answered, there was a cover letter and letter of consent (ARENE, 2020, p. 7 & 10; Sinkowitz-Cochran, 2013, p. 1160) which are attached as Appendix 2 in the Appendices. These gave a detailed description about the survey. It was clearly written and respondents had to make informed choices on what they wanted to do and participate voluntarily.

The description included the contact and information about the one carrying out the study in case respondents had any question to ask (Sinkowitz-Cochran, 2013, p. 1162), the reason for the study, method of research and how the data collected would be used. The confidentiality and anonymity of the study were assured in the cover letter (Polit 2018, 83). The google link survey tool is designed such that the respondents who completed the questionnaire were anonymous but it permitted the researcher to identify the number of

returns and the response rate, which is a principal parameter required for analysis (Sinkowitz-Cochran, 2013, p. 1160). For the data collection, the moment the respondent had chosen to continue with the survey, it indicated that the respondents had given their voluntary and informed consent. However, those who did not fill the survey or those who discontinued had their feelings and decisions respected because they had the right to decline to taking part in the survey (Finnish National Board on Research Integrity TENK, 2019, p. 9 & 24).

7 Results

This section of the thesis presents the results according to the data collected. The results are based on the feedback of the online survey which was conducted with the audience being the relatives of elderly ones as the core target of the study as regards their perspective about videoconferencing and its probable impact on well-being and communication of their older persons. Fifty-six participants who responded to the survey within a span of two weeks provided the statistics, the data collected were analysed using Google Doc Survey Analysis Tool as displayed in the tables, graphs, pie charts and percentages below.

7.1 Gender of respondents.

Gender distribution is represented in Figure 2.

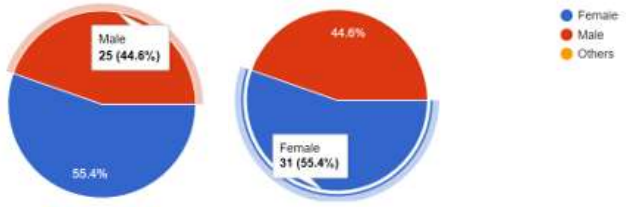

Figure 2. Gender distribution of respondents

From Figure 2 above, it reveals clearly the demographic division of the respondents who answered the questionnaire about videoconferencing and its potential of improving we-being and communication in elderly in care homes. The result shows that out of the total sample size of 56 participants, a higher response rate came from females (31) which represented 55.4% of the respondents while 25 are males, 44.6% of the respondents.

7.2 Age of respondents.

Age distribution is represented in Figure 3.

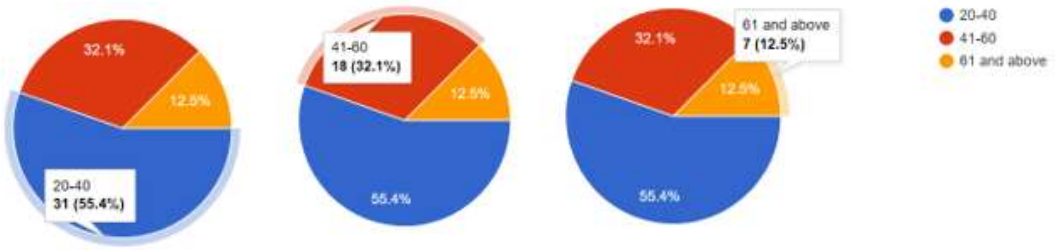

Figure 3. Age distribution of respondents

As seen in Figure 3 above, 31 of the target group are between the age group 20-40 years which is the most dominant group and they made up 55.4% of the response rate, followed by18 respondents who were middle- aged, 41-60 years (32.1%) and 7 persons belonged to the older group 61 years and above representing 12.5% of the response rate.

7.3 Distribution of respondents' marital status.

Marital status distribution is represented in Table 1.

Table 1. Distribution of respondents' marital status

	3. Marital status.	COUNTA of 3. Marital status.	COUNTA of 3. Marital status.
2	Cohabiting	3	5.36%
3	Divorced	4	7.14%
4	Married	29	51.79%
5	Separated	1	1.79%
6	Single	17	30.36%
7	Widow/Widower	2	3.57%
8	**Grand Total**	**56**	**100.00%**

Table 1 shows that the single respondents were 17 in number, which is 30.36% of the respondents, those married numbered 29, thus representing 51.79%, 4 respondents are divorced which is 7.14% and 2 belonged to the group widow or widower, thus representing 3.57% of those who have responded to the survey respectively. 3 of the respondents who answered the questionnaire cohabit (5.36%) and 1 respondent is separated, representing 1.79% of the target group.

7.4 Distribution of respondents' number of children.

Number of children' distribution is represented in Figure 4.

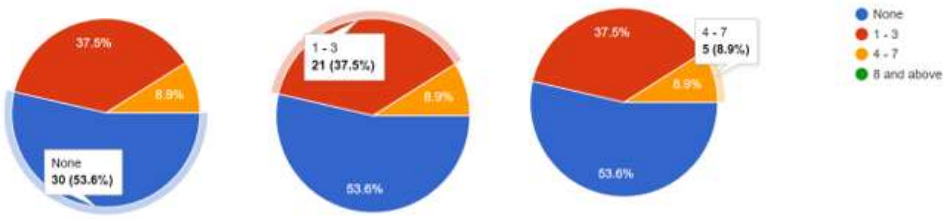

Figure 4. Distribution of respondents' number of children

As revealed in Figure 4, it clearly shows that out of the total target group, 30 (53.6%) respondents have no children, 21 (37.5%) have one to three children while 5 respondents have about four to seven children representing 8.9% of the respondents.

7.5 Distribution of respondents' nature of employment.

Nature of employment distribution is represented in Table 2.

Table 2. Distribution of respondents' nature of employment

1	*5. Type or nature of employment.*	COUNTA of 5. Type or nature of employment.	COUNTA of 5. Type or nature of employment.
2	Casual worker	7	12.50%
3	Full-time	25	44.64%
4	Part-time	9	16.07%
5	Retired	4	7.14%
6	Unemployed	11	19.64%
7	**Grand Total**	**56**	**100.00%**

The table above shows that 44.64% (25) of the relatives are full-time workers while the least rate of 7.14% (4) were those retired from work. From the table, more than 70 % of the respondents are engaged in at least one form of employment.

7.6 Distribution of respondents' geographical location.

Geographical location distribution is represented in Table 3.

Table 3. Distribution of respondents' geographical location

1	*6. Geographical location.*	COUNTA of 6. Geographical location.	COUNTA of 6. Geographical location.
2	Africa	15	26.79%
3	Asia	2	3.57%
4	Australia	1	1.79%
5	Europe	27	48.21%
6	North America	10	17.86%
7	South America	1	1.79%
8	**Grand Total**	**56**	**100.00%**

Approximately 48.21 % of the respondents live in Europe which is a dominant number, next is Africa with 26.79% response rate while there are 10 respondents from North America, 2 from Asia while Australia and South America were represented by 1 % of the respondents.

7.7 Distribution of respondents' being the only social contact of the elderly.

The distribution of relatives and their position as the only social contact of the elderly is presented in Figure 5.

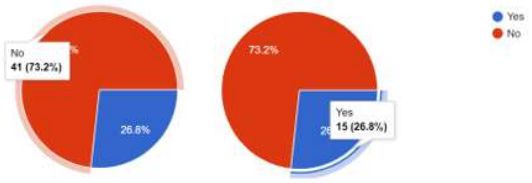

Figure 5. Only social contact of the elderly

As shown in figure 5, the response rate of 73.2% indicated that most of the respondents were not the only social contacts of their elderly ones as they were 41 in number while 15 relatives were the only social contact with the answer rate of 26.8%.

7.8 Distribution of the distance to the location of the elderly care home.

Respondents' view about the distance to the location of the care home is illustrated in Figure 6.

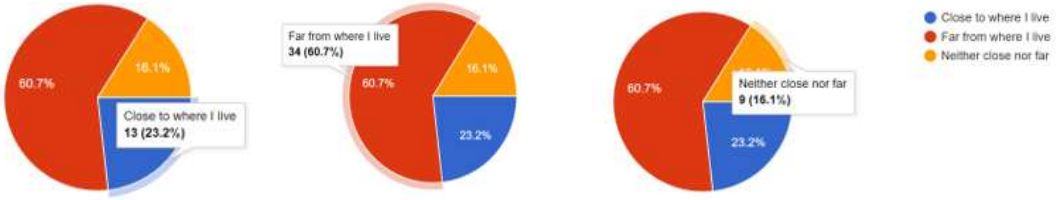

Figure 6. Distance to the location of the care home

The answer rate of 60.7% (37) confirmed that a dominant proportion of those who responded to the survey lived far from where their elderly's care homes were located. Those who live close to the care homes were 13 (23.2%) and 9 (16.1%) respondents neither lived close nor far.

7.9 Distribution of limitations to visiting the care home.

The frequency of the occurrence of limitations is shown in Table 4.

Table 4. Distribution of limitations to visiting the care home

1	*9. I have or had certain limitations to visit the care home.*	COUNTA of 9. I have or had certain limitations to visit the care home.	COUNTA of 9. I have or had certain limitations to visit the care home.
2	Agree	25	44.64%
3	Disagree	5	8.93%
4	Neutral	11	19.64%
5	Strongly Agree	10	17.86%
6	Strongly disagree	5	8.93%
7	**Grand Total**	**56**	**100.00%**

Table 4 shows that those who encountered limitations to visiting the care home due to distance or any other reasons dominated the survey. The table shows that more than half of the respondents agreed and strongly agreed to the statement about having limitations to visiting the care homes where their elderly ones live, with an answer rate of 62.5% while 17.86% of the respondents disagreed and strongly disagreed and 19.64% were neutral to the question.

7.10 Distribution of respondents' satisfaction with constant visiting and travelling to the care home for face-to-face communication on a scale of 0-5 (5=very satisfied).

Respondents' level of satisfaction with constant visiting and travelling to the care home is pictured in Figure 7.

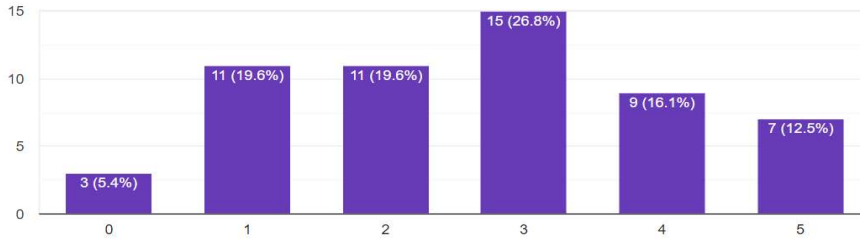

Figure 7. Level of satisfaction with constant visiting and travelling to the care home

Figure 7 above shows that a high response rate of approximately 45% (25) of the respondents indicated that they were not satisfied with the constant visiting and travelling to the care home where their aged ones reside. Those who were satisfied with it were represented by less than 30% (16) of the respondents. 15 (26.8%) respondents were indifferent.

7.11 Distribution of relatives' incapability of visiting on a planned date.

Relatives' level of incapability of visiting on a planned date is illustrated in Table 5.

Table 5. Relatives' incapability of visiting on a planned date

	11. How frequently have you felt incapable of visiting on a planned date?	COUNTA of 11. How frequently h	COUNTA of 11. How frequently
2	Difficult to say	3	5.36%
3	Hardly ever	5	8.93%
4	Many times	29	51.79%
5	Never	8	14.29%
6	Very few times	11	19.64%
7	**Grand Total**	**56**	**100.00%**

Those who have felt incapable of visiting on a planned date on many occasions were 29 (51.79%) in number, which is more than half of the respondents while those who were incapable for very few times were 11 (19.64%). Relatives who never felt and who hardly ever felt incapable were 8 (14.29%) and 5 (8.93%) respectively.

7.12 Distribution of relatives' perception of videoconferencing solving the challenge of limited capabilities to visit on a regular basis.

Relatives' perception of videoconferencing solving the regular challenges of visitation is illustrated in Figure 8.

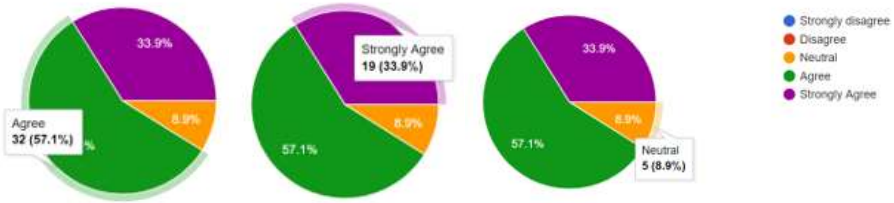

Figure 8. Perception of videoconferencing solving the challenge of limited capabilities of regular visitations

Approximately 51 out of the 56 respondents agreed that videoconferencing has its potential of resolving regular visitation challenges. According to Figure 8 above, 57.1% (32) of the relatives which is more than half of them are convinced that videoconferencing may solve the challenges they encounter regarding visiting on a regular basis while 19 (33.9%) strongly agreed and are convinced and 5% remained neutral on the matter.

7.13 Distribution of relatives' possession of smart mobile devices that are capable of making videoconference calls, can operate it and have access to internet.

The distribution of relatives' possession of smart mobile devices which are capable of making videoconference calls, their ability to operate it independently and the accessibility to internet is shown in Table 6.

Table 6. Relatives' possession of smart mobile devices that are capable of making videoconference calls, can operate it and have access to internet

13. I possess smart mobile devices that are capable of making videoconference calls.	COUNTA of 13.	COUNTA of 13.
Agree	31	55.36%
Disagree	1	1.79%
Neutral	2	3.57%
Strongly agree	20	35.71%
Strongly disagree	2	3.57%
Grand Total	**56**	**100.00%**

Over 90% (51) of the respondents own smart mobile devices that are capable of making videoconference calls. Also, they can independently operate it and have access to internet. 3 respondents (5.36%) are presumed not to possess a mobile device that is capable of making videoconference calls, perhaps incapable of operating or having access to internet.

7.14 Distribution of relatives' strongest reason behind participating in videoconferencing with their elderly family.

The distribution of the strongest reasons which relatives have for willing to participate in videoconference calls with their elderly family is captured in Figure 9.

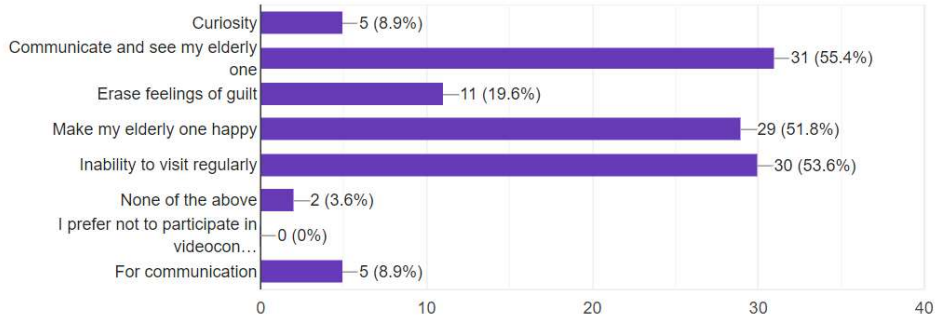

Figure 9. Distribution of relatives' strongest reasons for participating in videoconference calls

From figure 9 above, no participant chose not to participate in videoconferencing with their elderly ones. Furthermore, more than half of the relatives preferred it as a good means of communication and a medium to see their elderly ones (55.4%), other reasons included inability to visit regularly (53.6%) followed by the choice of making the elderly one happy

(51.8%). 11 respondents (19.6%) opted for videoconferencing as a means of erasing the feelings of guilt while 5 (8.9%) respondents chose videoconferencing because they preferred it simply as a means of communication and 5 (8.9%) relatives selected videoconferencing for the sake of satisfying their curiosity.

7.15 Distribution of relatives' expectations about videoconferencing with their elderly ones.

Relatives' expectation of videoconferencing with their elderly ones is illustrated in Figure 10.

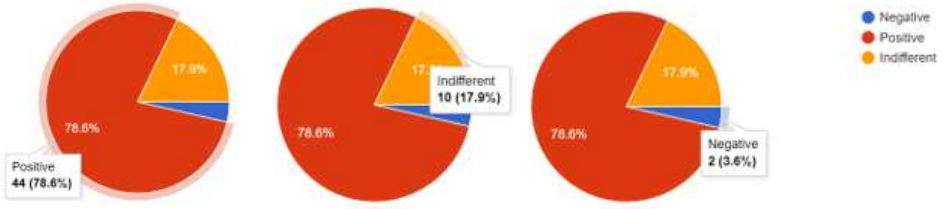

Figure 10. Distribution of relatives' expectation of videoconferencing with their elderly ones.

In line with Figure 10 and comparing the expectations of the respondents, a great proportion of them had positive expectations with a percentage of 78.6% (44) while 10 (17.9%) relatives were indifferent with only 2 respondents (3.6%) having negative expectations about it.

7.16 Distribution of relatives' thoughts about videoconferencing enhancing care and management of health and well-being of their elderly one.

Relatives' thoughts about videoconferencing enhancing care and management of the health and well-being of their elderly persons are described in Figure 11.

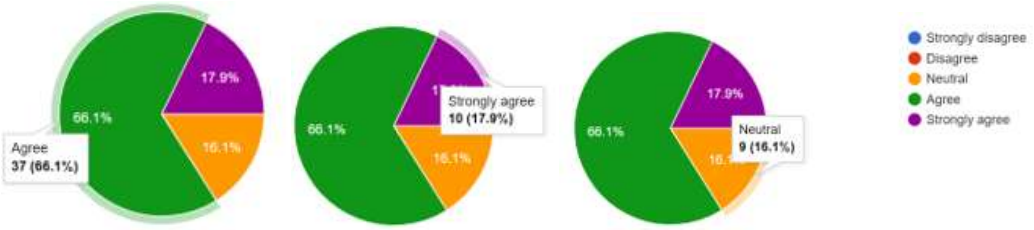

Figure 11. Perception of videoconferencing enhancing care and management of health and well-being of elderly ones.

No respondents disagreed that videoconferencing may enhance care and manage the health and well-being of the elderly, 47 respondents were of the opinion that their elderly one's

care, health and well-being can be managed with videoconferencing. 9 (16.1%) remained neutral to the statement.

7.17 Distribution of relatives' thoughts about videoconferencing improving the interpersonal relationship between their aged relative and them.

Relatives' viewpoint about videoconferencing improving the interpersonal relationship between their aged relative and themselves is shown in Figure 12.

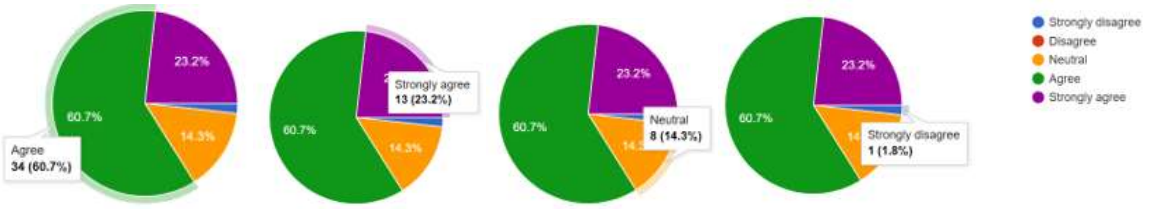

Figure 12. Distribution of relatives' viewpoint on videoconferencing improving the interpersonal relationship between their aged relative and them.

Approximately 84% of the relatives have the viewpoint that videoconferencing may improve the interpersonal relationship between both parties while 14.3% of remained neutral and less than 2% strongly disagreed.

7.18 Distribution of relatives' having fears that they might be self-imposing a stressful life by yielding to videoconferencing.

Relatives' viewpoint about videoconferencing causing self-imposed stress to their lives is depicted in Table 7.

Table 7. Distribution of relatives' fears of self-imposing a stressful life by yielding to videoconferencing

18. I have fears that I might be imposing on myself a stressful life by videoconferencing.	COUNTA of 18.	COUNTA of 18.
Agree	9	16.07%
Disagree	30	53.57%
Neutral	7	12.50%
Strongly disagree	10	17.86%
Grand Total	**56**	**100.00%**

From table 7 above, 12.50% of the respondents were neutral to the question, 40 persons (71.34%) out of the 56 respondents had no fears that they may be self-imposing a stressful burden on themselves by videoconferencing while 9 respondents considered videoconferencing as a self-imposed inconvenience to their already busy lives.

7.19 Distribution of relatives' suspicion that age factor or frailty of their elderly one could make videoconferencing almost impossible.

Relatives' feelings about videoconferencing being almost impossible due to age factor or frailty of their elderly persons is described in Table 8.

Table 8. Distribution of relatives' suspicion that age factor or frailty of their elderly one could make videoconferencing almost impossible

19. I suspect that the age factor or frailty of my elderly one can make videoconferencing almost impossible	COUNTA of 19.	COUNTA of 19.
Agree	16	28.57%
Disagree	16	28.57%
Neutral	17	30.36%
Strongly Agree	4	7.14%
Strongly disagree	3	5.36%
Grand Total	**56**	**100.00%**

From the table above, 20 (35.71%) respondents asserted and suspected that frailty of their elderly family members in care homes may bring closer the impossibility of videoconferencing with them, 19 relatives disagreed with the statement and 17 of the respondents remained indifferent.

7.20 Distribution of relatives' opinion on how comfortable their elderly one can be with videoconferencing from a scale of 0-5 (5= greatly comfortable).

Relatives' assessment of how comfortable their elderly ones can be with videoconferencing from the scale of 0-5 is described in Figure 13.

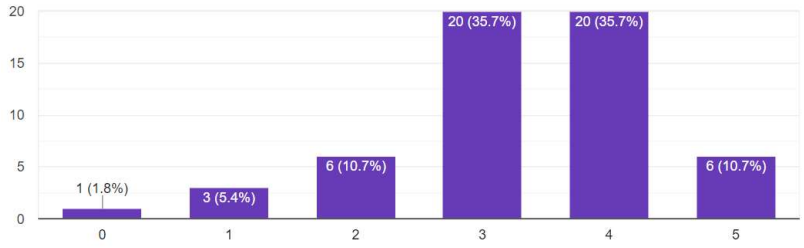

Figure 13. Distribution of relatives' opinion on how comfortable their elderly one can be with videoconferencing from a scale of 0-5 (5= greatly comfortable).

Figure 13 above shows that 20 (35.7%) respondents said that their aged relatives living in care homes may be averagely comfortable, 20 (35.7%) respondents had the opinion that their elderly ones can be substantially comfortable with videoconferencing while 6 respondents feel that the elderly persons may be greatly comfortable with the videoconferencing idea. Approximately 16.1% (9) of the relatives doubt that their elderly will feel comfortable with the concept, 1 (1.8%) respondent held to the opinion that the

aged family member in care home may turn out to be greatly uncomfortable with videoconferencing.

7.21 Distribution of relatives' most preferred option if their elderly one complains of loneliness and they are unable to visit at that time.

Respondents most preferred alternative when they are unable to physically visit their elderly ones in care homes and have complained of loneliness is illustrated in Table 9.

Table 9. Distribution of relatives' most preferred option if their elderly one complains of loneliness and they are unable to visit at that time

21. If my elderly one complains of loneliness and I am unable to visit at that time, my most preferred option	COUNTA of 21. If	COUNTA of 21. If
To videoconference	42	75.00%
To send a text message	3	5.36%
To call via telephone	10	17.86%
None of the above	1	1.79%
Grand Total	**56**	**100.00%**

From table 9 above, it shows that 75% (42) of the relatives chose the option of videoconferencing when the situation arises that their elderly has complained about loneliness and they are unable to physically visit them as soon as possible, it was the most dominant option was to videoconference, next was 17.86% of the respondents preferred to call using the telephone. 3 (5.36%) respondents chose to send text messages while a respondent chose none of the options given out.

7.22 Distribution of relatives' opinion about videoconferencing been capable of making their elderly one feel physically closer to them and emotionally reassuring.

Respondents' outlook of videoconferencing helping to make their elderly feel physically closer to them and emotionally comforting is described in Table 10.

Table 10. Relatives' opinion about videoconferencing bringing both parties seemingly physically closer and emotionally reassuring

22. In my opinion, seeing me via videoconferencing can make my elderly one feel physically closer to me and emotionally reassuring.	COUNTA of 22.	COUNTA of 22.
Agree	31	55.36%
Disagree	1	1.79%
Neutral	10	17.86%
Strongly agree	14	25.00%
Grand Total	**56**	**100.00%**

According to the table above, out of 56 respondents, 45 (80.36%) relatives acknowledged that videoconferencing could be emotionally reassuring and may be able to bring about

physical closeness to a certain degree between them and their elderly persons, 10 (17.86%) relatives stood neutral while 1 (1.79%) respondent disagreed with the expression.

7.23 Distribution of relatives' preference to choosing a care home that has video conferencing settings and if necessary, the staff assisting the elderly to videoconference.

Respondents' preference for a care home with videoconferencing facilities and staff assistance in operating it is pictured in Figure 14.

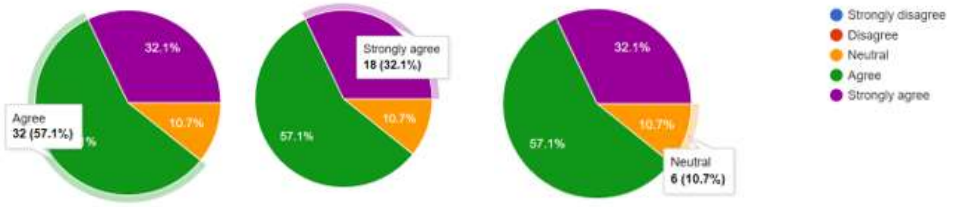

Figure 14. Distribution of relatives' preference to choosing a care home that has video conferencing settings and if necessary, the staff assisting the elderly to operate it.

According to Figure 14, a greater percentage of respondents (89.2%) were certainly positive about their preference for a care home with videoconferencing settings coupled with the assistance of staff who would offer help to their elderly ones when needed. Noticeably, no respondent disagreed with the statement while 6 (10.7%) relatives were neutral about whether they would prefer such amenity in their elderly persons care homes or not.

7.24 Distribution of relatives' level of comfort with the financial impact of video communication especially if it makes the elderly one happy.

The distribution of the degree of comfortability of respondents' financial contribution to videoconferencing as long it gladdens the heart of their elderly ones is described in Table 11.

Table 11. Relatives' level of comfort with the financial impact of video communication especially if it makes the elderly one happy

24. I am comfortable with the financial impact of video communication if it makes my elderly one happy.	COUNTA of 24.	COUNTA of 24.
Agree	30	53.57%
Disagree	2	3.57%
Neutral	9	16.07%
Strongly Agree	14	25.00%
Strongly disagree	1	1.79%
Grand Total	**56**	**100.00%**

Based on table 11, the proportion of relatives who were comfortable with the financial cost which videoconferencing would bring to them in as much as it made their elderly ones were 44 (78.57%) in number, 9 (16.07%) did not express their level of comfort and 3 (5.36%) relatives indicated a high level of financial discomfort which videoconferencing would bring along.

7.25 Distribution of relatives' opinion of remote means of interaction such as videoconferencing being able to alleviate the worry, they have towards their elderly one in care home especially during a pandemic.

Relatives' viewpoint about videoconferencing as a means of interaction especially during a pandemic and alleviating their anxiety is distributed in Table 12.

Table 12. Distribution of the viewpoint about videoconferencing as a means of interaction especially during a pandemic and helps in alleviating anxiety

25. A remote means of interaction such as videoconferencing can alleviate the worry I may have towards my elderly one in care home especially during a pandemic.	COUNTA of 25.	COUNTA of 25.
Agree	30	53.57%
Disagree	1	1.79%
Neutral	6	10.71%
Strongly agree	19	33.93%
Grand Total	**56**	**100.00%**

The Table 12 above indicated that 87.5% (49) of the respondents had the opinion that remote means of interaction between them and their aged persons in care homes via videoconferencing had the capacity to alleviate anxieties in pandemic situations, 6 respondents were neutral and it is of interest that 1 (1.79%) relative did not share this viewpoint or statement.

7.26 Distribution of relatives' thoughts about videoconferencing being able to tackle loneliness in the elderly, promote their well-being and happiness.

The respondents' idea about videoconferencing and its potential of tackling loneliness in the elderly as well as promoting their well-being and happiness is seen in Figure 15.

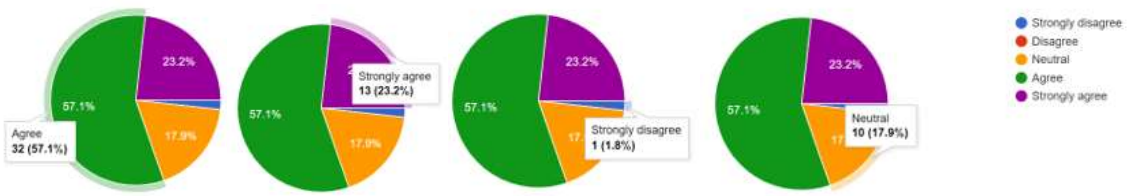

Figure 15 . Distribution of respondents' viewpoint about videoconferencing being able to alleviate loneliness, promoting well-being and happiness.

As described in Figure 15, a respondent (1.8%) strongly disagreed with the statement that videoconferencing can tackle loneliness in the elderly, 10 (17.9%) were neutral while 45 (80.3%) relatives agreed with the statement in the survey about promoting well-being and happiness through videoconferencing.

7.27 Distribution of relatives' thoughts that videoconferencing could perhaps be a suitable support system for their elderly one on a scale of 1-5 (5=strongly agree).

The distribution of respondents' opinion about videoconferencing being possibly a suitable support system for their elderly one as pictured on the scale in Figure 16.

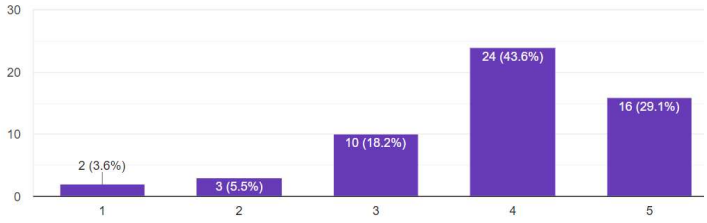

Figure 16. Distribution of relatives' thoughts about videoconferencing as a possible support system for their elderly one on a scale of 1-5 (5=strongly agree).

Out of the 56 respondents, 5 (9.1%) of them refuted the sentence that videoconferencing could be a suitable means of supporting the elderly, 10 were not decisive whether videoconferencing could satisfactorily serve as a support system for their elderly ones while approximately 72.7% of the respondents endorsed their agreement to the sentence.

7.28 Distribution of relatives' suggestions of other ideas that can improve communication and well-being of the elderly in care homes.

Relatives' opinion of other ideas that may improve communication and well-being of their elderly is represented in Figure 17.

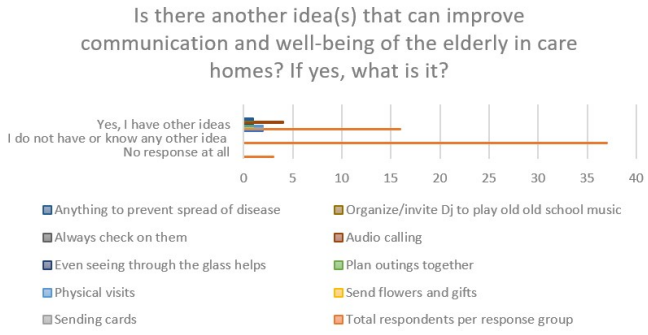

Figure 17. Distribution of relatives' suggestions of other ideas that can improve communication and well-being of the elderly in care homes.

Interestingly, from the figure 17 above, there was no response at all from 3 respondents, 37 did not know or have any other idea while suggestions sprang from 16 relatives who also stated their ideas which can as well improve the well-being and communication as it concerns their elderly persons. The ideas ranged from writing letters (2), sending cards (2), flowers and gifts (1), visiting them physically and interpersonal conversation will do the magic (2), more planned outings together (1), sseeing them even through the glass windows can help (1), audio calling to communicate (4), always check on them (1), organising a party or dance or bringing in DJ to play old school music every weekend (1) and anything to prevent spread of communicable diseases (1).

8 Discussion

This section of the thesis presents and discusses the results under four sections according to the data collected from the survey and analysed. The respondents' views throw more light, supplement or contrast previous studies. Past research examined the use of video calls and other Information and Communication Technologies in sharing family information and how it relates to perceived family well-being (Shen et al., 2017, p. 8 & 9) and how older adults perceive technology in relation to their well-being (Vaportzis et al., 2017, p. 7) whereas this study focused on relatives and their opinions about videoconferencing, communication and well-being of their elderly in care home.

Also, it includes discussion about the method chosen for the study, the pros and cons of the method, study background as well as the theoretical framework.

8.1 Discussion of results

The discussion of the results centre on realizing the aim of the research as it examines the effect of videoconferencing on communication and well-being of elderly in care home especially from the point of view of their relatives. The research questions that were considered are 1) How motivated and willing are relatives ready to sharing their time with their elderly ones in care home or homecare via videoconferencing? 2) How practical do relatives see videoconferencing in solving the problem of limited capabilities to visit the elderly despite its drawbacks or benefits? 3. What is relatives' perception of videoconferencing in relation to improving communication and well-being of their elderly ones? 4. What do relatives think about remote interaction easing the tension and anxiety for their elderly ones in times of a pandemic?

The questions highlight and explain the results in comparison with and a focus on the concepts of the background of study as well as the constructs of the nursing theory of Nola Pender, The Health Promotion model. These includes perceived benefits, barriers, self-efficacy, interpersonal influences, and behaviours (Murdaugh et al., 2018), with the aim of reducing loneliness, improving communication and well-being of elderly in care homes. Each result from each question is analysed and discussed as it evaluates the similarities and differences it has with other previous research work, the background study and the theoretical framework. Hence, the results from this particular data are put into consideration in order to reach a decision or arrive at a certain outlook.

8.1.1 Classifications and socio-demographics

As indicated from the findings in this survey, a higher number of women participated in the survey than men. With the answer difference of 10.8%, it can be assumed that in this survey, women showed a greater willingness to answer the survey and perhaps had more interest since it had to do with care and well-being of the elderly. This may be in line with Morgan et al. (2016) and Oladeji (2011), that women tend to feel responsible for their elderly parents or they have a higher degree of obligation to care for older relatives as exhibited in the home settings such that they assume a caring role than men. Additionally, adult daughters are inclined to have interests on personal relationships with elderly ones in order to improve their well-being (Bookman & Kimbrel 2011, p. 117 & 119; Chappell et al., 2013; Grigoryeva, 2017, p. 118 & 129).

On the average, the results show that 44.6% of the relatives were 41 years of age and older. With the high response rate of the age group 20-40 years, it can be presumed that those in that age group have a good measure of interest in answering the questionnaire or are eager to air their views about videoconferencing, communication and well-being of their aged relatives.

When it comes to the respondents' marital status, more than 50% of the respondents are married and this may suggest the rationale about how their time is spent when to come to couples or spouses' togetherness. More so, that their day-to-day activities of life could be centred around their marriage, work, leisure time spent with each other and caring for the elderly as these demographic factors can impact time for the elderly. Additionally, it is not impossible for married couples to have several elderly parents alive whom they care for

and that affects how and where they invest their support and resources (Bookman & Kimbrel 2011, p. 118 & 119).

The number of children that the respondents have tells a little about their time and schedule. Supposedly, the percentage of those without children dominated which may probably reinforce the rationale that married couples may have the preference of spending most of their time and life together as the presence of children into the marriage may change or reduce the amount of time they spend together or time to care for others vis-à-vis their elderly in care homes. Childbearing may have an impact in the time for the elderly (Bookman & Kimbrel 2011, p. 117, p. 118). Perhaps the absence of children may give them ample time to interact freely with their elderly via videoconferencing. In contrast, Ermisch and Mulder (2016) investigated those relatives who have children are likely to appreciate and value the proximity of the elderly in care homes comparatively more than those without children and that can be typically because they attach greater importance to building and keeping an enabling environment for interactions between the family, the grandchildren and the aged ones, hence appreciating the videoconferencing concept.

Concerning the nature of employment of the respondents, since the age group of the respondents consisted mostly of those between 20-40 years, it is noteworthy and expected that most of them may be full time workers. The result showed that more than 70 % of the respondents are engaged in one form of employment which probably may explain a positive basis that the videoconferencing feature in care homes for improving well-being and communication could be needed, due to the fact that most of the relatives in this study are employed. Work or changes in work can impact how much effort and time a relative can invest in the elderly (Bookman & Kimbrel 2011, p. 117)

Next, the other socio-demographics presents the location of the relatives between continents. Almost 48.21 % of the respondents are residents in Europe which is dominant and the high rate was expected due to the prevalence of the societal pattern of having care homes as shown by Damiani et al. (2011) and van der Steen et al. (2012), next was Africa with 26.79% response rate while there are 10 respondents from North America. A high response rate from Europe indicates that most of the relatives reside in Europe and have elderly ones in care homes. With the certainty that ageing is inevitable, humans also now live much longer than before and Niedzwiedz et al. (2016) predicted that in the next thirty-nine years to come, the number of elderly ones will increase by 30% worldwide, most especially in Europe where the number will trigger (Eurostat, 2017, p. 16). Also, in North

America such as in Canada where 32% of the population will be 80 years old by the year 2036. This perhaps may suggest that the videoconferencing facet in care homes may be applicable in certain regions, due to the reason that the number of those in the ageing population is on the rising, with Europe having the oldest populace as claimed by Ilinca et al. (2015). Furthermore, various regions have cultural ways of taking care of their elderly ones.

The data about not being the only contact of the elderly is higher and the figure indicates that the relatives who responded to the survey, most of whom belonged to the middle-aged class have other family members since they are not the only available contacts. These ones can also be channels for resourceful support systems for the older ones, thus providing bountiful care and social contacts to these aged ones in care homes (Bookman & Kimbrel 2011, p. 119) such that videoconferencing does not become the burden of one family member. As pointed out by Ermisch and Mulder, (2016), elderly ones are usually either vital sources or recipients of social contacts and emotional intimacy especially from their relatives. In other words, the greater the social network and support from relatives or from non-kins, the better the mental health (Litwin & Shiovitz-Ezra, 2011). Yet, it is noted that loneliness can still develop even if the elderly has several social contacts except if these social contacts are significant to them (Volicer & Simard, 2015, p. 966). The importance of family to the well-being of elderly ones cannot be over-emphasized as they expect to rely on their adult children to form the major backbone of support for them especially when they experience age related deficits and frailty (Oladeji, 2011, p. 5). This may be a challenging situation for elderly ones who are childless and can often be a worry about how they will manage in their old age as it relates to their well-being, although it is not certain that they feel more loneliness than their counterparts who have children. But with children and relatives in close surrounding or regular contacts, they are able to enjoy interpersonal relationships and videoconferencing perhaps could be an opportunity to increase communication between them as well as contribute and improve their well-being. They also have the preference of keeping and maintaining their current social networks since they are already familiar with their close family members (Hope et al., 2014: Neves et al., 2018). Burke et al. (2013, p. 47) claimed that the topics elderly persons discuss with their relatives via technology are mostly topics ranging from direct exchange of full affection, guidance and conversation about grandchildren which enhances their well-being. More so, most elderly depend mostly on their children for emotional and social support (Bai, 2020, p. 257).

8.1.2 Perceived effect of distance and satisfaction with regular trips

One of the major goals of the study was to find out the distance between where relatives lived compared to where the care homes were located and to measure if distance could affect their decision about the videoconferencing concept. The result showed that majority of the respondents lived some considerable distance away from the care home where their elderly persons resided. As stated by Bookman and Kimbrel (2011, p. 119), the distance between where the elderly resides and location of the relative has an effect on emotional attachment. Sometimes, these relatives or the adult children live in different municipalities, states, or even geographical regions which are far from where their elderly ones live. Presumably, the opinion of these relatives who lived far away may determine to an extent how feasible the videoconferencing concept can be as it may help to bridge the gap or long distance between them and improve communication and well-being. With this concept, elderly may receive emotional support from afar (Yu et al., 2016, p. 1828).

It was predictable from the data collected that the high rate of relatives who lived far from the care home may have difficulties with visiting regularly. On that basis, Table 4 in the result showed that 62.5% experienced one form of limitations or another when it comes to visiting their elderly while 17.86% did not encounter any of such constraints. Those who disagreed could probably include those who lived in proximity to the care homes because close proximity may probably pave the way for constant communication between the elderly parents and their relatives. As revealed by Van der Pers et al. (2015) as well as Mulder and Malmberg (2014), when elderly ones or parents live close-by, their relatives are more likely to live close by as well and visitation is frequent. For that reason, the relatives who did not encounter any constraints in visiting their elderly ones in care homes were certain that geographical proximity will enable interaction between them and their elderly one which will further strengthen their bond (Dillman et al., 2012; Ermisch & Mulder, 2016). As studied by Bookman and Kimbrel (2011) and Grigoryeva (2017, p. 121), in addition to time constraints, there exists a corelation between geographical proximity and the level of attention and care which relatives give to their elderly. However, one of the possible features of the videoconferencing concept may comprise tackling the issue of visiting limitations due to distances.

Respondents who indicated that they were not satisfied with regular trips or visits to the care home where their elderly resided were 25, the satisfied relatives were less than 30% (16) and 15 (26.8%) respondents were indifferent. Considering the number of those who expressed dissatisfaction with constant physical trips to the care home, this indicates a

huge concern over distance and may suggest a positive incentive for the videoconferencing idea due to the fact that relatives would prefer not to constantly visit or travel all the way, maybe long distances to the care home especially in the presence of a probable alternative. Barbosa et al. (2019, p. 67) explained that a high degree of social connectedness was mostly reported by family members who had relatives living abroad, showing that geographical distance often facilitates frequent social connection and communication. These relatives perhaps prefer the presence therapy via videoconferencing than not visiting at all (Volicer & Simard, 2015, p. 967). The satisfied group of relatives perhaps live close to the care homes where their elderly live (Bookman & Kimbrel 2011). This result agrees with Tsai and Tsai (2015) study about relatives who lived nearby to the care homes or homecare where their elderly lived, these family members chose physical visits over using videoconferencing or any other sort of remote communication method.

With 45% of the respondents being unsatisfied with constant travelling to visit the care homes for physical face-to-face interactions with their elderly persons, the percentage of incapability was expected. More than half of the relatives have been unable to visits the care homes on scheduled dates. From the high response rate of these relatives (51.79%), it can be assumed that the videoconferencing idea may be needed, based on the deduced result that more relatives on many occasions have been incapable of visiting their aged ones in care home on the various planned dates. Just as Cornejo et al. (2013) wrote that it always feels amazing when one gets to talk and hear the voice of family members or even friends, however nothing strikes better than seeing them face-to-face via devices especially when physical face-to-face communication is not possible.

8.1.3 Perceived barriers to videoconferencing

Relatives' perception about videoconferencing and its possibility to solve regular visitation challenges is seen in their responses. The opinions of the majority (57.1%) who filled in the survey suggests that the videoconferencing concept may be able to alleviate the challenges that come along with regular visitations to the care homes especially when relatives live far away. 19 (33.9%) strongly agreed that limited capabilities will be solved with videoconferencing and 5% were neutral. Therefore, a total answer rate of 91% are assertive about the practicality of the concept and its possible and potential benefits. It is interesting to discover the findings in the articles by Read-Paul et al. (2019) and Bai (2020), in which the work pointed out that mobile web-based videoconferencing stands a chance of being achievable, suitable, and they went further to suggest it as a productive

method of bringing the distance between elderly ones and their families closer despite the challenges therein.

The data collected also showed the number of relatives' who had possession of smart mobile devices that are capable of making videoconference calls, they can independently operate it and they have access to internet which is certainly one of the criteria required in order to make conference calls. The high number of respondents, 51 (90%) who had smart phones and are capable of using it for videoconferencing may possibly indicate that little or no hindrance is expected in the actualization of the videoconferencing concept when it comes to possession and operation of electronic gadgets. The 3 respondents (5.36%) who do not possess a mobile device that is capable of making videoconference calls, or are incompetent in operating it independently or do not have access to internet (Vaportzis et al., 2017, p. 9) may denote setbacks of the concept.

8.1.4 Perceived self-doubts or convictions of the concept and preferences

In expressing their strongest reasons for willing to engage in a videoconference call with their elderly persons in care home, no participant turned down participating in videoconferencing with their elderly ones, which suggests no dislike or rejection of videoconferencing from the perspective of relatives. Observably, 55.4% chose it as a good channel to communicate and virtually see their elderly ones, 53.6% of the relatives think it is suitable when regular visits are impossible, 51.8% of respondents are focused on making the elderly one happy, 19.6% selected it as a means of erasing the feelings of guilt while 5 (8.9%) respondents chose videoconferencing because they preferred it simply as a means of communication and 5 (8.9%) relatives selected it for the sake of satisfying their curiosity. It was found that, despite the various motives expressed by the respondents, videoconferencing in order to promote communication was the first and most preferred reason which collaborates with Norval et al. (2014, p. 3925). On the average, relatives have a positive perception that videoconferencing can in a way aid communication between them and their aged ones in care home as well improve their happiness and well-being. The result is in line with Ellison et al. (2011), stating that over the years, technology and social networks have improved social well-being with a greater emphasis on improving communication (Brown et al., 2019; Khosravi et al., 2016) and later well-being. Videoconferencing may seemly be an umbrella that would support the various reasons which relatives have described as the incentives for desiring to take part in videoconferencing calls with their elderly ones.

As regards respondents' expectations of videoconferencing with their older persons, opinion on this was positive. The results showed that 44 of them were optimistic and 2 relatives were pessimistic about its function and usefulness. This question was paramount to the study because expectations and experiences may differ when it comes to carrying out new projects, therefore it was important to measure how much eagerness they would possibly exhibit. It is also notable that the relatives who had negative expectations were unsure or have reasonable fear of adopting certain changes or new ideas. This attitude appears to be similar to the study by Ermisch and Mulder (2016, p. 4) where it was stated that some people may dislike any kind of change or readjustments, hence they stick to their familiar comfort zone (Lehtinen et al., 2009). In agreement with Finkelstein et al. (2011), when there have been actual experiences with the use of the technology in question, it improves the user's perceptions of it, in this case, the relatives with negative expectations may perceive it differently in the presence of concrete experiences. On that ground, qualitative studies can be recommended in order to explore in depth the base for their pessimism. Notwithstanding, the responses from this question are such that the possibility of the implementation of videoconferencing in achieving the goals of improving and enhancing well- being may seem feasible.

On the issue of better care, management and well-being of the aged, no relative disputed that videoconferencing may perform these functions, therefore attention was shifted to the 47 respondents who agreed. The response rate of approximately 85% indicated that they are determined to use videoconferencing because they believed it would make a positive contribution to the care and management of their aged ones, thus the idea of videoconferencing becomes relevant. Ageing and age-related illnesses may be inevitable but are clearly manageable to interventions which places the assumption that technology may avert negative health-related effects (Berrut et al., 2013; Khandelwal et al., 2012). Additionally, many scholars have admitted that social communications and contacts have increased older adults' total well-being (Steptoe et al., 2013). The low response rate of those who were neutral (16.1%) to the statement may perhaps be due to their uncertainty about the concept. For example, if the picture or outcome of the idea is less clear and vague to them or their uncertainty of the health status of the aged person because health issues may impose certain barriers as studied by Vaportzis et al. (2017, p. 9). Despite the uncertainty, it can be possible that the elderly may like to use the concept especially if it will increase their social connection to their family members as stated by Delello and McWhorter (2017) and Tsai, et al. (2015).

Regarding their viewpoint on videoconferencing improving the interpersonal relationship between their aged relative and them, since as much as 85% of the respondents had a positive perception about videoconferencing being able to improve care and well-being of the elderly, it was rational to expect that the same pattern may follow with this statement about interpersonal relationships. Almost 84% of the relatives believed videoconferencing may improve their interpersonal relationships while less than 2% strongly disagreed that their interpersonal relationship may not be influenced by videoconferencing. Relatives' answer to this question is consistent with Zheng et al. (2019, p. 12) and gives information about their level of willingness to take part in a videoconferencing meeting with their elderly ones and how much interpersonal relationships matter to them and especially to their aged. When interpersonal interactions are regularly measured and monitored, it helps both the family and care givers to analyze how best they can improve the well-being of the elderly (Kang et al., 2010). More so, older adults need better interpersonal environments (Hope et al., 2014; Zheng et al., 2019, p. 12). The high response rate indicates that relatives have a concern about their aged persons' interpersonal relationships, mental, emotional well-being and may be keen to experiment with the videoconferencing idea which is reinforced in the research by Damant et al. (2017) stating that cementing family relationships is one of the added advantages of technology.

Relatives' opinion about videoconferencing causing self-imposed stress to their lives highlighted that 40 of them (71.34%) entertained no fears at all while 9 respondents considered videoconferencing as a self-imposed inconvenience to their already busy lives. With much relevance to the study, it was important to ascertain how convenient relatives may be with sacrificing their time and busy schedules to videoconferencing with their loved ones because that may determine their enthusiasm towards it. The 7 respondents who were neutral to the question perhaps had no clue about how much they would be obligated to make out time for videoconferencing or they possibly are not sure of how it can fit into their work or busy schedules. This may suggest the constraints on relatives' time availability due to employment, marital status, family obligations as well as the presence of children (Grigoryeva, 2017, p. 126) can positively or negatively be associated with the convenience of videoconferencing with the elderly. But the high response rate of those who disagreed that videoconferencing could be a potential self-imposed burden to their lives and secular activities indicates to a high degree how relatives may be motivated and willing to create the time and make the efforts to engage in it. Rather than being skeptical, these relatives are willing to sacrifice some of their quality time and energy to videoconference with their elderly ones in as much as it essentially adds to their dignity

and emotional balance, thus giving the videoconferencing idea a conceivable evaluation (Ajrouch et al. 2007).

Even though a high percentage of relatives showed willingness to give their time to make videoconference calls, it was important to know if the health status of their aged would have any effect on their decision. The opinion on this statement was, however, divided among the relatives in this survey as the concern about elderly frailty emerged. From the result, the most dominant group when comparing relatives' opinion on the frailty of the elderly being a hindrance to videoconferencing were those in the agreed group, 20 (35.71%) agreed and suspected that frailty or advanced age of their elderly in care home may thwart the possibility of videoconferencing with them while 19 relatives disagreed with the notion. However, 17 of the respondents were indifferent or neutral probably because they are not sure as to whether age factor of the elderly residents can positively or negatively impact the outcome of videoconferencing. The response rate of those who agreed that frailty of the elderly may hinder videoconferencing from occurring and those who disagreed are quite close. The response to this statement may perhaps convey how worried the relatives may be when it comes to the physical or health status of their aged, for example, if they have dementia or impaired cognitive issues (Dewey, 2020). In any case too, its close response rate may be due to the uncertainty regarding their elderly ones especially if relatives are not sure of how the process will take place. But then, involving the family may be a strong motivation for the elderly to use the concept despite frailty (Barbosa et al., 2019, p.67). More so, Lindley et al. (2009) studied that the aged have a preference for warmer forms of communication which require time with their relatives, commitment and mutuality such as telephone conversations, in-person interactions and lots more.

Of much curiosity to the research was the comfortability and ease of videoconferencing of the elderly residents in care home from their relatives' point of view. As family members, it is assumed that they would know their elderly ones better and are in good position to tell what their aged persons would prefer or like to have. It was observed that 20 (35.7%) respondents believed that their elderly relatives residing in care homes could be averagely comfortable, 20 (35.7%) respondents feel their elderly ones may be substantially comfortable with the concept and 6 respondents think the elderly stand to be greatly comfortable with the idea. Actually, 16.1% (7) of the them assessed that their elderly ones may partially or not feel comfortable with videoconferencing while only 1 (1.8%) respondent thinks that the elderly family member may turn out to be greatly

uncomfortable. The bottom line is that most of the relatives, approximately 83% of them think the elderly will be comfortable with videoconferencing with them, however, the comfortability may be experienced at different appreciable levels with less anxiety and stress. Also, older adults may positively use the videoconferencing technology if they feel the concept will provide pertinent benefits and perhaps considering access to it and its conducive setting (Age UK, 2010). The potential benefit of the use of communication technology such as videoconferencing complements the study of Licciardello et al. (2016, p. 38) and Brenna (2019) which emphasised that the perceived quality of life of the elderly can significantly be increased when they know and use any of the communication technology available. With this information, it can be said that excluding deteriorated health condition of the elderly, most of the relatives' belief the elderly will be comfortable with the videoconferencing concept.

One of the major interests of the research was to find out relatives' probable choice for tackling the loneliness experienced by their elderly who reside in care home. From the result, it showed that when elderly ones have complained of loneliness and relatives are incapable of visiting physically at that particular point in time, their most dominant option was to videoconference, next was calling via the telephone with the choice rate of the former being 75% and 17.86% for the latter. 3 respondents preferred to send a text message while a respondent would prefer none of the options given out. The few respondents who chose sending text messages over all other options perhaps were considering the cost-effective or efficiency part of it, looking at the simplicity and immediate impact it would have over videoconferencing which may require more time to set up. This idea corroborated with some previous studies by Vaportzis et al. (2017, p. 9) and Piau et al. (2014) which highlighted the cost of installation, maintenance and continuity of technological intervention. Nevertheless, the high response rate of those who chose videoconferencing indicates their preference for it. It may be possible that most of these relatives have already been used to making video calls, so they know and understand how it works. This interaction reveals how available relatives are to exploring the videoconferencing idea in care homes for the purpose of the well-being and communication with their elderly ones who live there.

With a high rate of respondents' choice of videoconferencing as an alternative to inability to visit on planned dates as well as willing to include videoconferencing into their schedules, it was expected that the rate of those with the agreed opinion to this statement could be higher than the other options. Therefore, the results indicated that 45 (80.36%)

relatives acknowledged that videoconferencing could probably close the physical or emotional gap between them and their elderly persons, less than 20% of the relatives remained neutral but objective about videoconferencing and its ability to offer emotional reassurance. The high response rate of those who are optimistic about the potential benefit videoconferencing could bring to the emotional and physical health of their elderly ones suggests that the concept may be put to test as it looks seemly relevant to the needs of both relatives and their elderly ones residing in care homes. It may also be capable of solving the problems of time barriers (Bandari et al., 2019; Barbosa et al., 2019, p. 68; Neves et al., 2015).

Almost 90% of the relatives dominated in their response to the question about preference for a care home with an added videoconferencing facility and the option of assistance of the care home staff to operate and arrange for the virtual meeting. Their positive mindset indicated their degree of acceptance of the concept if available in care homes. It is of interest that no relative disagreed with the offer and 6 (10.7%) respondents were neutral. In as much as it is not known why these few relatives did not have a preference for care homes with videoconferencing facilities, it perhaps may be due to unpredictability of the concept, their elderly ones or themselves. However, the data shows that approximately 90% of the respondents desired such an amenity. Their choice for it may be apparently due to the addition of the offer which includes that the staff assist in ensuring that the feeble elderly ones who are not able to operate or arrange themselves for the videoconferencing are supported. The result indicates that the idea of videoconferencing in care homes with the goal of boosting communication and welfare of aged clients may be considered as a recommendable proposal and seems to be an alternative way to monitor and support the elderly (Piau et al., 2014, p. 97). Perhaps, the elderly may be open-minded, waiting for and want to explore new opportunities or try new things (Heinz et al.,2013; Vaportzis et al., 2017, p. 10; Walsh et al., 2017) such as the videoconferencing idea as they may enjoy seeing familiar faces of their relatives (Cudd et al., 2012, p. 228; Fleming & Kydd, 2018, p. 150 & 151). Studies have shown that they are willing to interact and talk with others but they do not have the opportunity to do so especially when they are in positive and joyful moods (Bia, 2020, p. 256 & 257). More so, attempting new opportunities have supported longevity in some cases (MacLeod et al., 2019, p. 77; Vaportzis et al., 2017, p. 10).

Regarding relatives' level of comfort with the financial impact of video communication especially if it makes the elderly one happy, the result showed that 44 (78.57%) of them were comfortable with the financial cost it may bring upon them, 9 were neutral while 3

relatives complained of a high level of financial discomfort and cost it may bring. The videoconferencing system settings in care homes can doubtlessly incur certain expense apart from being time consuming and that may explain why 5.36% (3) of the respondents admitted a degree of discomfort that may come with the concept and its maintenance for the purpose of continuity. This result is in accordance with Piau et al. (2014, p. 97), which stated how significant it is to note that technological devices have substantial potential financial effect, ranging from maintenances, installation, interconnectivity problems, degree of acceptance from the final users and ethical concerns (Vandemeulebroucke et al., 2021, p. 17). Another barrier that can possibly arise is concerning its economic impact and efficiency on the part of the care home. It may be a major issue as to the uncertainty of who will take responsibility of the cost of sustaining the financial implementation of the videoconferencing concept in the care homes or installing smart care home systems (Piau et al., 2014, p. 98). However, most relatives declared great financial comfort, come what may, with any cost that arises for the purpose of videoconferencing with their elderly so long as it elevates their well-being and increases communication. This answer may portray that their perceived benefit of videoconferencing may outweigh cost, hence indicating a feasibility picture of the video concept based on the positive high response rate from relatives.

Technology has helped to present remote means of interactions such as videoconferencing and whatever is the relatives' viewpoint about its use especially during a pandemic and its capacity to alleviate their anxiety is relevant to this research, as its secondary aim. It was not surprising that the dominant response rate was 87.5%, those who had the opinion that remote means of interaction between parties who are distance apart such as videoconferencing had the capacity to alleviate anxieties in pandemic situations, 6 (10.71%) respondents were neutral about the statement while a relative disagreed with the statement. The relatives who remained neutral and who disagreed with the statement may have doubts about the idea and its ability to ease anxiety in a stress filled situation like a pandemic. Moreover, flexible and convenient ways of relieving worries are often times used during periods of pandemic and may likely be opted first because pandemic impact may likely come along with confusion, fear and sometimes movement restrictions such that families are kept apart and will not be able to meet in person for fear of being infected. For example, during the COVID-19 pandemic when a total lock down was declared in most countries, most respondents may have probably had this situation in mind as no one was allowed to visit nor to be visited. Care homes were not an exemption as the elderly were the most susceptible to the virus and especially those with underlying illnesses were

recommended to be indoors. With both the aged and their families on a stay-at-home condition and with both parties being worried of each other (Morciano et al., 2021; THL, 2020; United Nations, 2020), this proposes a positive reinforcement that the videoconferencing feature in care homes may be needed to boost communication and increase the well-being of the elderly residing there. Just as audio calling has a calming effect during such situations, however, most relatives opted for videoconferencing because they think that it will allow them to see their elderly and that probably may be more reassuring and easing tension.

Looking at the distribution of relatives' thoughts about videoconferencing being able to tackle loneliness in the aged persons as well as promote their well-being and happiness, it is seen that only a respondent (1.8%) strongly disagreed with the thought, 10 (17.9%) stood neutral and the dominant rate was 80.3% (45) those who agreed. The neutrality of the few respondents may be attributed to unpredictability of the concept especially when the statement requires them to speak on behalf of the elderly persons and their relieve of loneliness. Although it is a low response rate of 1.8%, it is quite noteworthy to know that the figure may indicate that the videoconferencing concept may possibly have an inadequacy or may not tackle loneliness as effectively as the 45 (80.3%) respondents think. Nevertheless, the 80.3% response rate is quite high, therefore it can perhaps be assumed that respondents are knowledgeable about what can alleviate their aged persons loneliness, elevate their well-being and boost communication with them. Meyer and Schuyler (2011) investigated about factors that led to loneliness in the elderly, it revealed that loss of spouse, when relatives do not care about older adults' feelings and if relatives rarely came home. Therefore, lack of family support points out to be one of the most seeming factors that culminates loneliness. This result demonstrates the need for such health promotion idea in care homes as it is often not prioritized (Karlsson et al., 2020, p. 59 & 60). Moreover, some studies have proposed the utilization of phone technologies to manage elderly persons quality of life, health and well-being (Joe & Demiris, 2013, p. 953; Toms et al., 2019).

Videoconferencing may or may not be a suitable support system for elderly persons in care home as 5 (9.1%) relatives stated it as an unsuitable care system for their elderly, 10 (18.2%) were neutral and 72.7% labelled it suitable. Again, 5 respondents objected to the statement about the suitability of videoconferencing being a good support system to their elderly thus, it brings to light the possibility of probable hindering factors that may exist in the videoconference idea which may not surface perhaps at the initial stage. Furthermore, it

also highlights those relatives may prefer other support systems available to them apart from videoconferencing technology. The percentage of those who doubted its suitability were almost half of the respondents, this unexpected answer is difficult to infer in the absence of further studies and evidences. Similar to the studies by Shen et al. (2017, p. 8 and Wang, et al. (2014), some people have the personal feelings that video calling may not be necessary and are less likely to participate due to certain reasons such as low socioeconomic positions or confidence.

According to the respondents in this survey, other forms or support systems that can cater for the well-being and alleviate loneliness for the elderly in care homes included writing letters (2), sending cards (2), flowers and gifts (1), visiting them physically and have interpersonal conversation will do the magic (2), more planned outings together (1) which corresponds to Fleming and Kydd (2018, p. 150) research which pointed outings out as one of the most important activity the elderly desire to have. Other support techniques comprised seeing them even through the glass windows (1), audio calling to communicate (4), always check on them (1), organising a party or dance or bringing in DJ to play old school music every weekend (1) and anything to prevent spread of communicable diseases (1). These suggestions correspond with Volicer and Simard (2015, p. 967), they mentioned seeing the elderly via the resident's window, singing and giving of cards and art works as practical ways of uplifting the elderly well-being. However, 3 respondents gave no suggestions, 37 respondents had no better idea of any system that can best support well-being and happiness of their elderly. Presumably, the 40 relatives who had no suggestion to give may suggest that on the average, most of them acknowledge videoconferencing as a positive and feasible support system and may not think of any other option at that moment.

By opting for anything as small as seeing them even through the glass windows meant they do not undermine the power of face-to-face contacts. For example, the participants in Shen et al. (2017, p. 9) and respondents in this study endorsed face-to-face communication as well-being and communication boosters. Also, relatives acknowledged the effect of interpersonal conversation and music therapy. Simply listening to music can affect well-being in the aged, hence every effective way can be utilized in order for elderly ones to experience love and feel comfortable. Their participation in any health promotion strategy may have an impact in their reduction in loneliness levels (Vošner et al., 2016). Therefore, any action or activity that can improve well-being, take care of the overall health picture and increase autonomy of the elderly is health promoting which was consistent with the

health promotion model of Pender et al. (2011) and Socialstyrelsen (2019) where well-being is prioritized.

8.2 Discussion of method

The discussion of method explains the reason behind the chosen method of data collection, data analysis, study background and the theoretical framework employed in this research.

8.2.1 Online quantitative survey

The choice of method used for this study, the quantitative research, sought to reveal as well as interpret relatives' viewpoint and attitude to videoconferencing as a way of improving communication and well-being of their elderly ones in nursing home. The questions in the online questionnaire were constructed with simplicity and objectivity in view, and the method had the capability of measuring relatives' perception as well (Sinkowitz-Cochran, 2013, p. 1163). The twenty-eight questions were closed ended questions, they gave insight into the research problem and highlighted the answers to them. They aimed at ensuring that the answers are given to the targeted research questions and to avoid digressing from the goals of the study. After a pilot study was conducted and the survey distributed via three social media channels, respondents had to choose to answer the survey and select the choices available in the objectives of the survey. The fifty-six responses received from the online survey formed the data used for this study. The method also allowed for rapid data collection and the extent of distribution was unlimited (Castellen, 2010, p. 7; Sinkowitz-Cochran, 2013, p. 1159). In addition, the quantitative approach fitted the aim of the study as it targets the intents of relatives as well as quantify perceptions of the target group (McCusker & Gunaydin, 2015, p. 538). Furthermore, the online survey embraced ethnic diversity since there were participants from all the continents. However, there was no follow up on the part of the respondents such that feedback was given to them about the result of the study since the survey was anonymous. Also, the result cannot be a perfect and general representation of all relatives in the world.

8.2.2 Google Doc Survey Analysis Tool

The Google Doc Survey Analysis tool was used to analyse the data. During the data analysis, the important steps that were followed included preparing the data for analysis; summarizing and presenting them using charts and graphs such that the data is described and the relationships between variables are examined. The google survey analysis tool is a

package that have helped to decrease the time of collection, formulation and interpretation of quantitative data. With this analysis tool, the data can also be presented in a spreadsheet where all the questions and every respondent's answer to the survey as well as the timestamp when the survey was submitted were shown but without the names of the respondent. The google spreadsheet data analysis has features such as data sorting, filter, formulas, predefined charts with customization features, googles artificial intelligence suggestions and interactive type of tables such as pivot table (Rajkumar, 2019).

8.2.3 Study background

The health of the human society is of great importance and the growing number of older adults' form part of this society. Their well-being and happiness define their state of health. Therefore, the well-being of the elderly and communication between them and their family members have been of paramount concern in the recent times (WHO, 2020) especially when these aged ones reside in care homes due to certain reasons such as physical or social changes. The effect is particularly strong when the elderly has children or relatives who live far away from the care home where they reside, perhaps abroad due to work or other reasons and can lead to the feelings of loneliness and social isolation. The prevalence and impact of isolation and loneliness on well-being of elderly has been considered a public health matter which has often led to health issues, mental problems and mortality especially those in long-term care home (Volicer & Simard, 2015, p. 966). Therefore, measures that may reinstate their social and mental well-being and reduce the degree of loneliness are being examined and controlled such as videoconferencing.

The well-being of the elderly is also related to the relationship and impact of their relatives; therefore, relatives are involved in the well-being of their elderly as communication also plays a role in boosting well-being. Other studies have indicated that there is a notable increase in loneliness level among elderly living in care homes compared to their colleagues living in the general community (Andrew and Meeks, 2018). Some of them feel neglected by their close families or companions and they find it difficult to engage in social relationships (Kirby & Gilbert, 2020; Wu et al., 2010). Thus, it is pertinent to know the perception of relatives regarding enhancing communication and well-being of their elderly via videoconferencing since the prevalence of video calling or conferencing in care home is quite low (Shen et al., 2017, p. 2 & 9). The background study guided and aided in the construction of the questions for the online survey and the background's conception were referred in the data analysis.

8.2.4 Theoretical framework

The nursing theory of Nola Pender, The Health Promotion model points out the importance of promoting health and well-being of people based on individual circumstances. It was chosen because in the ageing progression, social well-being, communication and mental health are placed on significant positions since they enhance older adults' quality of life (Douma et al., 2017, p. 235; Lou 2010, p. 377). The health model's aim is to aid nurses and caregivers to realize and identify the vital factors behind certain behaviours which will help in directing them on how and where to focus on during counselling in order to promote mental health and well-being.

The health promoting behaviour ultimate goal is to improve health, enhance and promote quality of life. It has no limitation to age because the health promotion behaviours are applicable to all age groups, therefore older adults in care homes are not exempted from health and well-being promotion strategies.

The model focuses on three scopes: individual features and experiences which includes a person's characteristics, behaviour-specific cognitions and affect which is the person's mindset and self-will, and behavioural or mental outcomes is the person's readiness to adopt the health strategy (Pender et al., 2011). The sub-concepts include personal factors such as age and activeness, the psychological factors such as self-commitment, personal capacities and interpretation of health, the socio-cultural elements such as ethnic origin, socialization and socioeconomic status, all these factors influence individuals in different ways (Pender, 2017, p. 326). Relatives who have elderly in care homes have different backgrounds and orientations towards health and well-being promotions as it concerns their elderly ones, have personal capacities to influence the care of their elderly. Hence, it is important to consider what their mental outcome of the videoconferencing idea is and measure their self-commitment to the strategy.

The results of this research indicates that the concept of Pender's health promotion nursing model is a suitable framework for anticipating relatives' reaction towards planning the videoconferencing interventions for the elderly in care homes in order to encourage communication and improving their elderly well-being. It can also be used to follow up related behaviours such as isolation and loneliness as researchers have recommended strategies that can reduce loneliness and isolation as much as possible, thus building a generation of a better well-being (Heydari & Khorashadizadeh, 2014, p.1072).

9 Limitations of the study

This research had some limitations which are highlighted. The study was basically a quantitative study, we have focused our data analysis on the perspective of the few respondents who filled the survey, i.e., relatives who have elderly in care homes. Moreover, the outcome of the result may not be a perfect representation of the general population. Additional form of research, for instance, qualitative study is required to backup this study so that the results can be presented with more precise details and these can be pointed out as a few of the disadvantages of the research method.

For some of the questions that required reasons why certain options were chosen, the research method did not give any room for the respondents to explain further and in details the reasons for their choices, therefore, they could not discuss their responses and neither were they able to get feedbacks about the outcome of the survey since they were anonymous.

Additionally, the survey questions were formulated in a such a way that it allowed for the different perspectives of relatives regarding their aged in care homes, but not the perspectives of the elderly themselves, thereby suggesting a scenario of one-side response on the matter. Hence, the study could not examine the preferences of the elderly themselves according to their various ages and different physical conditions.

Furthermore, the study merged nursing and residential homes as care homes although both of them differ depending on the different services offered and the level of care being rendered. Also, homecare settings were included in the study as care home. From the findings and results in this research, there is a better understanding of what lies in the minds of relatives and the report points to other chief areas for future cohort research which includes an understanding of the elderly and their point of view about videoconferencing in care home.

10 Conclusion and recommendations

The study examined the perception of relatives on videoconferencing and its potential to increase well-being and enhance communication with their elderly in care homes. Analyses from this research has shown that videoconferencing was selected as the most preferred channel to encourage communication and boost the well-being of elderly in care home. The percentage of those who would choose a care home with a videoconferencing facility

was 90%. Overall, the results suggest the relatives' seemly positive outlook on the concept intervention.

The effect of the videoconferencing intervention from the viewpoint of these relatives and in line with the results collected in this research, revealed relatives' optimism about sharing their time and finances in order to videoconference with their elderly, their admittance that they would opt for it because they experience limitations to visiting regularly or as often as they would have wished to and their massive preference for the intervention even more so when the staff in the care homes would assist their aged when necessary to videoconference. This infers that when it comes to technology and social connectedness, the concept can be modified and designed for the aged such that they have additional communication modes that will enable video conferencing without much complications for either the elderly or the staff (Norval et al., 2014, p. 3931; Piau et al., 2014, p. 98). Even so, Shen et al. (2017, p. 8) also confirmed that a combination of both the face-to-face interaction and video calling has boosted the well-being of older adults tremendously.

As suggested at the background of this research, this proposition is aimed at stabilizing social connections despite physical distance and could as well maintain social networks between relatives and their elderly in care homes which are the aim of the concept and intervention in this research. Previous studies disclosed that technology in form of videoconferencing has been used to reach out to people and treat various health situations including social isolation and loneliness (Piau et al., 2014, p. 98; Schuster & Hunter 2019). By encouraging and participating in such preventive measures of loneliness and poor well-being, relatives perceive that communication and social interactions between them and their elderly via videoconferencing would lead to reduction of loneliness as well as improve mental health of the elderly people (Pender et al., 2011: United Nations, 2020) which is in tandem with the result of this research too.

Theeke et.al (2015) and Yunong (2012) in their study and in line with this research results as well showed that increasing social interactions and communication between elderly and especially their family relations improve elderly people's well-being. Such interventive actions would restore happiness and self-worth of the aged because ageing is synonymous to social isolation, then, social isolation leads to loneliness if not curbed (Volicer & Simard, 2015, p. 966). Therefore, creating or organizing networks for meeting and interacting with other people such as videoconferencing can be helpful. Furthermore, the idea of addressing loneliness and poor communication between elderly in care homes and

their relatives has been highlighted in previous studies. It reviewed technology-based communication via video conferencing as a channel that has yielded good results in connecting people together (Hagan et al., 2014). Lindsay et al. (2019) stated that telephone conference is effective in curtailing loneliness in adults and supports continuous social interaction with others.

Videoconferencing can be used to supplement social apprehensions and improve family functions. By using videoconferencing technology, the quantity and quality of communication between relatives and their elderly in care homes and well-being of the elderly could be enhanced (Piau et al., 2014, p. 98). The concept may give a sense of belonging and the feeling of being related to someone which is important for psychological well-being, thus making the care home actually homely (Fleming & Kydd, 2018, p. 150 & 155). Even though they live in care homes, they can still feel at home, secure and also socially connected to their family as similar to a home-like setting. It may be necessary to impress those technological innovations to them since they are as relevant and useful to the elderly and to their everyday lives (Piau et al., 2014, p. 106). In spite of the current barriers to technology full potential, a growing number of older people until now have benefited from the use of any kind of technology.

The significance of the result from this research is not only to discover relatives perceptive regarding videoconferencing vis-à-vis communication and well-being of their aged, but also to validate the necessity of tackling loneliness and isolation among the elderly in care homes with the use of technology such as videoconferencing. It would also be beneficial if there is an adequate comprehension of relatives' needs to assist their elderly in improving and supporting their well-being via videoconferencing such that there would be less barrier to communication during lock downs or pandemics.

The end-users of this concept who participated in the survey have been able to provide feedback about videoconferencing to improve communication and well-being of their elderly in care homes, thereby giving a glimpse into the end-users' perception. By involving relatives who have elderly people in care homes, the videoconferencing preliminary concept seem feasible for use and could be more acceptable by a larger population. This finding may be used to facilitate concepts and interventions that have the potential of giving relatives and their elderly the opportunities to practice laughter and reminiscence therapy even if distance or a pandemic puts them apart (Quan et al., 2020).

Furthermore, if the concept is well tailored, it may satisfy other relevant needs that may not surface at the moment.

Suggestions to realize this idea include creating a network of relatives who have aged ones in care homes, who in this case are partial end-users of the videoconferencing technology so that service organizations for the aged can extract the actual needs of these older adults and their relatives'. This may help to develop and justify the need for new devices and techniques that will promote communication, well-being and ageing in care homes (Hanratty et al., 2019). Relatives' participation and viewpoints, the opinions of the elderly in care homes, their digital skills (Licciardello et al., 2016, p. 39), their attitudes towards keeping the communication line with loved ones open and their perceived relevance and usefulness of videoconferencing concept in the care homes where they reside (Chou et al. 2013; Gibson et al., 2010; Joe & Demiris, 2013, p. 953; Mikkola & Halonen, 2011; Ramírez-Correa, 2019, p. 8; Sundar et al., 2011), the willingness of care givers and human capital of care homes, technological firms, healthcare and service providers and the government or national economy (Bookman & Kimbrel 2011, p. 118; Karlsson et al., 2020, p. 59) should jointly work to achieve the success of this concept.

In as much as there is a priority on meeting the aged preferences and well-being especially at the end of life, it is vital that relatives' or even the public views concerning care homes are given additional consideration in order to create an ageing friendly culture and achieve healthy ageing (Hoe & Orrell, 2021). Today's relative or adult children will belong to the aged group tomorrow, therefore advanced preparations in order to age in place are important (Bookman & Kimbrel 2011, p. 118 & 133). Additionally, the perspective of the aged about matters concerning them are quite important (Mackenzie & Clifford, 2020). Previous works have examined the perceptions and behaviour of older adults toward new technologies (Heinz et al., 2013; Özsungur, 2019; Vaportzis et al., 2017, 7). Also, Victor (2012) spotted out that loneliness in care homes has been a neglected area of study.

Hence, this finding highlights the importance of further research framework that can explore the perspective of the elderly who reside in care home toward videoconferencing in relation to communication and their well-being because this category of residents may have a diverse perspective different from their relatives'. Understanding older adults' perceptions of videoconferencing will assist in introducing the technology to them and their readiness to adopt it into their health regime (Vaportzis et al., 2017, p. 10). It is also relevant to study how open-minded they are towards embracing the opportunities that

videoconferencing may bring (Waycott et al., 2013). The concept may offer a greater potential to communication and well-being of elderly in care home, thus reducing the prevalence of loneliness (Shen et al., 2017, p. 8). However, accessibility, feasibility and implementation of digital technology remains unpersuasive due to issues about ethical rights of the elderly (Neves et al., 2018).

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Appendices

Appendix I

QUESTIONNAIRE

1. Gender
    - Female
    - Male
    - Others
2. Age
    - 18-40 years
    - 41-60 years
    - 61 years and above
3. Marital status
    - Single
    - Married
    - Divorced
    - Widow/widower
    - Cohabiting
    - Separated
4. Number of children
    - None
    - 1-3
    - 4-7

- 8 and above

5. Type or nature of employment

- Part-time
- Full-time
- Casual worker
- Unemployed
- Retired

6. Geographical location.

- Asia
- Africa
- North America
- South America
- Antarctica
- Europe
- Australia

7. I am the only social contact or relative of my elderly one.

- Yes
- No

8. In terms of distance, the location of the elderly care home where my elderly one resides is

- Close to where I live
- Far from where I live
- Neither close nor far

9. I have or had certain limitations to visit the care home

- o Strongly disagree
- o Disagree
- o Neutral
- o Agree
- o Strongly agree

10. In a scale of 0-5 (5=very satisfied), how satisfied are you with the constant visiting or travelling for face-to-face communication?

o	o	o	o	o	o
0	1	2	3	4	5

11. How frequently have you felt incapable of visiting on a planned date?

- o Many times
- o Very few times
- o Hardly ever
- o Never
- o Difficult to say

12. Videoconferencing is live audio and video-based meeting between two or more individuals in different locations. It can solve the challenge of limited capabilities to visit on a regular basis.

- o Strongly disagree
- o Disagree
- o Neutral
- o Agree

- Strongly agree

13. I possess smart mobile devices that are capable of making videoconference calls, I can operate it and I have access to internet.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

14. My strongest reason to participate in videoconferencing with my elderly family is (select one or more answers)

☐ Curiosity

☐ Communicate and see my elderly one

☐ Erase feelings of guilt

☐ Make my elderly one happy

☐ Inability to visit regularly

☐ None of the above

☐ I prefer not to participate in videoconferencing

15. My expectations about videoconferencing with my elderly ones is

- Negative
- Positive
- Indifferent

16. I think videoconferencing can enhance care and management of the health and well-being of my elderly one.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

17. I feel videoconferencing can improve the interpersonal relationship between my aged relative and me.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

18. I have fears that I might be imposing on myself a stressful life by videoconferencing.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

19. I suspect that the age factor or frailty of my elderly one can make videoconferencing almost impossible.

- Strongly disagree

- Disagree
- Neutral
- Agree
- Strongly agree

20. On a scale of 0-5 (5= greatly comfortable), how comfortable do you think your elderly one can be with videoconferencing?

○	○	○	○	○	○
0	1	2	3	4	5

21. If my elderly one complains of loneliness and I am unable to visit at that time, my most preferred option among these would be

- To call with the telephone
- To videoconference
- To send a text message
- None of the above

22. In my opinion, seeing me via videoconferencing can make my elderly one feel physically closer to me and emotionally reassuring.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

23. I would prefer to choose a care home that has video conferencing settings and if necessary, the staff assists the elderly to videoconference.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

24. I am comfortable with the financial impact of video communication if it makes my elderly one happy.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

25. A remote means of interaction such as videoconferencing can alleviate the worry, I may have towards my elderly one in care home especially during a pandemic.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

26. I think videoconferencing can tackle loneliness in the elderly, promote their well-being and happiness.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

27. On a scale of 0-5 (5=strongly agree), videoconferencing could be a suitable support system for my elderly one.

O	O	O	O	O
1	2	3	4	5

28. Is there other idea(s) that can improve communication and well-being of the elderly in care homes? (If yes, what is it?)

_____

Appendix II

COVER LETTER AND LETTER OF CONSENT

Hello all,

Cover letter and Letter of consent.

I am a third-year nursing student in Novia University of Applied Sciences and I have a short survey for my thesis about "Videoconferencing to improve communication and well-being of elderly in care home".

Please fill the survey only if you have an elderly person(s) in care home. It will take a few minutes.

The study aims at identifying relatives' perception of videoconferencing in relation to communication and well-being of their elderly ones in care home. The data collected is used solely for my research, all answers are anonymous and confidential.

Participation is completely voluntary. If you decide not to participate, there will be no negative consequences and if you choose to participate but wish to discontinue at any point, you may do so. By choosing to fill out the survey, it attests that you understand and freely give your consent to participate.

The survey is open from now until 5th February, 2021.

Please contact me if you have any question regarding this study via faieze@edu.novia.fi

Thank you in advance for participating.

Best regards,

Faith Ezerie