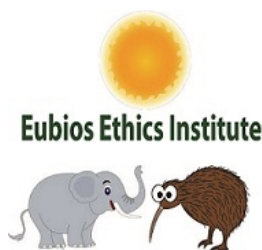


Eubios Journal of Asian and International Bioethics



EJAIB Vol. 31 (7) November 2021

www.eubios.info

ISSN 1173-2571 (Print) ISSN 2350-3106 (Online)

Official Journal of the Asian Bioethics Association (ABA)

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Editorial: Lessons to learn from 2021

As the world continues to face the COVID-19 pandemic, through the Delta variant of 2020 and the Omicron variant now sweeping the world, we should have been reminded of the basics of evolution and the coexistence of life together, not only all people, but all forms of life. Hundreds of other species of animals, not only mammals, are also being infected with the virus that cause COVID-19. We can expect co-evolution of life as we face the coming year.

This last issue of 2021 includes a number of papers on various issues in medical ethics and bioethics. First we start with a paper on ethnomedicine and IKS from Malaysia, which makes us reflect on the wide reservoir of both herbal medicines, as well as the associated wisdom of people. This is followed by two papers on some ethical issues of possible treatments. EJAIB does not endorse any treatment but is open to discussion of potential therapies and the associated ethical issues.

As a growing number of readers will no doubt be already using a vaccine passport, especially if traveling, some still have doubts about such passports. We have already seen attempts to cheat the system by use of false passports, and the criminal case in Germany of an anti-vac nurse who seems to have injected thousands of vaccine recipients with saline instead of actual vaccine. The WeCope statements of 2020 and 2021 have stood the test of time, and I still encourage readers to work together to help develop further statements and reflection from a cross-cultural perspective.

We have perspectives from Japan, Iran, Mexico, Bangladesh, the Philippines, Malaysia, Turkey and Australia. There are papers on law reform as well as actual implementation of existing ethical principles and laws, and education. Please enjoy this celebration of cross-cultural bioethics and the variety of perspectives as a global exercise in bioethics scholarship as we complete the 31st volume of EJAIB! I also look forward to further discussion both live in the conferences and on the pages of the journal. Please reflect on the lessons we need to learn and share them.

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Ethno-bioethics and indigenous traditional knowledge: Use of medicinal plants among indigenous communities living in peninsular Malaysia

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Abstract

Ethno-bioethics and indigenous traditional knowledge assist in rediscovery of new knowledge and practices of a variety of knowledge, inventions, and traditions by local communities worldwide. This paper documents some different types of medicinal plants found in the rainforest of Malaysian National Parks and how they have been used to treat diseases for generations by the indigenous community (*Batek*) of 'Our Village', residing in the state of Pahang in West Malaysia. As the *Batek* community has been living in the forest for many generations, the traditional knowledge of medicinal plant use documented in this study is considered valuable knowledge, as little work has been done to document the oral traditional knowledge of this community. Employing a qualitative approach, the study lasted for about ten months from 2017 to 2018. In-depth interviews were conducted in the Malay language and lasted an average of about 45 minutes to one hour. The study concludes that traditional knowledge of medicinal plants and their use by the local community was transmitted orally from generation to generation. In an indigenous traditional context, culture has played a role in establishing and transmitting a body of indigenous knowledge, beliefs, and practices with regard to the use of locally available medicinal plants for maintaining health and healing diseases.

Introduction

The indigenous people of Peninsular Malaysia, commonly referred to as '*Orang Asli*', have traditionally been using a wide range of medicinal plants to either maintain their health or to heal certain diseases commonly found among the indigenous communities. Medicinal plants have particularly been used for protection against various diseases for thousands of years by the indigenous settlements living in the interior regions of Malaysia's largest National Park (*Taman Negara*).

Herbal medicine is practiced globally, where the selection of medicinal plants through empirical

methodology for generations has amply shown its efficacy towards healing of many diseases and ailments in the past thousands of years. The use of herbal medicine peaked in the 19th century but was then overshadowed by synthetic organic chemistry in the 20th century.

Now, herbal medicine has grown in popularity again due to some inadequacies of orthodox medicine, such as the prohibitive cost of treatment, toxicity of treatment, especially in treating cancer, failure in treating some cancers, and ineffectiveness against some chronic illnesses like rheumatoid arthritis and SLE (Yew and Noor, 2015). Nevertheless, herbal medicine is still deemed as dietary supplements in the United States but not scientific medicine due to limited scientific research confined to a few medicinal plants and largely just at the in-vitro stage. In other countries, like many Asian, African, and South American countries, dual medical systems, namely orthodox and traditional medicine, exist side by side.

Before the knowledge of some medicinal plants is lost permanently due to the passing of indigenous healers or herbal practitioners, and the loss of once abundant flora and fauna due to economic development, anthropologists need to document and capture the essential knowledge of medicinal plants and the traditions of cultivating, harvesting, and preparing them.

Ethno-bioethics and indigenous traditional knowledge offer information from various indigenous ways of existing and future projects that are founded on ethical views developed from practical experiences in communal life, traditional knowledge of indigenous and local groups' knowledge, inventions, and traditions all over the world. Traditional knowledge is passed down orally from generation to generation, derived from decades of experience and suited in the local culture and environment. Over the last several decades, indigenous traditional knowledge has gained visibility with new research interests by local and international researchers. The importance of the holistic approach of indigenous knowledge systems was emphasized by the UN. Indigenous knowledge systems significantly contribute to the preservation of biological and cultural diversity, poverty alleviation, conflict management, food and nutrition security, and ecosystem functions, and contribute to indigenous peoples' resilience in mitigating the impacts of climate change (United Nations Permanent Forum 2019).

Worldwide indigenous traditional knowledge in medicinal plants use

Case 1: Chinese herbal medicine

The use of medicinal plants for healing in China has been practiced for about 3000 years. Shennong is known as the founder of Chinese herbal medicine. It is known widely that through his empirical practice of trying out hundreds or perhaps thousands of herbs, he was able to instruct and guide his people on the use of medicinal plants (Chan, 1995). His life-long work was compiled in *Shennong Materia Medica* (Shen Nong Ben Cao Jing ~220 CE).

Traditional Chinese medicine firmly believed in holism and balance (Yin and Yang) and subscribed to the fundamental "Five Elements Theory", wherein organs of the body are inter-related (Chan, 1995). Thus, when an

organ is in imbalance, such as in the state of inflammation, it will affect another organ connected to it. Thus, when the liver suffers (wood element), it will bring imbalance to the heart (fire element) to a lesser extent too. Treatment of the liver by herbs will play the principal role, and treatment of the heart by herb will assume an associate role. The amount of herb used is determined by the severity of the imbalance and is tailored to each individual patient. Also, treatment by symptom is extended to non-symptom organs too.

In the advent of improved orthodox medicine, traditional Chinese medicine has seen innovations to become scientific and improve its efficacy and delivery. The attempt to treat malaria by rummaging through the vast array of 2,000 Chinese herbs yielded *Artemisia annua* (*Qinghao* in Chinese) and a reference to an ancient text by Ge Hong (284-346 CE, *A Handbook of Prescriptions for Emergencies*) has led to a drug, artemisinin, earning the Lasker award and Nobel Prize in Medicine for Tu Youyou in 2015 for effective malaria treatment (Neill, 2011; Su & Miller, 2015).

Case 2: Indigenous peoples' medicine in Canada

The indigenous peoples of Canada have identified over 400 different species of medicinal plants for the treatment of various ailments. Also, they have devised some protocols for foraging, preparation, and application of medicinal plants with some spiritual elements (Uprety et al., 2012). Europeans and other immigrants to Canada benefited from the plant medicines of the indigenous people. With the introduction of new diseases by newcomers to Canada, indigenous people were able to use existing medicinal plants as well as develop new plant medicines to combat diseases such as smallpox, tuberculosis, measles and some venereal diseases.

As highlighted by Nancy J. Turner (2014), some of these plant medicines have been adopted for current orthodox medicine usage, such as cascara bark as a laxative medicine and anticancer drug, Taxol derived from Yew trees, and many others. Tobacco, sage, cedar and sweetgrass are some of the fundamental and important medicines for indigenous people in Canada.

Case 3: Bush medicines

Bush medicine is the traditional medicine of the aboriginal and Torres Strait Islander peoples of Australia, where herbal medicine is a major component. The indigenous peoples of Australia also adopted a holistic view of healing where physical, emotional, social, and spiritual aspects are deployed. In bush medicine, plant materials such as bark, leaves and seeds are used. For example, turmeric is now used for its anti-inflammatory effect (Shahid et al., 2010).

Case 4: Native American medicine

Native Americans have a long history of using native plants for healing purposes. They usually gathered medicinal plants from their surroundings and sometimes traded herbs from distant lands. New immigrants to America found many herbal remedies superior to their own (Cohen 2006). Nowadays, American people have warmed to the use of medicinal plants as part of

complementary medicine. It is found that of the 10 top-selling herbal dietary plants, 7 of them are used by Native Americans, and as many as 200 medicinal plants used by Native Americans are still in use in the current era (Borchers et al., 2000).

The indigenous peoples of Peninsular Malaysia consist of three main ethnic groups: Negrito, Senoi and Proto-Malay. They can be further sub-divided into 18 sub-ethnic groups (Carey, 1976). The use of medicinal plants is widely practiced among all 18 sub-ethnic groups. Nevertheless, there is no uniformity of medicinal plants and healing methods among them and no full written records of the types and total number of medicinal plants regarding each sub-ethnic group. Thus, this paper aims to document the different types of medicinal plants found in the rainforest of *Taman Negara* and how they have been used to treat diseases for generations by the indigenous community (*Batek*) of the 'Our Village' in West Malaysia.

Methods

Study Area: The study sites included three settlements characterized by a hilly landscape, mountains, waterfalls, rivers, and forests. Overall, in the study settlements, most of the villagers are of the *Batek* tribe, with *Jah Hut* living nearer to the town. The villagers speak their local indigenous dialects, respectively. The Malay language has been the common language used when communicating with people outside their tribe. Most indigenous people who live in the settlements are dependent on agriculture, forest products, and work as forest guides for visitors to the National Park of Malaysia (*Taman Negara*).

Sampling: The sampling method combined both purposive and snowball sampling techniques. First, five elderly villagers were purposively chosen in the study area "Our Village". Three interdependent criteria were identified for selecting the appropriate informants: (1) regular indigenous man/woman collecting forest produce (including medicinal plants) as a source of cash income; (2) indigenous man/woman who are knowledgeable about medicinal plant species and their usage; and (3) indigenous man/woman growing medicinal plants in the homestead of the study village. Second, as most middle-aged villagers were spending many weeks in the forest collecting forest products such as rattan for their own economic support, the researchers approached another settlement, which is about a kilometer away. Another seven informants aged 40 to 50 years old were interviewed individually. Finally, six more informants from three age groups (30s, 40s and 50s) from a settlement much nearer to a small town in the National Park shared valuable information on indigenous knowledge about the use of medicinal plants compared to informants of the previous two settlements. For each of the settlements, a key informant was interviewed, and the rest of the informants were selected by snowball sampling (Corbin and Strauss, 2015). A total of 18 informants (8 female and 10 male) were interviewed aged between 35 and 65 years.

Data Collection: The study lasted about ten months from 2017 to 2018, and was carried out in the interior region of *Taman Negara*, employing a qualitative approach with two purposes: First, as an anthropological study using in-

depth interviews to explore the names and functions of each medicinal plant, with information obtained from 18 elderly men and women of 'Our Village'. Second, as an exploration of the local culture in relation to traditional knowledge utilized in the planting and preparing of the medicinal plants. Key informants in the community knowledgeable about medicinal plant use, indigenous culture, and traditions provided data on medicinal plants and their use. In-depth discussions were encouraged and undertaken during individual interviews. In-depth interviews were conducted in the Malay language and lasted an average of 45 minutes to one hour. Several questions about the anthropological study would be asked if informants were exposed to the Western healthcare system and thus might have had different beliefs and perceptions about medicinal plant use. Ethnographic studies on medicinal plants include plant information such as local names of species, parts used, mode of preparation and disease treated. The use of medicinal plants as home remedies for common ailments or diseases is based on the use of parts of plants or plant extracts.

Results

15 species of plants (Table 1) have been reported as medicinal by the indigenous sub-ethnics in the rainforest of Peninsular Malaysia. The medicinal plants were recorded based on uses by the sub-ethnics of *Batek* and *Jah Hut*. Leaves and roots are the most common parts that have medicinal uses.

Discussion

The findings of the study highlight two important observations. First, traditional medical knowledge of medicinal plants and their use by the local community was transmitted orally from generation to generation. In an indigenous traditional context, culture plays its role in establishing and transmitting a body of indigenous knowledge, beliefs, and practices regarding the use of locally available medicinal plants for maintaining health and healing diseases (Vivien and Noor, 2013). Key informants' in-depth interviews and participant observations (Corbin and Strauss 2015) reveal how the local community perceives, understands, and uses medical plants for their health and against diseases based on cultural interpretations. However, the cultural interpretations of pain, health and disease may lead them to use other methods until the pain or the disease disappears. When the indigenous community cannot find a cure or remedy, they will seek help from a shaman or turn to a professional health provider. Thus, medical pluralism is practiced among the indigenous community until a cure is found (Yew 2015). Second, the cultural construction of health, disease, healing, and the use of medicinal plants indicates a holistic approach that considers health, disease, and healing as a process with interrelationships among nature, spirit, society, and the individual. As such, in the context of indigenous cultural beliefs, healing involves an individual, society and the forces of nature.

Conclusion

Ethno-bioethics and indigenous traditional knowledge provide for the rediscovery and practices of a variety of knowledge, inventions, and traditions by local communities. Indigenous medicinal plants are found to be widely used among the indigenous communities in Peninsular Malaysia. The process of documentation of indigenous medicinal plants could be further explored for any possibility of commercial use as modern medicines.

Acknowledgements

This study was supported by MPOB-UKM Endowed Chair, Research Grants (EP-2017-061 and EP-2019-054). The authors thank all the indigenous participants for sharing their useful traditional knowledge on medicinal plants use.

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Table 1: Indigenous medicinal plants used in treatment

Scientific Name	Local Malay dialect	Plant part used	Mode of Preparation & medicinal uses
<i>Psidium guajava</i>	Jambu Batu	Leaves	Fresh plant parts chewed after cleaning in diarrhea
<i>Eurycoma longifolia</i>	Tongkat Ali	Root	Roots boiled in water frequently consumed to lower blood pressure
<i>Labisia pumila</i>	Kacip Fatimah	Whole plant	Whole plant boiled with water for regular hot water bath to strengthen women's body after giving birth (for smooth blood flow)
<i>Musa</i>	Pisang	Flower	Consume as salad or stir-fry for anemia
<i>Manihot esculenta</i>	Ubi Kayu	Leaves	Stir-fried with choice of sauce and consumed regularly to treat stroke, migraine
<i>Rafflesia</i>	Bunga Pakma Rafflesia	Flower	Flower to be dried and boiled for women who have just given birth to aid in recovery, for diarrhea, to treat thyroid
<i>Carica papaya</i>	Betik	Bunga	Flower boiled with water for lowering blood pressure
<i>Saccharum officinarum</i>	Tebu	Branches	Sugar cane juice obtained by crushing plant parts for regular consumption and relief from body pain
<i>Cocos nucifera</i>	Kelapa	Juice	Coconut juice to relieve hangovers
<i>Muntingia calabura</i>	Pokok Cherry Malaysia	Leaves	Leaves boiled in water frequently consumed to lower blood pressure
<i>Chromolaena odorata</i>	Pokok Kapal Terbang	Leaves	Plant parts crushed to obtain a soft moist mass generally used externally to stop bleeding
<i>Parkia speciosa</i>	Petai	Seeds	Eating the seeds fresh to treat kidney disorders
<i>Morinda citrifolia</i>	Mengkudu	Fruit	Fruits boiled in water and consumed for diabetes
<i>Hibiscus rosasinensis</i>	Bunga Raya	Flower	Flowers crushed to obtain a soft moist mass generally used externally to treat migraine and headache
<i>Alpinia galanga</i>	Lengkuas	Leaves/fruit	Fruit cooked with meat to improve digestion

Egg yolk consumption and the risk and severity of COVID-19: Need for research

5

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Abstract

Vitamins A, E, D & K, and zinc and selenium are known to increase immunity against infections. Recent research

showed that people with compromised immune systems are at a greater risk to suffer from the novel coronavirus. Egg yolk contains vitamin A, E, D, K, and zinc and selenium. Many of coronavirus quarantine facilities, patients in recovery from the diseases and healthcare workers are offered eggs in their daily meals to boost up immunity. General people are encouraged to take vitamin A, D, C, K and zinc to boost up their immunity. There may be a relation between consumption of dietary micronutrients and a rapid recovery from COVID 19 that has not been studied until recently. Available data regarding egg yolk consumption and risk and severity of COVID-19 are inconclusive. Considering the present outbreak of COVID-19 throughout the world, studies in this area are direly needed. Prioritizing such studies have ethical importance as well. Such studies will be of utmost interest in prevention, management, and development of nutritional guidelines. Furthermore, it may have tremendous impact on the policies to fight against COVID-19.

Introduction

COVID-19 has affected more than 222 countries of the world, infected more than 217 million people, and taken the lives of 4.5 million patients as reported till August 30,

2021¹. Old, urban, and financially solvent people are more vulnerable to COVID-19 than young, rural, and economically marginalized population^{2,3,4}. Scientists are studying the etiology of risk and severity of COVID-19. Researchers have proposed different causes for varying severity of infection from corona virus. Warm-humid conditions⁵, BCG (Bacillus Calmette-Guérin) vaccine^{6,7}, higher young population⁸ and low testing rate⁹ might have caused a lower rate of COVID-19 cases in developing countries. All are assumption without strong scientific basis.

However, people with compromised immune systems are at a greater risk with coronavirus. Vitamins A, C, D, E, K, and zinc and selenium enhance immunity against infection¹⁰. Egg yolk contains vitamins A, D, E, K, zinc, and selenium^{11,12}. Many physicians prescribe eggs in their daily meals to boost up immunity against coronavirus in quarantined people, patients in recovery and healthcare workers assuming that egg consumption will protect them from COVID-19 infection in contacts. General people are suggested to consume vitamins A, D, C, K and Zinc to boost up their immunity. As immunity is considered protective against all type of infections, it may also be applicable to COVID 19. However, adequate data is not available. There may be relations between egg yolk consumption and early recovery or not getting infected by COVID-19. No data is available regarding egg yolk consumption and risk and severity of COVID-19. Research priority often extends to ethical consideration. All aspects of human live have been negatively affected by COVID-19 pandemic in the world. In this circumstance research on how to fight against it may deserve ethical priority.

Methodology

A retrospective normative research was done by systematic literature review from July 2021 to September 2021 to understand whether there were any relationships between egg yolk consumption and risk and severity of COVID-19. English-language articles were reviewed only. Medline, ISI, Web of knowledge, Web of Science, Google scholar, Science Direct, Embase and Cochrane database were used as search engines for literature. Keywords for search were egg yolk, egg consumption, immunity, Covid-19 pandemic.

Ethical clearance was obtained from Bangladesh Medical Research Council. It is a retrospective review research, using secondary data; no ethical issues were present. Plagiarism was checked by iThenticate software.

Discussion:

Composition of egg yolk: A single egg yolk contains all vitamins except vitamin C and vitamin B₃ (Niacin)^{11,12}. It is composed of 50% yolk proteins and less than 10% yolk lipids. It has immunoglobulin Y-IgY, vitamins A, D, E and K, lecithin, xanthophylls (for vision), calcium, potassium, iron, phosphorus, zinc and selenium¹². But people have the misconception that egg yolk is full of fat and cholesterol anticipating heart diseases,¹³ diabetes¹⁴ and weight gain¹⁵. Actually, its fat provides a major source of energy. 1 gram fat provides twice the energy from protein and carbohydrates¹⁶. Most organs like heart, liver, kidney, and skeletal muscles get energy from fatty acid oxidation

for normal functioning. Skeletal muscles and adipose tissue cells also utilize glucose after a regular meal only¹⁷.

Fat and immunity: Essential fatty acids (EFAs) e.g., linoleic acid (Omega-6) and alpha linolenic acid (omega-3) decrease allergic reaction and inflammatory activity, increase immune response, decrease blood pressure¹⁸ and prevent from breast cancer¹⁶. EFAs are converted into prostaglandins and eicosanoids, which control biochemical reactions inside cells¹⁹. EFAs also contain all fat-soluble vitamins (FSVs), essential for proper body functioning¹⁰. In addition, FSVs and calcium are absorbed from the intestine in the presence of fat. Moreover, FSVs are antioxidant, and have a clear role in immune function by producing antibodies. Antioxidants play an important role in the prevention of cancer²⁰ as well. Therefore, fat is essential for life. Egg yolk is an ample source of fat.

Deficiency of FSVs and immunity: Vitamin A keeps moist the mouth, respiratory passage and skin. Deficiency of vitamin A causes dry mouth, rough skin, respiratory infection¹³, night blindness, faulty tooth development, and slower bone growth¹⁰. Vitamin A deficiency decreases neutrophil development, increases inflammatory cytokine release by macrophages and decreases the number of natural killer cells and their lytic activity leading to decreased immunity. Therefore, communities may suffer a high prevalence of infection due to vitamin A deficiency²⁰.

Vitamin D is normally produced by the skin in presence of cholesterol when exposed to sunlight. So, vitamin D is known as the sunshine vitamin. Staying indoors and longtime sedentary indoor work reduce blood vitamin D levels²¹. Almost 50% of the population who remain indoor, use sunscreen, and reside in northern climates had vitamin D deficiency linked to respiratory infection¹⁰. Vitamin D deficiency causes rickets in children, osteoporosis, osteomalacia (muscle and bone weakness), high blood pressure, autoimmune diseases, type II diabetes, infectious disease, and cancer²². Vitamin D supplementation decreases acute respiratory tract infections by 12% to 75% including both the seasonal²³ and pandemic flu caused by H1N1 virus in 2009²⁴. Vitamin D supplementation greater than 1000 IU improved immune functions and decrease flu symptoms and recovery faster from infection²⁵. Vitamin D is required to enhance calcium absorption from intestine that improves immunity¹³.

Vitamin E is an antioxidant that protects human beings against infection¹⁶. Vitamin E decreases the risk of heart disease, Alzheimer's disease and cancer¹⁰. Vitamin K is crucial for blood clotting and promotes growth of the bone. Without enough vitamin K, hemorrhage can occur¹⁷. One can get vitamin A, D, E and K from a single egg yolk for protection from infection.

Egg yolk and weight loss: Fat has been considered bad since the World War II. Some have proposed that fat increases weight²⁶, while others have observed decreases in weight¹⁹. But since late 1980s, the keto diet with high fat and protein and low-carbohydrate is recommended to

lower weight. It is said that if people consume less than 1200 calorie in weight-loss programs, immune functions of body may decrease¹⁶. Therefore, the World Health Organization recommends 30% calories by daily fat consumption²⁷. But the Scientific Advisory Committee changed their policy and recommended that Americans should consume up to 35% of fat²⁸.

Egg yolk and heart disease: Egg yolk is seen as the source of vast amounts of cholesterol associated with weight gain¹⁵, diabetes¹⁴, and heart disease¹³. A study conducted at the University of Connecticut found that the fat present in egg yolk actually helps to reduce the bad cholesterol from the body²⁹. However, Women's Health Initiatives (WHI) study suggested that a low-fat diet was not preventive of cardiovascular disease in post-menopausal women³⁰. Recent research found that eating at least 12 eggs a week for three months did not increase cardiovascular risk factors for people with prediabetes and Type 2 diabetes¹⁴. The National Heart Foundation in Australia changed their policy and recommend a maximum of 6 eggs/wk for persons with Type 2 diabetes³¹. Moreover, the American Diabetes Association recently recommended consumption of total cholesterol up to 300 mg/d³².

Egg and socioeconomic group: Old, village people and economically marginalized people are more vulnerable to COVID than young, urban and affluent society. Study shows that most of the young age below 30 consume 7 eggs week³³. Another study from British Columbia in Canada revealed that most of annual household Canadians <\$40,000, consume more eggs in comparison with household income \$50,000-60,000 and 60,000-80,000 and >1,00,000³⁴. It is said that in Bangladesh lower middle and low socioeconomic levels are less infected (Public Communication 2020). In Bangladesh egg is eaten by low socioeconomic groups at lunch or dinner time as egg is very cheap and easily available. Egg yolk could be the cause of the low rate of coronavirus in developing countries.

Conclusions

From above literature it is seen that egg is a high source of vitamins, minerals and antibodies that provide immunity to help survive from infections. There may be relations between egg yolk and micronutrients for early recovery or not getting infected by COVID-19. No data is available of relationships between previous egg yolk consumption and risk and severity of COVID-19. So, it is ethical to urgently prioritize research to find out relations between egg yolk consumption and risk and severity of COVID-19. Costly medicines can be used during COVID-19 pandemic. However, it is ethical to use inexpensive measures that are more economical and natural. The diet of egg eating may reduce the medical costs of governments and flatten the coronavirus curve. Pharmaceutical industries, universities, research institutes or individual researchers may come forward to undertake such research by designing different methodologies. This is a moral and social duty to develop comprehensive protection

management and prevention regiment from COVID 19 suffering.

Acknowledgements

We acknowledge and thank Bangladesh Medical Research Council (BMRC) for grants for this research. This research is done at Research Unit, Medical Education, Shahabuddin Medical College. We thank authorities of Shahabuddin Medical College for their cooperation. Some part of this article has been presented in the 21st Asian Bioethics Conference, August 2021.

Conflicts of Interest: Authors declare no conflict of Interest.

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Use of convalescent plasma in COVID-19, a bioethical perspective

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Abstract

Currently, the COVID-19 pandemic is a huge threat to global health. Several treatments have been proposed for it as well as adjuvant treatments that can allow strengthening of the immune system when fighting the disease. In this work, we review the use of plasma as a treatment for COVID-19, evaluating their risks, benefits, previous use, and bioethical aspects.

Introduction

Convalescent plasma therapy has been used for more than 100 years to treat several diseases, with varying degrees of success. For example, it has been tested against measles, Argentine hemorrhagic fever, influenza, chickenpox, cytomegalovirus infections, parvovirus B19 as well as in the Middle East Respiratory Syndrome (MERS) caused by a specific coronavirus, and in the H1N1 and H5N1 influenza variants (Marano et al. 2016).

The current coronavirus disease 2019 (COVID-19) pandemic has caused a lot of economic and human losses (Burlacu et al. 2020; Briggs et al. 2021); this poses a challenge to public health systems around the world in trying to contain the damage that this terrible disease has generated. On the other hand, the scientific community

has been immersed in an unprecedented race to find new therapeutic options (Attia et al. 2021). Given the current world panorama, the convalescent plasma is seen as a therapeutic alternative in patients infected by SARS-CoV-2.

COVID-19 overview

SARS-CoV-2 (a positive single-stranded RNA virus) has been seen to alter the normal immune response, making it deficient and creating an uncontrolled inflammatory response, especially in patients with severe or critical illness. These patients might exhibit lymphopenia, lymphocytic dysfunction, and abnormalities in monocytes and granulocytes, as well as elevated levels of cytokines and an increase in immunoglobulin G (Yang et al. 2020).

Virus transmission between humans is through the respiratory secretions of infected people, especially during expulsion by coughing or sneezing, of small droplets and aerosols that can cross the air. The clinical picture of COVID-19 can manifest a wide variety of clinical symptoms, from an asymptomatic patient to those with multiple systemic compromises, respiratory failure, and death (Tay et al. 2020; Lewis 2020).

In January 2020, the World Health Organization (WHO) declared SARS-CoV-2 a global emergency. The first case reported in Mexico was on February 28, 2020. By January 30, 2021, the Johns Hopkins University of Medicine, through the Coronavirus Resource Center, reported 102,257,414 cases of people infected by SARS-CoV-2 worldwide and 1,841,893 cases in Mexico, of which 156,579 have died from COVID-19, placing Mexico in 3rd place of deaths after the US and Brazil (Johns Hopkins University of Medicine, Coronavirus Resource Center. s. f.).

Plasma, quantity definition, method of obtaining and storage

Plasma is the liquid component of the whole blood. It is preferably frozen within the first six hours after being obtained in a quantity between 150 ml and up to 600 ml. Plasma contains normal levels of stable clotting factors, albumin, and immunoglobulins (Storch et al., 2019). Therapeutic plasmapheresis is the process of separating and removing the plasma from other components of the blood and is considered an adjunctive treatment for diseases; it is based on removing substances such as cytokines or autoantibodies which can be therapeutic in certain situations (Balagholi et al., 2020). Plasmapheresis is performed by 2 fundamental techniques: centrifugation or filtration. With apheresis by centrifugation, the blood is divided into 4 components and separated into layers by their different densities; it is commonly performed by chemists, and its advantage is that there are no limits to the size of the molecules that are being removed. With filtration plasmapheresis, all blood passes through a filter to separate plasma components into red blood cells, white blood cells, and platelets, it is commonly performed by nephrologists and intensivists (Nguyen et al., 2012).

Plasma therapy is generally indicated to replace the deficiency of coagulation factors before invasive surgeries where there is a risk of severe bleeding or in cases where the concentration of the specific factor to be replaced is not enough. In these circumstances the requirements for

an effective plasma therapy are laboratory confirmation of any coagulopathy by PTT or PT, fibrinogen level; determination of factor X or XI deficiency; specification of the dose according to the objective of the therapy; control of the efficiency of transfusion by laboratory analysis; and specification of transfusion intervals.

The transfusion is carried out intravenously using peripheral veins with a transfusion device that contains 170-210 micron filters to retain clots. Several units of plasma can be transfused using the same transfusion set (4 plasma for therapeutic use, 2009). In Mexico, before the transfusion, tests such as blood group and RH, HIV serology, hepatitis B, and C viruses and syphilis should be done (Secretaría de Salud, 2007) but certainly, as in other countries, some pathogens may escape from standard screening and inactivation procedures (Udvardy, 2018).

History of the use of plasma as a treatment

When suffering from a disease, the human body generates antibodies against a specific antigen; these antibodies together with the immune system respond to an infection caused by that pathogen (Berry and Gaudet, 2011). However, the antibodies production requires time, and every human being has a different response. For this reason, antibodies collected from patients who suffered from the same disease or artificially generated antibodies can be considered as a way of offering instant immunity to susceptible cases in a short period.

In 1901, Emil von Behring became the first laureate of the Nobel Prize in Medicine/Physiology for his work in serum therapy, especially testing its application against diphtheria. This opened a new path in the domain of medical science. His work gave rise to the so-called "Behring's Law" that blood and serum from an immunized individual transferred to another individual can cause the latter to be immunized. It has allowed the development of passive immunity concepts, establishing that what is transmitted through the plasma are antibodies that the donor has generated against certain pathology towards the recipient. Based on these findings, the treatment of multiple pathologies evolved (Nobel Prize in Physiology or Medicine, 1901).

The use of convalescent plasma is a passive immunization strategy that has been used in the prevention and treatment of epidemic infections for more than 100 years. In 1907, it was used in Italy for the first time to protect children infected with measles and in 1916 to treat acute paralysis during a polio outbreak in New York, in both cases proving their efficacy (Marson, Cozza, & De Silvestro, 2020). Also, this kind of intervention was recommended as an empirical treatment during the outbreaks of Ebola (Garraud, 2017) and MERS (Mustafa, Balkhy & Gabere, 2018). It has also been used to treat other viral infections (Hui et al., 2018).

In case of prescribing convalescent plasma, antibodies should be administered as early as possible to maximize their effectiveness, because there is the possibility that the number of antigens is much higher than antibodies when the disease becomes severe, thus reducing its effect (Samad et al., 2020).

The use of convalescent plasma in COVID-19

Although preventive measures have reduced the spread of COVID-19 such as social distancing, hygiene, and protection with face masks (Moran et al., 2021), scientists have been looking for cures for this disease and in 2021, vaccines from different countries were approved for massive use. However, convalescent plasma is still an option in the contention of this disease.

In summary, it has been observed that the use of convalescent plasma reduces the mortality rate, decreasing the viral load and improving the clinical condition; it not only neutralizes the pathogen but also provides immunomodulatory properties that allow controlling the inflammatory cascade that is created due to the infectious agent (Rojas et al., 2020).

Potential convalescent plasma donors must go through a pre-donation check-up to ensure that they fulfill the appropriate conditions: They must be between 18-65 years old, without symptoms, and a negative test for COVID-19 (qPCR or serology) after 14 days of recovery (this test must be performed again 48 hours later), a negative test for COVID-19 by pharyngeal swab and / or blood sample at the time of the donation, neutralizing antibody titer greater than 1:320, and a check that the donor is free of infectious-contagious diseases.

The recommended procedure for obtaining plasma is apheresis by centrifugation; the plasma administration range is between 200-500 ml; currently the recommendation is to administer 3 ml/kg/dose in 2 days. The efficacy of this procedure relies on the neutralizing antibodies concentration in the donor plasma; these antibodies bind to the spike 1 receptor binding protein of the coronavirus (S1-RBD) and to the terminal domain S1 and S2, inhibiting their entry and limiting viral amplification, in addition to other antibody-mediated pathways such as complement activation, cellular cytotoxicity, and phagocytosis that can promote the therapeutic effect of convalescent plasma (Rojas et al., 2020).

It is a therapeutic product with special characteristics and should be stored in a differentiated form from the rest of the blood components, clearly indicated on it: "Convalescent plasma for use in studies related to SARS-CoV-2". The expiration date will be in accordance with the storage practices of blood banks; for fresh frozen plasma being 1 year from the date of collection if stored at -80°C or less and must be frozen within 8 hours after collection.

In clinical trials, one unit of plasma (200 ml) is used for prophylaxis and two units (400 ml) for treatment. The duration of the effectiveness of the antibodies decreases through time. It is estimated to last from weeks up to a few months. After 40 days from recovery, convalescent plasma no longer has a significant number of antibodies. In a previous use of SARS convalescent plasma therapy, 5 ml per kg was used at a titer of 1:160; in linear proportion 3.125 ml of plasma per kilogram with a titer of more than 1:64 would provide adequate therapy (Alcántara, 2020).

Discussion

Given the current world panorama, in-depth research is needed to assess the benefits of a new treatment option. Convalescent plasma has been used as a therapeutic

alternative since ancient times. The use of plasma as a therapeutic modality to treat infectious diseases has been known for more than 100 years, being of great benefit in certain pathologies, while in others being moderately or not effective.

The benefits of this therapy are still uncertain against COVID-19 although the evidence seems to indicate a clinical improvement while its risks are the same as in other cases of transfusions, that is, allergic reactions, possibility of transmission of infectious agents, anaphylaxis reactions, acute lung damage as well as hemolysis among others (<https://www.covid19treatmentguidelines.nih.gov/anti-sars-cov-2-antibody-products/convalescent-plasma/> 2020). Overall, plasma donation is safe for patients and adverse effects are rare.

The Food and Drug Administration (FDA) has approved the emergency use of the convalescent plasma in the United States considering the possible benefits of this therapy, which include an improvement in symptoms, a reduced need for supplemental oxygen and mechanical ventilation, and possibly a reduction in mortality. The data suggest that the use of convalescent plasma from patients with COVID-19 that have high antibody titer is more likely to be effective in reducing mortality in hospitalized patients (FDA).

In South America, several countries have implemented specific protocols to administer convalescent plasma to people with COVID-19. Those developed by Bolivia and Venezuela (Nina Garcia & Cussi Coronel, 2020; Sánchez et al., 2020) attract attention. In Mexico, there are some protocols recruiting patients to be treated with convalescent plasma (NCT04356482; NCT04405310).

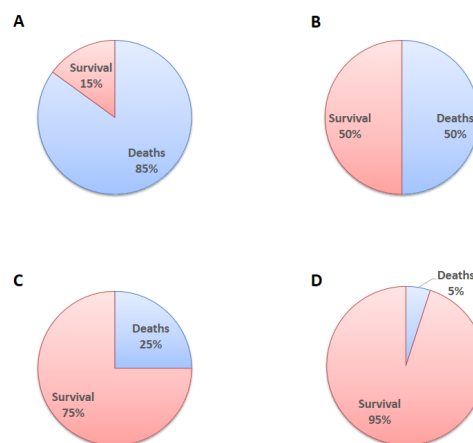


Figure 1. Examples of different percentages of deaths and survival to decide whether to try the use of convalescent plasma

A bioethical aspect of the use of convalescent plasma

The Mexican Ministry of Health reports that the morbidity rate of SARS-CoV-2 is 16.18 per 1000 patients (consulted on January 30, 2021). However, morbidity could be higher due to persistent under-diagnosis in this nation.

Medicine as science has had the ultimate goal of safeguarding human health by all means but always

respecting the four principles of bioethics: autonomy, beneficence, justice, and non-maleficence (Holm 2002). In relation to COVID-19 and convalescent plasma, one paradoxical situation we are facing nowadays is that this blood product is stored in blood banks without being used due to the lack of authorized research protocols in hospitals where it is obtained. For example, the average activity of the Blood Bank of the “Mónica Pretelini Sáenz” Maternal-Perinatal Hospital (HMPMPS), Health Institute of the State of Mexico (ISEM), Toluca, Mexico, shows that since the beginning of this pandemic (approximately March 2020) 1,100 packages of blood and 550 of plasma would have accumulated. Applying the morbidity data and probability reasons, at some point, a patient infected with SARS-CoV-2 has donated blood or plasma that has been stored and administered to a patient without knowing this condition because the COVID-19 test is not a routine test before the donation. Furthermore, we can assume that this phenomenon is occurring throughout the world.

Taking into account the bioethical principles of respect for autonomy, nonmaleficence, beneficence, and justice, imagine the circumstance in which there is one patient with COVID-19 intubated in an Intensive Care Unit (ICU) with a mortality of 60% and the physician in charge has the possibility to ask for plasma donors from recovered patients and all but a physician agree to give a single dose of the convalescent plasma; due to the discordance the plasma cannot be infused. The opposed physician argues that the convalescent plasma has not been added into an international flowchart to treat COVID-19. With a COVID-19 mortality higher than 60% when intubated until when do we have to wait for a randomized, double blind trial with convalescent plasma before trying to get a reduction in the mortality using convalescent plasma? At what point not transfusing plasma is more harmful than trying this procedure? (Figure 1).

Are we applying the principle of beneficence by letting the disease advance towards possible death without using a possible tool that has been used in several diseases? Are we applying the principle of autonomy by not telling the patient or his/her family about the existence of a possible treatment with convalescent plasma? Do they deserve the right to take the risks? The principle of nonmaleficence is clear, as the treatment with convalescent plasma is well known and under usual conditions the risks are low.

Under substantial uncertainty during aggressive and unknown diseases, waiting too long for the perfect clinical assay could condemn hundreds of patients. Notwithstanding, the scientific evidence on the use of this therapy is still limited. However, multiple studies are currently being carried out throughout the world on the use of convalescent plasma for the treatment of SARS-CoV-2 infection (Table 1). It is expected that the results of these investigations will begin to appear in 2021 (Wooding & Bach, 2020).

Conclusion

Convalescent plasma can be a therapeutic alternative in patients with COVID-19 that improves symptoms and prognosis, and it does not have a statistically significant adverse effect on mortality rates. Based on the evidence mentioned above, convalescent plasma against COVID-19

should be considered, at least as a compassionate therapy, particularly in emergency cases of patients admitted to hospitals, despite the absence of an authorized protocol, considering that the attempt to safeguard life is more important than the existing technical limitations. We strongly recommend to health institutions that they can facilitate the prompt approval of the different protocols necessary to start the use of this complementary therapy.

Acknowledgments

Authors thank the students affiliated to the Latin American Scientific Association (ASCILA) for their valuable comments in improving this manuscript. No potential conflict of interest was reported by the authors.

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Would a 'vaccine passport' work in the Philippines?

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Abstract

A novel coronavirus in 2019 took the life of 'patient zero' and then millions of others alerting nation states to protect and secure the lives of their citizens. The coronavirus known as SARS-CoV-2 caused the 'COVID-19' disease which had governments impose restrictions on the freedom of movement or the right to travel in the form of 'community quarantines.' The serious adverse effects of these on the world and national economies moved the governments to loosen the quarantines and implement versions of so-called 'vaccine passport,' an international digital health certificate proving COVID-19 vaccination status. One of the uses of the vaccine passport is to expedite the safe and orderly passage of people in airports which extends to other travel terminals, essential and commercial establishments, and facilities. There are ethical concerns, however, such as the inequitable distribution of the scarce supply of vaccines, among others. In this article, I briefly describe the vaccine passport idea, its uses, and ethical concerns, and then apply these concerns in a national context through the pending bills that aim to legitimize a Vaccine Passport System in the Philippines. In the end, I recommend that lawmakers (who represent the moral interest of Filipinos) consider such concerns before they cast their votes.

Introduction

"COVID-19" is an infectious disease caused by the recently discovered coronavirus SARS-CoV-2 (World Health Organization, 2020) whose outbreak began in (a wet market) in Wuhan, China in December 2019 and was declared a global pandemic (Ducharme, 2020). After 'patient zero' – "the first human infected by a viral or bacterial disease in an outbreak" (Duarte, 2020) – and over a million others died, millions (or more) of hospital patients were diagnosed and medicated all over the world and symptoms were known. A COVID-19 patient may experience fever, dry cough, and tiredness, trouble in breathing, chest pain, and loss of speech and/or movement. Mild symptoms include head and other body aches, nasal congestion, sore throat, diarrhea, loss of smell or taste, a rash on the skin, and discoloration of fingers or toes. Those who have underlying medical problems like the elderly are vulnerable or at a higher risk of developing the disease. COVID-19 test kits were made that can detect the virus in those who are 'asymptomatic.' If one experiences mild symptoms, s/he may just 'self-quarantine' for 14 days but if symptoms worsen, s/he must immediately seek medical attention. Asymptomatic patients may self-quarantine but if symptoms appear and worsen, they must seek medical attention.

How COVID-19 is interpersonally transmitted has been known. Droplets from an infected person who sneezes, coughs, or speaks within 1 meter near another person

may infect them through the airborne droplets. One can also become infected if s/he touches objects: tables, doorknobs, handrails, etc. where droplets land and remain for up to 72 hours and then touches her/his eyes, nose, or mouth. To prevent transmission, health authorities advise that people should observe personal body hygiene, disinfect their hands using soap and water or alcohol rub or sanitizer, wear a mask and/or a face shield, and practice physical distancing, especially in high-risk areas. But with the rising cases of COVID-19, States declared COVID-19 a public health emergency and then enforced lockdowns to prevent the transmission of the disease. Welfare programs provided economic resources in kind or cash while the believed-to-be-the most efficient in curbing transmission – the vaccine – was still being developed.

With the unprecedented pressure on healthcare systems and companies, comes the risky but necessary development of the new 'mRNA vaccine', a long-theorized technology which "take[s] a slightly altered approach to vaccination protocols. Instead of inoculating people with a whole—but altered—virus for which antibodies will be created against, they instead encode a messenger RNA (mRNA) with the information to produce the SARS-CoV-2 spike protein," (Brothers, 2020) paved the way for curbing transmission. The mRNA vaccine does not cure the COVID-19 but when administered, will teach the human body's immune system to safely recognize and block the virus thereby helping prevent the vaccinated from infecting others. The World Health Organization (WHO) has listed mRNA vaccines and other types for emergency use and many 'vaccine candidates' await enlistment (undergoing clinical trials, subject to 'independent reviews of the efficacy and safety evidence,' etc.).

The development of the COVID-19 vaccine paved the way for curbing transmission on a global scale. International vaccination programs have been initiated. WHO has been operating its international mass vaccination program and co-leads the COVID-19 Vaccines Global Access (COVAX) (Gavi, 2020) to ensure that States receive their fair share of the vaccines from the COVAX facility for their national vaccination programs. To date, the WHO-led international vaccination program has administered more than 2 billion doses of vaccines (World Health Organization, 2021) that are still not enough to catch up with the continued global transmission, active cases, and casualties. At the national level, states have started their mass vaccination programs and maintained the lockdowns complemented with welfare programs at the same time. But household and national economic resources are running out which had governments loosen the lockdowns and implement versions of the so-called 'vaccine passport.'

Vaccine passport and its uses

First, the vaccine passport idea is not new. Fran Kritz writes (2021) that the vaccine passport debate stretches as early as 1897, when scientist Waldemar Haffkine developed a plague vaccine that was used in British India, and discussions on asking for proof of vaccination began. At the time, one area of concern was religious pilgrimage sites where sudden transmissions of the plague could not be controlled, and so after long negotiations between

relevant parties, authorities decided to require proof of vaccination from the pilgrims. Vaccinations were done at government centers and health certificates were issued to those who got vaccinated. Kritz then informs that the International Health Regulations were adopted by the World Health Organization which specify “yellow fever” as the only disease for which states may require proof of vaccination. Such proof is known as the “yellow card” without which entry to certain countries requiring the card will be denied.

The vaccine passport varies from country to country, comes in versions, uses, and is referred to with different names namely ‘digital health certificate,’ “digital health passes” (Gostin, 2021), “smart vaccination certificate” (Cohen, 2021), “EU Digital COVID Certificate” (Lovell, 2021), and many others, which come with corresponding uses and motivations. An Asia-based news outlet reports that the COVID-19 vaccine passport is a digital health certificate that Chinese citizens can display via the WeChat software application (app) as proof for COVID-19 test results and vaccination status (Channel News Asia, 2021). When an account user logs in, the app generates a health certificate with personal details, nucleic acid, and antigen tests, and a statement of vaccination. This certificate can be printed and has a code that authorities can verify. It was reported that China would establish further mechanisms for other countries to recognize the certificate and the personal information it contains while protecting privacy. China’s ‘vaccine passport system’ will facilitate the safe and orderly flow of people across state borders which will benefit national economies as well as resuming interaction in the world. For a freelance journalist in the article *Covid Passport: The 15 Best European Destinations Ready for Vaccinated Travelers*, Iceland is the first European country to issue vaccine passports to its vaccinated citizens and is prepared to recognize vaccine passports issued by other European countries. Many other European countries were listed by the tourism ministries of the European Union (EU) as the best destinations for vaccinated travelers. EU members join in the effort to rescue the return of summer tourists in the continent which provides millions of jobs and increases the Gross Domestic Product. Vaccine passport systems are operating and even the World Health Organization recognizes it for the use of national public health officials and managers of immunization programs which may be of interest to other branches of government responsible for travel or immigration, international funding agencies, vaccine advisory groups, the medical community, the scientific media, and the public (World Health Organization, 2021). Whatever form, name, and uses the vaccine passport has, it essentially presumes that the passport holder has got jabbed with the COVID-19 vaccine. Facilitation of traffic in airports which extends to travel terminals, establishments, and facilities, bolstering tourism or reviving the economic interaction in the world, and facilitating the work of public health officials and immunization managers are some of the uses of the vaccine passport.

COVID-19 in the Philippines: socio-political-legal rights-based responses to the pandemic

The first two confirmed cases in the Philippines were admitted to the national infectious disease referral hospital in Manila (Edrada et al., 2020). Both were previously healthy, a couple, Chinese nationals (from Wuhan) who traveled to the Philippines in January 2020. Patient 1 (female, 39) had symptoms of cough and sore throat, and human coronavirus was detected while Patient 2 (male, 44) had additional symptoms of fever and chills and SARS-CoV-2 viral RNA was detected. Both were treated but Patient 2’s condition deteriorated and following cardiac arrest, he died of COVID-19. It was also known that Patient 2 had contact with someone unwell in Wuhan. Patient 2 was the first casualty outside China (BBC, 2020).

So, even in the time of ‘COVID-19,’ the Philippine State through its government acted or responded by upholding the rule of law (International Development Law Organization, 2020) as expected of a democratic country and state party or signatory of international human rights treaties such as the International Covenant on Economic, Social, and Cultural Rights which provides for protection, fulfillment, and promotion of social, economic, and cultural rights. The Philippine state incorporated the social right to health and the economic right to labor in articles 2 and 13, sections 15 and 3, respectively, of its Constitution which provides:

Section 15. The State shall protect and promote the right to health of the people and instill health consciousness among them.

Section 3. They (workers) shall be entitled to... humane conditions of work, and a living wage. They shall also participate in policy and decision-making processes affecting their rights and benefits as may be provided by law.

The right to health must guide responses to COVID-19 (Puras et al., 2020) together with other human rights such as the economic right to labor and civil and political rights since human rights in principle are indivisible, interdependent, and interrelated (United Nations Population Fund, 2005). But in the COVID-19 era, the rights to health and labor are prioritized over the other rights.

What is common between the ICESCR and the Philippine constitutional provisions on the rights to health and labor provisions is the protection and enjoyment of physical and mental health and its promotion, just, safe, healthy, and humane conditions of work with remuneration or living wage which are implicit in the country’s responses to the pandemic.

On March 8, 2020, the Philippines President Rodrigo Duterte issued Proclamation No. 922 titled Declaring a State of Public Health Emergency throughout the Philippines based on sections 15 and 23 of articles II and VI, respectively, of the Philippine constitution, and based on Republic Act No. 11332 which provides that the president shall declare such emergency in the event of an epidemic of national and/or international concern which threatens national security (Official Gazette, 2021). Then on March 16, 2020, the House of Congress passed Republic Act No. 11469 otherwise known as the

“*Bayanihan* to Heal as One Act” which gives the president emergency powers to address COVID-19.

The president called the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-MEID) (which existed before the epidemic) composed of the executive departments chaired by the Department of Health (DOH) and co-chaired by the Department of Environment and Natural Resources (DENR), Department of Labor and Employment (DOLE), and many other departments. The IATF-MEID aims to prevent loss of life caused by COVID-19, to contain its spread, prevent dysfunction of the government, and avoid deterioration of the economy. It is a policy-making body that develops the ‘national normative and legal framework’ as the basis for decision-making in ‘a whole-of-government response’ to the COVID-19 pandemic; its policies or laws imply the rights to health and labor. The IATF-MEID laid the National Action Plan to manage the COVID-19 situation. It created the COVID-19 National Task Force headed by the Department of National Defense (DND) to handle the operational command and the Joint Task Force COVID-19 Shield composed of the police, military, etc. intended to enforce health and ‘community quarantine’ (lockdown) protocols in streets, checkpoints, establishments, and facilities nationwide to prevent transmission, maintain the peace, order, and security.

The enforcement of the quarantine that restricts some civil and political rights is valid and justified based on scientific and legal grounds (Human Rights Watch, 2020). The International Covenant on Civil and Political Rights to which the Philippines is also a state party provides “for the possibility of limiting certain rights in the interests of public health, and, in the most extreme cases, derogating from certain rights during declared states of emergency, to the extent strictly necessary to meet a threat to the life of the nation” (Gil, 2020). Such limitation is not absolute though. This means that the freedom of movement, right to assembly, right to speech, and other related rights can still be exercised. Some more rights such as the ‘right to seek, receive and impart communication’ pertaining to COVID-19 may also be exercised.

Community quarantine levels depend on how intense the local transmission is. Quarantine levels range from Enhanced Community Quarantine (ECQ) being the strictest, General Community Quarantine (GCQ), Modified Enhanced Community Quarantine (MECQ) to the most relaxed Modified General Community Quarantine (MGCQ) (Gotinga, 2020). The strict ECQ has the military and police in the streets, checkpoints, establishments, facilities imposing the curfew, travel bans, and other quarantine restrictions.

LGUs were also enjoined to autonomously manage the COVID-19 situation but within the parameters of the regulations and directives issued by the IATF-MEID. According to the Local Government Code, any LGU can legally create its task force that can function in the same way as the IATF-MEID. Philippines News Agency’s “Davao City showcases best practices vs. Covid-19” for instance reports and features the Davao City local government’s “best practices” in managing the COVID-19 situation in Davao City. The article opens by saying that the city “aims to strike a balance between containing the number of

infections while providing an elbow room to prevent the local economy from going into a tailspin.” Such practices are non-pharmaceutical interventions such as the wearing of a face mask, safe physical distancing, proper handwashing, and staying at home.

During the quarantines, Local Government Units (LGUs) facilitated the distribution of economic relief goods while the regional offices of the Department of Social Welfare and Development initiated amelioration programs (Perez, 2020) by disbursing money to each family member who had to show her/his community quarantine pass and ration/amelioration card. But the socio-economic goods and money were not enough to match their needs. Testimonies narrate a period when some Filipino locals were running out of means, of food, supplies, and savings to feed themselves and their families and relieved themselves of other economic or basic needs. Household economic problems evoked anxiety among the Filipinos especially the breadwinners and the other COVID-19’s adverse effects on the national economy necessitated the government to relax the community quarantine with the citizens utilizing locally made QR codes for contact tracing should a rapid community transmission occur.

It was during the time between the GCQ and MGCQ when economic affairs started to resume wherein businesses reopened, and professionals and laborers commenced reporting for work. Speaking of economic affairs and the right to work/labor – which is protected under the Labor Code of the Philippines - in the time of COVID-19, such right was implicitly integrated into the Department of Labor and Employment (DOLE) Labor Advisory No. 9, Series of 2020 titled Guidelines on the Implementation of Flexible Work Arrangements as Remedial Measure Due to the Ongoing Outbreak of Coronavirus Disease 2019 (COVID-19) which was issued on March 4, 2020 (just in time before the enforcement of the nationwide Enhanced Community Quarantine, ECQ) which in its section two (II. Concept) delineates “flexible work arrangements” - herein referred to as ‘flexible work scheme’ – as “alternative arrangements or schedules other than traditional or standard work hours, workdays and workweek” and are “temporary in nature, subject to the prevailing conditions of the company.”

In the same advisory, the flexible work arrangements presented are: Reduction of workhours and/or workdays; rotation of workers; and forced leave - on which the employers may have the discretion to ‘schematize’ but this schematization should be after due consultation of employees as per the advisory’s section one (I. Purpose) or else, if not adopted or disagreed to by the parties of the employers and the employees (as per IV. Administration) – for instance, the terms are not amenable to the employees – are a case of differences of interpretation (of the arrangements), the differences are treated as grievances under the grievance mechanism of the company and the grievance(s) could be referred to the (DOLE) Regional Office that has jurisdiction for appropriate conciliation.

The advisory has significantly anticipated the labor relations scenario between non-government or private corporate/company employers and their employees, and

the implementation of flexible work arrangements like in educational institutions. Hopefully, such arrangements underwent due consultation with employees before their implementation otherwise employees may refer the matter to the grievance mechanism of the company or if inadequate must be referred to the labor regional office.

Moreover, flexible work arrangements imply the protection and promotion of the right to health such as personal hygienic measures and social-physical distancing protocols so-designed to reduce the risk of the employees' exposure to COVID-19 outside their homes. The mayoral executive orders and local ordinances enforce these practices which imply the protection and promotion of the rights to health and labor.

Local executive orders related to the flexible working scheme explicitly or implicitly integrate the right to labor which in turn integrate the right to health. These rights are among the minimum legal norm or standards that must be integrated even by private corporations in their company administrative policies or memoranda on flexible work schemes.

In the Philippines, while all constitutional rights are in principle universal, inviolable, indivisible, and interdependent, social, and economic rights such as the rights to health and labor of the Filipino citizens are relevantly prioritized while other human constitutional rights are conditionally limited to make way for the rights to health and to labor which complement each other.

After a year since COVID-19 was declared a global pandemic, a Filipino congressman started talking about the vaccine passport that proves inoculation which "will allow Filipino travelers to reconnect with the rest of the country and the world" and as "a key element in bringing back public confidence and reviving the economy" (Cervantes, 2021).

HB No. 8280 and SB 1994: vaccine passport and its uses in the Philippines

It is not surprising that the vaccine passport idea, its uses, and ethical concerns have reached the Philippine shores in the 'globalized' (Steger 2003) world, not to mention the internet media and technology that are instrumental for the Filipino lawmakers-politicians, journalists, news reporters, academicians, etc. to know and echo such idea, uses, and concerns albeit in the Philippine national context.

Both the House Bill No. 8280 (HB 8280) (House of Representatives, 2021) and Senate Bill No. 1994 (SB 1994) (House of Senate, 2021) filed and introduced in the lower and upper houses of the Philippine congress are essentially about the vaccine passport and legitimization of a vaccine passport system in the Philippines. HB 8280 and SB 1994 explain that the "fear of infection and the imposition of community quarantine" and "restrictions on travels within and outside the country and on opening and entering business establishments" reduced household spending, affected individual mental and individual health, (Official Gazette, 2021) and therefore the plunge of the national Gross Domestic Product or the decline of the economy. This introduction of the vaccine passport system means further relaxation of the community quarantine as the government began its national mass

vaccination program and roll out of the vaccines to groups in the priority list and as private business corporations purchased vaccines for their employees so that they could safely resume their business operations to be eligible to vaccine passports as proof to be exempt from the usual COVID-19 restrictions.

Anchored on Article 3, Section 6 of the Philippine Constitution and modeled after the Philippine Passport Act, HB 8280 defines the vaccine passport as the "internationally-recognized vaccine passport to serve as proof that a person has been vaccinated against COVID-19" which contains personal information, vaccination details, and other relevant medical information such as infection history and comorbidities. The same Bill lists the vaccine passport uses such as international and domestic travel, employment abroad, local checkpoint and quarantine exemptions, opening of and access to some business establishments, and post-vaccination protocols applicable to passport holders (public gatherings, wearing of face mask, etc.). These uses imply that airline companies, tourism, and hotel establishments will benefit from the increase in domestic and international passengers with vaccine passports.

SB 1994 empowers the Secretary of Health to issue vaccine passports while the Inter-Agency Task Force is authorized "to issue rules and regulations on what activities will require the possession of a vaccine passport ... as well as penalties for certain prohibited acts (that) have been provided" in the rules.

The pending vaccine passport bills in the legislature amplified the topic in the domain of public discourse. The Senate wanted to replace the 'passport' with the term 'card' because the former may be interpreted as restricting mobility and discriminatory (Reformina, 2021). The existing certification and/or 'vaccine card' is the only proof that one is fully inoculated (Lardizabal-Dado, 2021) which has personal and health information and vaccine details that could be integrated by the Department of Information and Communications Technology (DICT) with the official exposure notification software application StaySafe endorsed by DOH and different from the RapidPass which was for front liners and authorized personnel.

But while the senators' and legislators' socio-economic reasons and justifications for introducing the vaccine passport to legitimize a vaccine passport system in the country have merit, I think they still need to reflect further and consider the ethical implications of the passport as these implications are already embodied in the ethical concerns shared in the media at least before the bills are considered as items for final reading in the Philippines's bicameral legislature.

Ethical concerns of the vaccine passport in the Philippines

Like many states, the Philippines experiences economic adverse effects of COVID-19 which necessitated the government to relax the community quarantine so that economic activities may resume. Relaxation of the quarantine and loosening the quarantine restrictions spurred conversations on the ethical concerns of the vaccine passport which appear to be related to global

distributive justice “involving obligations of fairness in the distribution of benefits and risks” and “the attempt to determine what is fair or owed when scarce medical resources must be rationed” (Beauchamp, 1994), resources such as the vaccines and/or vaccine doses and other related needs in the COVID-19 era.

In its interim position paper, the World Health Organization does not endorse any vaccine passport that purports to prove the vaccination status of the passport holder as a condition for departure or entry because generally, the full efficacy of the vaccines/vaccination in reducing transmission is yet to be known. WHO lays considerations for its position, some of which apply in the Philippines.

Firstly, the global COVID-19 vaccine supply is scarce. Vaccine production may be accelerated but hygiene, non-contamination, and safety in vaccine manufacturing plants must also be guaranteed – this being promoted by health organizations for instance (Reuters, 2021). But this and similar necessary health safety precautions slow down vaccine production and therefore limit the supply of vaccines to all human persons around the world.

Secondly, there is already an inequitable distribution of the scarce COVID-19 vaccines since those in the high-income countries have better access than lower-middle-income and low-income countries.

The Philippines is admittedly in the lower-middle-income category and although it is receiving its fair share of COVID-19 vaccines from WHO/COVAX and manages to negotiate with vaccine-manufacturing countries (nations that host pharmaceutical companies) and procure millions of doses for the country's mass vaccination program, its vaccine stocks still fall short of achieving the 'herd immunity, not to mention the country's insufficient number of hospitals and/or health centers or clinics and inadequate medical resources for viral/antigen testing (swabbing), and hospitalization of the infected which includes support for their biological, economic, and psychological needs.

Thirdly, individuals who do not have a vaccine passport will be deprived of their right to travel (International Norms and Standards Relating to Disability, 2021) to the country that requires such a passport. Filipinos who do not have a vaccine passport, thus without vaccine access or unvaccinated, will be deprived of their right to travel domestically and internationally while others can and enjoy the exemptions (privileges) listed in HB 8280.

Fourthly, the vaccine passport would mean preferential vaccination of travelers that will limit the already limited vaccine supply to priority populations. The proposed vaccine passport system will mean preferential vaccination of Filipino travelers that will further limit the already limited vaccine supply to those in the Philippines's national vaccination program priority list. The vaccines roll out to medical practitioners, essential front-liners/workers, vulnerable individuals such as the elderly, those with comorbidities, and other professionals excluding children.

Fifthly, the vaccine passport will exacerbate the existing inequities and introduce new ones. The vaccine passport would result in new social exclusions and

discriminations (Tambuyung, 2021) or create a divided population (Cana, 2021), the vaccinated and the unvaccinated. The vaccine passport, which will eventually replace the quarantine pass, amelioration card, locally made contact tracing QR codes, and vaccine cards will deprive non-passport holders of their freedom of movement within the country. They will be denied entry to establishments and/or facilities where they could buy economic goods and services; they will not be able to attend school and/or find work, and they will be incapacitated to do recreational activities. New inequities and unintended consequences will also emerge such as the incentivization of vaccination, competition among private corporations to acquire vaccines for their employees to help revive their business operations, commercialization of the vaccines, and the building of a 'black market' where fake vaccines and vaccine passports are sold.

And sixthly, the economic benefits of the vaccine passport must be balanced against public health risks based on recent scientific medical knowledge about vaccination in reducing transmission, including critical unknowns or gaps on viral mutations or variants. The DOH which chairs the IATF-MEID is expected to provide the said scientific medical knowledge to Filipinos and vaccine passport proponents-lawmakers must be reminded that the vaccines roll out in the country must be constantly checked whether they still can protect the vaccinated from the disease and viral mutations such as the Delta and Lambda (Diamond, 2021) variants that may cause unpredictable rapid transmissions and increase the active cases and casualties. The new variants may even require the development of new vaccines. But a vaccine does not cure, it only protects when injected to teach the human body's immune system to safely recognize and block the virus. But the knowledge about vaccination in reducing transmission is yet to be known. There is no clear evidence that the vaccines substantially curb the transmission – which clearly should make the proponents conscientiously cautious.

Just recently, the DOH, DICT, and other partner agencies have developed and softly launched the Philippine Digital Vaccination Certificate (Government of the Philippines 2021) with an online portal that can be used by those inoculated in the nation's capital and planning to work or travel abroad (Ranada, 2021). The digital portal is a step-by-step process that generates a vaccination certificate with some personal and vaccination details and a QR code that can be scanned by authorities or any third party for verification and is valid for 14 days. VaxCertPH system will soon replace the amelioration card, the quarantine pass, the RapidPass, and the vaccine card. Such innovation is ahead of the deliberations on the pending vaccine passport bills in Congress.

VaxCertPH is laudable because the system ensures that the passport holder's personal and health data are protected by the country's data privacy law (National Privacy Commission, 2021), but it is still premature to say that privacy or confidentiality will not be “abused by the data controllers” (Lee, Lai & Skahill, 2021), the centralized database will not be breached, the government will not

utilize the health records for surveillance and profiling, corporations or businesses will not misuse the same. Adding to these confidentiality concerns are the reliability and integrity of the system, possible digital inaccuracies, or glitches, and cyberattacks on the database for criminal purposes. These concerns only mean that VaxCertPH like the previous innovations will be a test case which if it succeeds would make a vaccine passport work in the Philippines.

Conclusions

In the foregoing, I described the vaccine passport idea, its uses, and ethical concerns and then attempted to show how these apply in the Philippine context. Apart from the concerns described and applied, there are still more that await exploration to help understand the ethical concerns of the vaccine passport in national contexts. More importantly, such concerns are not only about the vaccine passport *per se* but also the other elements of the pandemic.

The vaccine passport systems operating in other countries and the acquired vaccines should not overwhelm. Perhaps efforts must rather focus on vaccinating all Filipinos. And so, I recommend that lawmakers (who represent the moral interest of Filipinos) consider the concerns first before they finally cast their votes on the pending Bills.

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Staying positive amidst fears, anxieties and frustrations: Travails of people in isolation and quarantine centers in Davao del Sur

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Abstract

The Philippine government in the national and local levels has instituted different measures to contain the spread of the coronavirus. Imposition of local ordinances such as mandatory wearing of face masks and face shields, use of QR Code scanning for contact tracing, border lockdowns and forced isolation and quarantining of recovering COVID-19 positive patients and those Persons Under Investigation (PUIs) and Persons Under Monitoring (PUMs) have been implemented in different Local Government Units (LGU) in Davao del Sur. This study focuses on the experiences of people who have undergone mandatory quarantine in three isolation facilities in Davao del Sur. While in one isolation center, they have their own toilet in the room and the rooms have enough ventilation, in the two facilities, they do not have exclusive toilet and the rooms are not properly ventilated and have plenty of mosquitoes. Common to their experiences is the lack of support from the government in terms of free food supply for the PUIs and PUMs except for those who are already confirmed to have the COVID-19 virus. There is no program to support the people in dealing with fears, anxieties, worries and other unpleasant emotions while they are under quarantine in government facilities. Their faith in God, positive mindset and concern with their families and children have helped them to survive the ordeals. This study can provide the policy makers and workers in LGUs the firsthand experiences and information that they might need to improve systems of isolating and quarantining people and come up with interventions to assist persons who are forced to stay in isolation and quarantine centers in the province.

Introduction

It is already almost a year since the threat of Covid-19 pandemic became real in the province of Davao del Sur. As to this writing, more than one thousand confirmed positive cases of Covid-19 in the province have been recorded. There had been initiatives by the Local Government Units (LGUs) in the province to contain the spread of the virus such as mandatory wearing of face mask and face shields, use of technology-aided system for contact tracing, lockdowns, curfews, and mandatory

isolation of the recovering covid-19 positive patients, PUIs and PUMs. But cases of covid-19 in the province continued to rise.

To respond to COVID-19 crisis at the global scale, many countries use containment and mitigation activities to delay major surges of patients and lower the demand for hospital beds, while protecting the most vulnerable, including the elderly and those with comorbidities. Most national response strategies include varying levels of contact tracing and self-isolation or quarantine. Construction of suitable care settings, including hospitals with the best facilities, were other responses in some countries. Hospitals or shelters for caring from suspected or confirmed cases at both stages of therapy and recovery were built to reduce the death rate in these countries (Nussbaumer-Streit et al., 2020).

In Italy, the health system was highly equipped, and the government responded quickly to the outbreak but was not prepared enough to deal with the impact of COVID-19 pandemic, and the number of cases is still rising. The government employed measures to restrict viral spread, including interruptions of air traffic from China, organized repatriation flights and quarantines for Italian travelers in China, and strict controls at international airports' arrival terminals. Local medical authorities adopted specific WHO recommendations to identify and isolate suspected cases of COVID-19 especially patients with respiratory symptoms who had travelled to an endemic area in the previous 14 days or who had worked in the healthcare sector, having been in close contact with patients with severe respiratory disease with unknown etiology. Suspected cases were transferred to preselected hospital facilities where the COVID-19 test was available and infectious disease units were ready for isolation of confirmed cases. The COVID-19 response teams handle patient flow to local hospitals and address specific issues of bed resources, emergency department overcrowding, and the need for patient transfer to other specialized facilities (Spina et al., 2020). In France, French Prime Minister Jean Castex recommended that French citizens avoid going to Catalonia. Norway imposed a 10-day quarantine on people arriving from Spain. Belgium banned travel to Huesca and Lleida, with recommendations against travel to a few other areas in Spain. Half of those who are COVID positive in Spain are asymptomatic, which gives a clear indication of the huge efforts that all the regions in Spain are undertaking to test for COVID-19 in its citizens (Nussbaumer-Streit et al., 2020).

In the United States, isolation and quarantine help protect the public by preventing exposure to people who have or may have contacted the COVID-19 virus. The federal government has authority for isolation and quarantine if a quarantinable disease is suspected or identified; CDC may issue a federal isolation or quarantine order. U.S. Customs and Border Protection and U.S. Coast Guard officers are authorized to help enforce federal quarantine orders. A federal order is issued by CDC, those individuals will be provided with an order for quarantine or isolation (Jernigan, 2020; Patel & Jernigan, 2010).

In Asia, Korea's early and rapid response to the outbreak as well as implementing preventive strategies

helped preclude community infection and limit it to some specified medical centers by utilizing appropriate approaches. Although South Korea was once one of the most infected countries outside China, the outbreak has reached a period of stability after stringent monitoring approaches and mass quarantine (Kim, Kim, Peck & Jung, 2020). Singapore has used a vigorous surveillance program to identify many cases by monitoring and intensive contact tracing among confirmed cases. Singapore has managed to prevent the virus from spreading without substantial disturbances to daily life because the Intensive Care Units (ICUs) of the country were fully prepared and responded swiftly to the virus outbreak (Wong et al., 2020). Iran is among countries that launched a psychological assistance system for residents and a self-monitoring website for suspected cases of COVID-19. Social distancing and travel restrictions were among the key methods used by the government to confront the crisis and control the virus outbreak (Abdi, 2020). The Government of Malaysia imposed compulsory quarantine orders. All individuals entering Malaysia through the International Entry Point (Pintu Masuk Utama - PMA) are required to bear the quarantine costs. Individuals who are subject to quarantine orders will be referred to as Persons Under Surveillance (PUS). PUS will undergo a 14-day quarantine period. PUS who are tested positive for COVID-19 will be transferred to the nearby hospital for COVID-19 treatment. All PUS belongings at the hotel will be taken to the hospital and the cost of the quarantine shall be settled accordingly by PUS. Refunds will be made by the hotel management. The PUS checkout process from the Quarantine Station is in accordance with the health care regulations and security measures as directed by the Ministry of Health. PUS will be issued with a Release Order upon the completion of the quarantine period by the Ministry of Health. PUS must settle the outstanding payment to the Quarantine Station management. Failure to make payment may result in legal action against the PUS by the Management of the Quarantine Station. All incoming travelers are subject to the quarantine order (Nussbaumer-Streit, et al., 2020).

These countries have implemented quarantine and isolation protocols to prevent the spread of COVID-19. However, no program is instigated to address the effect of quarantine and isolation measures to COVID patients especially in terms of the psycho-emotional struggles that they've been through. In the Philippines, the local government units are required to provide isolation facilities designated for probable, suspect, and confirmed COVID cases. In Davao region alone, law enforcement agencies are directed to assist in the enforcement of granular lockdowns upon affected communities or clusters. The LGUs are instructed to reduce entry protocols such as test-upon-arrival requirement imposed upon airline crew layovers/positioning due to emergency situations (Mendez & Jaymalin, 2020).

Despite these mitigating measures to prevent the spread of COVID 19, none focuses on how the patients feel in the isolation and quarantine centers. What is unknown to many people in the province are the different experiences and struggles of people who are forcefully put into isolation and quarantine centers. This paper focuses

on the different experiences and emotions of people who are forced to stay in isolation and quarantine centers in the province. The reasons why they are brought into isolation centers, their expectations as well as real experiences in the isolation centers and during their entire quarantine days, their assessment of their experiences as regards to the support of the government, their ways of dealing with their ordeals are the focus of this paper.

Objectives of the study and research questions

This study aims to gather firsthand data from the people forced to stay in isolation and quarantine centers during the onslaught of COVID-19 pandemic in the province. We believe that scientific data are important in the evaluation as well as crafting of programs and policies. We want to help the government and different front-liners in their quest to end the pandemic, but we also want them to investigate the struggles of those in isolation centers and come up with programs to make their stay comfortable as possible. While there are different initiatives as well as budget being released by the government to help end this pandemic, we also would like to know how these initiatives and budgets have been implemented in the most crucial area in a public health emergency situation—the recovery of infected people and the assurance that the PUIs and PUMs who are in isolation and quarantine centers are really COVID-19 free so that they can go back to their families and function normally in the society.

To gather the data, we asked our 25 participants the following questions: Why are you brought in the isolation and quarantine centers? What do you expect of an isolation center? What are your experiences during the quarantine period? What about the support of the government? How do you cope with your situation?

Methods

In the conduct of this study, we used individual interviews with our participants. Five of the 25 participants were interviewed online. The 20 participants were interviewed face-to-face in an isolation center because one of the researchers in this study was also forcefully put in an isolation center and another researcher is a healthcare worker assigned in another isolation center in Davao del Sur. In other words, 2 of the co-researchers have direct experiences of the phenomena being studied in this paper. The interviews were then transcribed and analyzed using thematic and content analysis which are the most used data analysis technique in qualitative phenomenological study.

Results and Discussion

Reasons why they are brought to isolation centers

16 or (64%) out of the 25 participants in this study were exposed to persons who had COVID-19 in the workplace, in their homes and in the different social gatherings that they were able to attend. 5 or (20%) were Locally Stranded Individuals (LSI) who arrived in the province at the height of the government's fight to stop the local transmission of the virus. There were 3 (12%) who were Returning Overseas Filipino Workers (ROF), all working in the maritime industry. 1 (4%) was a confirmed COVID-19

positive and was brought to the isolation center for further monitoring. Some of them volunteered to undergo swab testing after members of family and/or friends got infected and since the results were positive, they were brought to the isolation center. 18 (72%) of the 25 participants were positive with COVID-19 while 7 of them were negative as indicated in their initial test results but were put to isolation centers for monitoring while waiting for the SWAB test results.

The LSI and the ROF had no other choice because the moment they arrived at the Davao International Airport, vehicles from the LGUs already were waiting for them so that they would go straight to isolation centers. While this practice is already common and that some of them might have experienced being quarantined in some other places before reaching to the province of Davao del Sur, they still said that they were surprised. One of our participants who is an LSI said: "When I went back home to Sulop from Pampanga, an ambulance was already waiting for me at the airport in Davao. I underwent SWAB test immediately and was found positive. I neither had fever, cough nor colds. My temperature was even low. Since I was asymptomatic, they brought me directly to an Isolation Center in Sulop."

Another LSI participant said: "I am an LSI from Cebu. When I arrived at the Davao Airport, there was already an ambulance waiting for me and I was immediately brought to Isolation center while waiting for another swab test. I was already negative in a swab test in Cebu. I was surprised of the ambulance. It's a bit scary because it connotes a kind of impression that I am sick." However, other LSI and ROF already expected this scenario, but they were hoping that they would be allowed to undergo home quarantine because their families were already preparing for their quarantine room or house. One participant shared his experience the moment he arrived in his hometown, "We were actually three who came from Gensan. When we reached Sulop, we reported immediately to the center for checkup. But the problem was that the three of us had high temperatures because it was too hot during the travel. So, instead of going home, we were transferred to an Isolation Center for SWAB testing. We stayed there until the result of our SWAB test was determined".

For the LSI and ROF, isolation and quarantine are not something new. What might be new to them is the system or the process of bringing them to the isolation centers like they must ride to an ambulance vehicle. Another surprise to them was the way they were treated in the isolation center in the province.

Others were brought to isolation centers because of their exposure to COVID-19 positive persons in their workplace, in their homes and in social gatherings that they were able to attend. For instance, a medical front-liner said: "I was quarantined due to my direct exposure to two positive COVID cases in Digos City – my boss who was a doctor and my nurse colleague. My SWAB test result is not yet available, so I stayed in the Isolation Center while waiting". Another participant who works in a call-center shared the reason why she was brought to an isolation center: "Our manager was found positive. During the contact-tracing all the call center agents who had

direct exposure to him were brought to the Isolation Center for quarantine.” However, one participant shared that she volunteered to undergo swab testing in order to know her status and to work for appropriate measures to ensure that her co-workers would not be affected. “I even voluntarily surrendered for SWAB testing because I am connected with an industrial plant and if I happen to be positive with COVID, the whole plant would be shutdown not to mention that all the employees that I had direct contact with shall be quarantined as well.”

This participant was not only concerned about her self-interest, she was also looking for the interests of her co-workers. This is in conformance with the considerations on who to get tested such as those people who have closed contact with someone with confirmed COVID-19 within 6 feet from the infected person for a total of 15 minutes or more. Also, this is in compliance with RA 11332 or the Mandatory Reporting of Notifiable Diseases and Health Events of Public Health Concern Act in which mild or asymptomatic COVID-19 patients are required to voluntarily surrender and confine themselves in isolation centers to prevent further spread of the virus especially if they do not have their own room with bathroom and toilet at home, and if they are living with persons who are vulnerable to COVID-19 like senior citizens and people with comorbidities. In fact, many Filipinos do not have proper facilities at home to observe quarantine procedures, that is why these patients need to be extracted and put in isolation facilities managed by the LGUs (Romero, Tupas, & Cabrera, 2020).

Another participant said: “I think I got the virus because of social gatherings especially last December when I got to have drinking sessions with different groups of people. Some are my friends, some are my workmates and there are also other people and when you are too engrossed with drinking the pleasure it brings, you are not mindful where the glass came from when it arrived to you”.

It is common among Filipinos to have drinking sessions during social gatherings and when there are celebrations in the community and family such as fiesta and birthday. Much more common among the Filipino folks in the province is to only use one glass when having drinking sessions; to have your own glass while the rest are using one glass can be interpreted as you think you are above them. But to drink with one cup shows that you are one with them as their kin and brother, and they will be so comfortable with your presence. This comfort brings forth confidence in them to share their innermost selves, sometimes even dark secrets which most men only feel comfortable sharing when they are under the influence of liquor and when they are with other men who they think can understand them. It’s normal in provinces that drinking sessions during important celebrations last one or even two days. Sometimes drinking sessions are accompanied with having “*pulutan*” with only one spoon and with Videoke or Karaoke singing using one microphone. At other times, cards are being played during gatherings while also having drinking sessions. This is confirmed by one participant when he said: “Maybe I got the virus from my friend who came from a travel and then

we had our gathering, we played cards and we also had our drinking session.”

Some of them shared that maybe because of the nature of their work dealing with different people that they got the virus. Others shared that in the plant or company they work, one of the employees had the virus and that they might have been infected by him. One patient said that he got the virus from his employer who was positive with COVID-19 and because he was in close contact with that person, he was forced to undergo testing which turned out positive.

It was common in their answers that they got the virus because of their work and their lifestyle which predispose them to mingle with different people. While because of their work they were forced to mingle with other people, they could lessen the possibility of being infected by following the health protocols prescribed by the Department of Health (DOH) and the companies and institutions. However, we can assume that they did not bother to follow the health protocols because some of them joined different gatherings where drinking, Videoke or Karaoke singing and playing of cards are almost always present.

The governments, media, doctors, researchers, celebrities, police, and other stakeholders of the society appealed to the public to avoid public gatherings including sports, religious ceremonies, family functions, meetings as well as classes in school, to prevent the global spread of coronavirus infection (McCloskey et al., 2020). Despite these efforts, many people ignore the importance of social distancing due to attitudinal issues (Roy et al., 2020). This is true to several places in the Philippines where people do not heed to government mandates to refrain from mass gathering such as parties. People on the other hand, may have been bored having to endure long days and even months of staying at home.

However, there is nothing to be afraid of when one voluntarily surrenders for SWAB testing. If tested positive, most people have mild COVID-19 illness and can recover at home even without medical care. If the result is negative for COVID-19, one is perhaps not infected at the time when the sample was collected. This does not mean one will not get sick. A negative test result only means that one did not have COVID-19 at the time of testing or that the sample was collected too early to detect the infection. There is a possibility that one could also be exposed to COVID-19 after the test and then get infected and spread the virus to others. If symptoms are found later, then, another test is needed (Centers for Disease Control and Prevention, 2020; Kolivras et al., 2020).

Their experiences in isolation and quarantine centers

Except for three ROF who experienced other isolation and quarantine centers in other countries and/or places in the Philippines, the remaining twenty-five participants had their expectations that life in the isolation centers would be lonely, miserable and a constant struggle. Indeed, they are true. Their experiences in the isolation and quarantine centers in Davao del Sur are full of worries, anxieties, fears, loneliness, sacrifices. Some experienced hunger in the first few days because they did not have free supplies of food and that they were not properly oriented what to

bring. Some also expected that there would be free food just like in other isolation and quarantine centers. In Davao del Sur, they found out that only those who are really confirmed to have COVID-19 get free food and other supplies such as vitamins. Those who are only PUIs and PUMs do not have free food. They were only given little supplies of toiletries and thermometer to check their temperature. Some also shared that they might die from dengue rather than COVID-19 because their quarters were infested with plenty of mosquitoes, and they did not have mosquito nets.

Through the sharing of their stories and experiences, one can feel the difficulties and sacrifices they endured in the isolation and quarantine centers in Davao del Sur. Narrating her own experience before coming to and during her stay in the isolation center, the co-researcher in this study has these words:

“What caught me by surprise was that someone from the healthcare unit called me that an ambulance would pick me up so early in the morning not even 7:00AM. I did nothing but cry because I have kids. I worry about their safety. I felt very helpless during that time. Better that my kids were not home with me. During my first day, I couldn't eat lunch because I wasn't able to bring anything to eat except for a few pieces of clothes because it was sudden. When the ambulance picked me in my house, the health care providers did not instruct me on what to do. They just told me to get ready because I need to be isolated. I wasn't even able to bring water. I suffered from thirst and hunger during my first stay. I was disoriented and did not know what else to do. They should have informed me what to bring in the quarantine area. I cried and cried because of helplessness and self-pity thinking of my kids, my family, clients, my deadlines, and the construction of my new house, my workers, my income, and my payables. My quarantine period hindered everything. I worried about my SWAB test result. What if I'd be positive, all the people who have direct exposure to me would be traced and isolated as well. It was very difficult living in uncertainty because you do not know if you will be positive or not. Many things come to mind. What if I am positive? Can I still recover? How long? Can I still go back to my old world? All these questions can drive you crazy. If you cannot adapt immediately to your situation, you will either land in a mental hospital or commit suicide.”

The experience of the co-researcher in this study is not unique to her. Fears and worries of what the future might bring, anxieties about the situation of their families and kids at home, their worries about their works and source of income, their stress and loneliness in the isolation centers are common to all our participants. For instance, one of our participants said:

“When I arrived at the isolation center, I was really scared. Imagine from the airport, I was directly brought here. Better that I had biscuits in my trolley. Anyway, the food is free in the shelter, if you are positive. But I met someone new who was crying because she couldn't bring food. Out of hunger she did not have much choice but to accept that biscuit I gave, even though I was positive. I just hoped that she won't acquire the virus from me. Anyway, I disinfected the biscuit. Aside from that it was still

wrapped. I worry that if she turned positive, they would blame me. I also worry about my family because they expected me to arrive in our house and have my self-quarantine there. Nobody informed them immediately about my situation.”

Sharing her reflections while she was in an isolation center, another participant of our study narrated her fears and worries as well as hopes:

“COVID is real. It is not something to make fun of. It is deadly. I don't worry much about my health because I am not feeling the symptoms of the virus like fever, cough and cold. But what I am worried of is the result of SWAB test. It caused me sleepless nights just thinking what if I might be positive. I guess I cannot accept it that I would be cremated when I die. Only my ashes will remain and given to my family. I really hope not.”

A call center agent whose test was positive shared her experiences and struggles in the isolation center and how it affected her mental health because her family was severely affected by her condition:

“I am already suffering from almost a nervous breakdown here because I was alone. No one was allowed to neither go near me nor talk to me. It's very frustrating and disgusting when your friends won't talk to you anymore because you are positive with the virus. While I was suffering here in silence, my neighbors were circulating rumors that I was already dead. It hurt me a lot and affected me psychologically. The saddest part is that they discriminated against my family. My nephews and nieces cannot play with their friends anymore because we are COVID positive. They generalized us instead though it was only me as the one positive. I am sad that my family experienced such humiliation. When my second SWAB test result arrived, I was already negative with the virus.”

Societal sickness is more dangerous and deadlier than COVID-19 and it has also no cure. That disease is people's discriminatory attitude towards other people. With the rise of COVID-19 cases, such diseases also increase. The saddest part is that those who are targets of this disease are the victims of COVID-19. So, in a way, it added insult to an injury. According to World Health Organization (2020), the recent COVID-19 epidemic has incited social stigma and discriminatory behavior against people who are in isolation or quarantine centers as well as anyone perceived to have been in contact with the virus. These patients suffered from being labelled, stereotyped, discriminated against, treated separately, and/or experienced loss of status because of a perceived link with a disease, as well as their caregivers, family, friends, and communities. People who do not have the disease but share other characteristics with this group may also suffer from stigma.

In fact, not only patients suffer from stigma and discrimination but also the front-liners. They were traumatized and suffered sleepless nights. Their isolation and quarantine are not only about physical confinement, but also behavioral, cognitive, and affective due to the limitations in the interactions with family, relatives, friends, and health workers. The restrictions on freedom involved in quarantine and isolation are sometimes described as occurrences of intimidation (Sánchez-Villena,

& de La Fuente-Figuerola, 2020; de Castro, 2020; Villa, et al., 2020).

Our participant who is a college student shared her ordeals in an isolation center and how these affected her studies, her families and friends: *"It was terrible. It's not a conducive place for me especially because I study, and I have plenty of deadlines. We did not have a conducive place to stay; the place was very hot and there were plenty of mosquitoes. I was afraid I would die of dengue rather than Covid. It became more terrible when I learned I was positive. I felt scared about what would happen to me. I also got angry because the people discriminated to my family."*

The experience of a participant about mosquitoes was as such: *"Staying here is not good. It's better that they released me and allowed me to go home to our farm because it's better there because of the fresh air, flowing river and fresh vegetables. Here it is very hot and there are many mosquitoes. It's not easy to be quarantined in Digos. Better that my SWAB test result was negative. They let me go home to our farm and finish my quarantine period there. However, people there feared me though they knew that I was negative. I can understand that they don't want to come near me because I don't want to have a close contact with them. It is a sad truth that you are no longer welcome once you are a Covid suspect, especially if you come from abroad."*

Indeed, their experiences in isolation centers are full of misery, sacrifice, fear, and worry. Another participant who is a graduate school student, a family man and a bread winner had these words: *"I experienced anxiety and worries. I worry for my children, my work, my studies, and my SWAB test result. When it turned positive, I felt the whole world was tumbling down on me and I did not understand what I felt, I was angry why of all people, I was the one contacted with the virus. What would happen to my family, my kids, and those people who trusted me? What about my studies? I was really depressed. It wasn't really that easy"*.

Beyond the immediate impacts of COVID-19 on health, being in quarantine or isolation increases the patient's anxiety, fears, frustrations, helplessness, uncertainties and worries, which eventually affect their social relations, their trust in other people, their personal security and sense of belonging. In fact, these people have already been through a lot the moment they were transferred to an isolation center. They are afraid because of a perceived danger or threat, which causes physiological changes and ultimately behavioral changes. It is closely related to anxiety, which occurs as the result of threats that are perceived to be uncontrollable or unavoidable. This causes irrational fear to patients due to negative thinking or worry which arises from anxiety accompanied by a subjective sense of apprehension or dread (Kim & Markman, 2005).

The co-author was also COVID-19 patient herself, and shared that she really suffered from fear, anxiety, depression, and uncertainties. She feared for her life, her career, her colleagues, especially, her kids and family. As a solo parent, she tried her best to sustain the needs of her kids; then, something unexpected happened. She got a close contact with a fatal COVID case. At first, she was shocked, how could that happen to a very healthy person?

She was able to talk with her before her confinement in the hospital. She was afraid and confused on what to do. The fear and anxiety she felt was overwhelming. It caused her sleepless nights especially when the healthcare unit called that she needed to be transferred to an isolation center. The more she became lonely and stressed out. In an isolation center, the nights are too long and days too short. What she felt is supported by the premise of Shechter, Diaz, Moise, Anstey, Ye, Agarwal and Claassen (2020) that the stress suffered by patients may cause fear and worry about their own health and the health of their loved ones, financial situation or job, or loss of support services, changes in sleep or eating patterns, difficulty sleeping or concentrating, worsening of chronic health problems, and worsening of mental health conditions. However, quarantine and isolation are necessary to reduce the spread of COVID-19. My fellow patients shared the same sentiments as mine. Life in the isolation center is filled with fear and uncertainty which left feelings of stress, anxiousness, and powerlessness over the direction of life. It is emotionally draining because of "what-ifs" and worst-case scenarios about what tomorrow may bring. According to Durodie (2020), the COVID-19 pandemic has heightened uncertainty because it changes life very quickly such as becoming sick suddenly, losing job, or keeping the family safe. People become anxious about when the pandemic will end or if life will ever return to normal.

Government support to people in isolation and quarantine centers

In terms of government support all our participants shared that the government is really lacking in terms of supporting the people in their ordeals and struggles in the isolation and quarantine centers. Even a medical front-liner who was confined in an isolation center noticed the failure of the government and other healthcare providers in managing the people in isolation centers: *"There are really lapses in the part of the government and healthcare units especially when the COVID suspects are transferred to the Isolation Center. They should have oriented them on what to do and what to bring in the shelter house. They know that food is not free, and some rooms are not really that comfortable, they should have told them what to prepare and bring. For those who are here already, they should constantly follow up if they are still okay or not. But the healthcare workers are afraid to acquire the virus."*

A call center agent who is also confined in an isolation center shares her sentiment about the lack of government support: *"There is not much support from the government. Not even enough to support my quarantine period. Actually, my family is the one supporting my needs here especially in terms of food. Good that I have my family here and that they can afford to travel and give me my needs. But what about others whose families have barely just enough for them? The government only provided me with basic toiletries. That's all. It's really lacking."*

While some participants were appreciative of the little help coming from the government like free toiletries and vitamins, they were still hoping that the government could do more than that and would have interventions to help the people in isolation centers cope with the

difficulties and struggles they experienced. This was captured in the sharing of one participant when she said: *"In fairness, the government/healthcare unit provided me with a mat, blanket, thermometer, shampoo, toothpaste, toothbrush, and a pack of multivitamins but no food. You must provide yourself with your own food. The problem was that you have no one to turn to. Surely, you will not die of COVID; you will definitely die of HUNGER. I believe, the government should have focused on providing food, and medicine; especially psychological counseling for the victims so that they can easily accept and adjust to their situation."*

Though the local government unit did not provide food for the PUMs and PUIs but a Community Isolation Unit (CIU) was setup in coordination with local government units to serve as quarantine facilities for COVID-19 cases (Department of Health, 2020). Similarly, the Department of the Interior and Local Government (DILG) required all local government units (LGUs) to establish their own isolation centers as part of their efforts to combat the spread of the coronavirus disease (Caliwanm, 2020) As these participants shared: *"The government lacks support because when they brought me here, I was only given a vitamin and thermometer to monitor my temperature, morning, noon and evening. Aside from this, nothing more."*

Apparently, the government mandates or programs that we saw on TV and read in newspapers are totally different from the reality. The programs are impressive but in terms of implementation, it is somewhat inefficient. For example, Bayanihan Grant to Cities and Municipalities enables the LGUs to have greater capacity to purchase equipment and help those who are greatly affected by this crisis (Caliwan, 2020). But what about support in terms of food, and psychological counseling? The government should not only focus on the medical side but also on resource management and psychological wellbeing of the patients.

Different ways of coping with their ordeals

This study confirmed results of other studies on the role of positive mindset and prayer of faith in God as well as care for their families as the important means employed by most Filipinos when they experienced adversities and hardships in life (Bayod, 2020; Arnado & Bayod, 2020; Bayod, Forosuelo, Arnosa, Cavalida & Orion, 2021). For most of our participants having a positive mindset and focusing on positive thoughts, having faith in God and constant prayer and the thought that they had to be strong for their families were the things that kept them going despite the difficult situations they experienced in isolation centers. Below are just some of their sharing on how they cope with their situations: *"Although, this is unacceptable, but you can do nothing because our enemy is invisible. I just entrust my life to the Lord because I know that he is my refuge and redeemer. He will not forsake me even if I am sinful (Businesswoman, Covid-19 Positive)*

"I focus on positive thoughts and I pray hard. I also take care of myself by eating fruits, taking vitamins, and having enough time to rest. (College student, Covid-19 Positive)

"I prayed and tried to be strong and positive. It's a struggle but eventually I accepted, and I need to have a strong immune system. My family and kids helped a lot so

that I tried to recover and survived". (Graduate student, Covid-19 Positive)

"My family is my strongest support because of what they experienced from our neighbors; it enabled me to fight even in my moments of desperation that I would really want to die. They gave me the strong hope to survive COVID and now I am back to the outside world. I thank God for that. I guess my family is the reason why I fight to survive my illness even if it is already very difficult for me. I was getting weaker each day I stayed in the isolation because I had no one to talk but what my family did made me stronger, and it made me survive. (Business manager, Covid-19 Positive)

"At first, prayers then family support is very important, and you need someone to talk to and share your problems. Someone who will not judge you. Someone who is willing to listen and understand you no matter what your situation is. I was very positive that I could survive this because there were many COVID positive patients who survived. She kept on advising me to drink a lot of hot ginger and kalamansi juice to boost my immune system. She kept on telling me that I was still young and could survive that. (Businesswoman, Covid-19 Positive)

We could not ask about their prayer life prior to their stay in isolation units but found out that most of them resorted to prayer. This might be because they were not given any medicine except for some vitamins. Filipinos are known to be religious, and their religiosity have helped them to survive the trials that they have experienced. But we sense that most often some Filipinos considered God as their last recourse. This means that when everything is okay, they do not really need God. Yes, some might go to the Church, but Church going is considered a social gathering and obligation so that their friends and their neighbors will see them in the Church. For Rolheiser, (2003), the Western culture is often characterized as a culture, that for the most part, no longer imagines and believe that God exist. This culture has infiltrated the Philippines. We also feel that this is even true to a certain extent to many of us. Because of too much concern with our works and our individual achievements, happiness and agendas, our everyday consciousness contains little or no awareness of God. In our normal lives, we tend to be atheistic in our imaginations and feelings, even as we still profess our faith, say the creed, go to Church, and perhaps even do our ministry (Rolheiser, 2003). But during emergency situations, many of us call to God because even if he is not in our ordinary consciousness, many Filipinos still remember him.

Similarly, adaptability and resilience are important in overcoming the struggles and hardships in the Isolation/Quarantine Centers. As Gonzales (2020) cited resilient people see struggles as a challenge and an opportunity to grow not as a paralyzing incident. This is revealed in the following statements of the participants:

"When I regained my composure, I requested my cousin to bring me groceries, rice cooker, heater, laptop and my files. I cooked my own food and kept myself busy by doing my work even inside the shelter house. I have so many deadlines to meet. Now I have all the time to finish them. I am really very optimistic and resilient. I can easily bounce back from a difficult situation after crying my heart out.

A positive mindset, faith, adaptability, and resilience were some of the many ways to cope with the ordeals that the participants have gone through at isolation/quarantine Centers in Davao del Sur. The study of Monye and Adelowo (2020) recommends that everyone, susceptible, suspected, and confirmed COVID-19 cases should be encouraged to adopt healthy lifestyle practices in their daily living. Such measures if practiced consistently should significantly reduce the susceptibility of at-risk cases, severity, complications, the recovery period, and the fatality rate of the disease. This is a matter of self-discipline and an inspiration to fellow citizens to be watchful and value life and family back home.

Conclusion

Most study participants said that they became COVID-19 positive due to exposures to people who were positive in different social gatherings and in their workplace. Most of them in isolation centers anticipated the result of their test which means due to their exposure, they already had the feeling that they were positive with the virus. Also, a number of these positive COVID-19 patients did not feel any of the symptoms at all because they were asymptomatic. This condition helped them fight the onset of the virus and learned to have positive dispositions because they felt nothing except they were aware of the result of their test. To fight the fear and anxiety, they consider prayers, practicing healthy lifestyles and following protocols as their means to overcome the unprecedented situation. In terms of receiving aid and assistance from the government, most of those placed in the isolation centers expressed that they did not receive any help. Some received food and vitamins but not consistently while they were under quarantine in the government facility. There were many lapses on the implementation of the quarantine and isolation measures to prevent the spread of COVID 19 such as the lack of government support especially in terms of emotional and psychological counseling; the government focused much on the prevention of the virus without considering the effect of these measures on the psycho-social well-being of the people in isolation and quarantine centers; therefore, there is a need to revisit the effectiveness of the program so that any pitfalls maybe corrected because if this continues people might lose faith in the government.

The thought of those asymptomatic patients that it's just nothing because they do not feel anything is also significant. While it may help them to have the guts and courage to fight against the virus, it can also be problematic if these persons are not identified and they continue to mingle with other persons in their homes, in their workplace and in the different social gatherings that they will attend. Asymptomatic persons are still carrier of the virus and if they can infect the vulnerable persons like the sick, the elderly and the children, they might be the cause of their sudden and unexpected hospitalization or even death. That is why it is always good to consider oneself as a potential carrier of the virus. The health protocols instituted and instructed by healthcare experts are an important weapon to protect oneself and others from the virus. The front-liners and the law enforcers have been doing their part to educate the people of the

importance of following health protocols, but they are just few. If people have self-discipline and a sense of responsibility towards the common good, the fight against this virus will end sooner. Social cooperation is very important during times of pandemic. According to Lapeña (2020), people are giving hope because others are giving hope in return and there are also people who go over and beyond the call of duty. However, these efforts will all be put in vain if citizens in the community do not do their part in practicing all the measures to help prevent the spread of the virus.

Aside from controlling the spread of COVID-19, the national government may also implement programs on how to lessen the effect of isolation and quarantine programs on the psycho-social well-being of the persons affected. The Local Government Units (LGU) may conduct information dissemination and stress debriefing for these persons to prepare them emotionally and psychologically on the adverse effect of isolation to one's health. The Health Care Units should properly orient the persons under monitoring or investigation so that they are prepared on what to bring once they need to be isolated or quarantined as a preventive measure. The health department should craft programs on how to manage post-traumatic stress, uncertainty, irritation, disappointment, insufficient knowledge, financial loss and stigma. The persons under monitoring and investigation should be properly informed about what is going to happen once they are isolated. They should learn how to adapt to their situations immediately.

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Psychological stress in mothers of children undergoing stereotactic thermal coagulation for hypothalamic hamartoma

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Abstract

Epilepsy is one of the most frequent neurological disorders and affects 0.5–1% of children worldwide. In Japan, the term epilepsy has historically had negative connotations and patients still face discrimination and stigma. Parents of children with epilepsy are highly stressed and suffer increased risk of psychological problems such as depression and anxiety. The efficacy of epilepsy surgery has become widely recognized as a treatment option for uncontrollable epilepsy. A qualitative and descriptive survey was conducted with six mothers whose children had undergone epilepsy surgery in Hospital A. A total of eight recommendations based on the surgical procedure, the postoperative condition of the child, and the overall health and mental condition of the parents were derived. Suggestions on the development of a support system and the provision of support on the healthcare professional side were obtained. The data were analyzed based on the Steps for Coding and Theorization (SCAT). Results indicate that shared parent-child decision-making is a barrier when surgical outcomes are uncertain. It is suggested that it would be effective for the medical staff to explain the surgery to the child while providing information to the parents. In addition, parents should be provided with multidisciplinary psychological support.

Introduction

Epilepsy is one of the most frequent neurological disorders. The World Health Organization (WHO) defines it as “a chronic brain disease of various causes, mainly characterized by recurrent seizures due to excessive discharge of brain neurons.” Epilepsy has been reported to affect 0.5–1% of children worldwide [1]. It is an important public health issue in Japan given that the country has one million epilepsy patients [2]. In Japan, the term epilepsy is historically accompanied by negative nuances, such as madness and evil spirits. Given this cultural background, patients still face discrimination and stigma. In general, parents who have children with epilepsy are highly stressed and are clearly at increased risk of psychological problems such as depression and anxiety [3,4]. Parents feel intense guilt over children’s illness, and those with children with epilepsy are psychologically and socially stressed [5,6]. In recent years, epilepsy surgery has become widely recognized as a treatment option for

uncontrollable epilepsy [7]. The purpose of surgical treatment is to eliminate or reduce seizures, and above all, improve the quality of life (QOL) of patients and their families [8]. Few studies have clarified the psychological condition of parents when their children are undergoing surgery for pediatric epilepsy, for which new surgical methods are being developed. The construction of new therapies is important not only for improving QOL but also regarding bioethics.

Hypothalamic hamartoma is a congenital benign tumor of unknown cause in intractable epilepsy syndrome that affects 1 in 200,000 people. Symptoms include epileptic seizures (mainly laughter seizures), precocious puberty, learning disabilities, and attention deficit hyperactivity disorder. Stereotactic thermal coagulation is a newly developed surgical method for this disease, developed and presented in Japan in 2007 [9,10]. Head surgery on children is a hard decision not only for healthcare professionals but also for parents.

By clarifying the psychological stress of mothers of children who will undergo this operation, this study obtained suggestions on the development of a support system and the construction of support on the healthcare professional side.

Methods

This study used a qualitative and descriptive design in accordance with the criteria for reporting qualitative research (SRQR) recommendations [11].

Subjects: There are 37 epilepsy centers in Japan, which treat epilepsy in close cooperation [12]. Among them, the accompanying family members of children who were admitted to Hospital A for the purpose of stereotactic thermal coagulation of hypothalamic hamartoma were targeted. Hospital A was chosen because it is a specialized center for epilepsy covering a radius of 250 km. The facility has many inpatients not only from Japan but also from overseas and caters to people from various backgrounds. In addition, it has a hypothalamic hamartoma center and is one of the top-class epilepsy centers in Japan as it develops new surgical methods. As such, the facility oversees many operations.

In this survey, we asked the ward of Hospital A to perform purposeful sampling, and asked eight recommendations based on the surgical procedure, the postoperative condition of the child, and the overall health and mental condition of the parents. A total of six mothers who had consented were included in the study.

Data collection: Data were collected from mothers of children who underwent epilepsy surgery through semi-structured interviews (1 hour) and, if necessary, follow-up interviews (30 minutes) for clarifications. The interviews were recorded using a digital recorder and later transcribed verbatim.

Subjects were asked the following questions: (1) “What do you feel while taking care of your child who is about to undergo epilepsy surgery?” (2) “How did you tell your child about their illness or surgery?” (3) “How did you take your child’s reaction to the fact that they were about to undergo surgery?” and (4) “During the explanation of the surgery, what do you want or not want

to tell your child?

Table 1: Background of study subjects

	Child's age	Sex	Age at first surgery	Number of surgeries	Mother's age	Time of interview
A	4 years	Male	1 year old	4 times	30s	3 months after surgery
B	11 years	Female	3 years old	3 times	40s	5 days after surgery
D	11 years	Female	5 years old	1 time	40s	3 months after surgery
E	13 years	Female	10 years old	2 times	40s	3 months after surgery
F	11 years	Male	2 years old	3 times	40s	3 months after surgery
G	13 years	Male	2 years old	4 times	40s	3 months after surgery
A	4 years	Male	1 year old	4 times	30s	3 months after surgery
B	11 years	Female	3 years old	3 times	40s	5 days after surgery
D	11 years	Female	5 years old	1 time	40s	3 months after surgery
E	13 years	Female	10 years old	2 times	40s	3 months after surgery
F	11 years	Male	2 years old	3 times	40s	3 months after surgery
G	13 years	Male	2 years old	4 times	40s	3 months after surgery

Table 2: Themes and subthemes

	[Theme]	<Subtheme>
1	[Heavy responsibility as a surrogate decision-maker]	<Hesitation regarding the decision> <Inspiration from healthy children>
2	[Desire for a normal life]	<Long-sought disappearance of seizures> <Expectations for surgery to reduce symptoms>
3	[Difficulty in explaining to the child]	<Sympathy for the frightened child> <Relief due to the careful explanation of the medical staff>

Data analysis: The data were analyzed based on the Steps for Coding and Theorization (SCAT), a theme analysis method inspired by grounded theory [13]. The text increases the risk of the divided data in a matrix. <1> Notable words were identified in the data. <2> Words outside the text that can be used to re-express the focused word were identified. <3> External concepts in the text that describes the focus word were identified. <4> Coding

was done using the themes and structural ideas that occurred [14].

During the survey period, all members examined the entire analysis process of the main analyst, discussed, and corrected any problems to ensure the reliability and confirmability of the data. Furthermore, the robustness of the results was ensured through open discussions at the member-sponsored study group.

Ethical considerations: This study was approved by the Ethics Review Board of Niigata University of Health and Welfare (approval number 17471-14031) and approved by the Ethics Review Board of Hospital A. In addition, the research objectives were explained in writing and verbally to the research participants, and a consent form was signed. Careful consideration was given to the obtained data so that no individual could be identified.

Results

The subjects were six mothers in their 40s and 50s, and their children were 4 to 13 years old. The patients underwent surgery one to four times. All the patients had hypothalamic hamartoma and underwent stereotactic thermocoagulation. (Table 1). We extracted the themes and two subthemes. (Table 2)

Themes are in [] and subthemes are in < >. Examples are shown below.

> [Heavy responsibility as a surrogate decision-maker]

The mothers said that before the surgery, they were more anxious about the risks than the benefits to their children. They explained that the decision made them feel guilty over letting their child undergo a rare and non-urgent surgery. Despite the pressure, many mothers were inspired to see their children playing and going to surgery.

▪ <Hesitation regarding the decision>

"I was happy to know that my child can undergo the surgery. However, as a parent, I had conflicting feelings. I was worried because there was no guarantee that my child would be 100% cured." (D)

▪ <Inspiration from healthy children>

"I felt vitality when I saw children. I was trying to stand on my own. When I saw that, I really cried. Seeing children gave me strength." (G)

> [Desire for a normal life]

Mothers wanted the surgery to eliminate their children's laughter episodes, which was the main motivation for their decision to undergo surgery. They believed that their family would have a "normal life" after the surgery. They were also relieved by the positive changes in their child after surgery.

▪ <Long-sought disappearance of seizures>

"My child gradually became able to do various things, but I wouldn't know what to do if their cognitive and behavioral levels decline. I really wanted the seizures to disappear." (B)

▪ <Expectations for surgery to reduce symptoms>

"The first surgery cured their hyperactivity. He's now very well-behaved. It would have been better if the laughter episodes disappeared, but they didn't. I hope they disappear with future surgeries." (F)

> [Difficulty in explaining to the child]

Many mothers were upset by the frightened child's reaction and had difficulty explaining the purpose and the specifics of the complex surgery. Among them, the explanation from the medical staff cleared the child and the mother's anxiety.

▪ <Sympathy for the frightened child>

"As a parent, it was really difficult to take care of children while they were saying that they were scared." (D)

▪ <Relief due to the careful explanation of the medical

staff>

"I didn't know what to explain to my child. The nurse's careful explanation helped me a lot." (A)

Discussion

This study investigated the preoperative psychological stress of mothers of children undergoing stereotactic thermal coagulation developed in Japan for hypothalamic hamartoma. The procedure was not urgent and had only been performed on a small number of cases, which made the mothers feel guilty over making the decision regarding surgery. The decision was backed by a desire to improve the QOL of the family when the child's seizures disappeared. However, before the operation, they were upset by the reaction of their frightened child, which became a hindrance to convincing their child about a surgery they themselves could not explain. Medical staff's careful explanation reassured the children.

In adult patients, the shared decision-making (SDM) process in which physicians and patients interact with each other and discuss values, treatment deliberation and methods, is important for their own surgery [15]. However, in the case of medical care for children, it is often difficult for children to participate in decision-making and express their opinions when they are young or have problems with cognitive function [16,17]. Therefore, parents become surrogate decision-makers while respecting the best interests of the child.

The study reveals that shared parent-child decision-making is a barrier when the outcomes are uncertain, such as in new surgical procedures or when there are only a few cases due to the rareness of the disease. It is well known that risks and uncertainties have a significant impact on critical decisions. In addition, many reports have stated that parents struggle with the treatment of their children but have difficulty giving them the opportunity to make decisions [18-20].

In addition to the above, Japan's Civil Code stipulates that children under the age of 20 are subject to parental authority. Within this context, parental decisions will have a legal effect on children's surgery. We can infer that the new surgical procedure known as stereotactic thermal coagulation for hypothalamic hamartoma made it difficult for mothers to make rational decisions concerning risk assessment, and that they experienced enormous stress in surrogate decision-making.

What actions do parents take to relieve that stress? Regarding decision-making, there are reports that parents actively collect information by searching past cases online, and so on, in an attempt to alleviate confusion and anxiety [21]. It was suggested that stress can be reduced by providing sufficient information and dialogue before decision-making to improve medical care for children receiving new treatments.

In particular, regarding this operation, mothers were in a sensitive psychological state, such as being unstable and crying immediately due to the symptoms and anxiety of the child before the operation. As contained in the theme [Difficulty in explaining to the child], mothers were particularly worried about the fact that the surgical site was the head. We speculated that the pain of not being able to fully explain to the child due to lack of information

(cognitive function effects, scheduled multiple surgeries, etc.) also affected mothers. Despite receiving adequate information from physicians before the surgery, we clarified again that mothers were in an unstable and irritable psychological state before their children's surgery.

We believe that healthcare professionals must provide better care. Despite being hospitalized for surgery, the extent of the children's understanding of the surgery is unclear even if parents received information from physicians. Children may not be informed, especially if the surgery had only been performed on a few cases and if the child is unable to make rational judgment based on previous cases. Therefore, it is necessary to discuss with parents as soon as possible to confirm when, who, and how to speak to their children. Parental anxiety can also be reduced by explaining to the parent in front of the child.

It has also been reported that discussions on relevant information attended by nurses, social workers, and psychologists are effective for parents [22]. It is useful to work with physicians to provide ongoing knowledge and psychological support to parents.

Limitations: Due to the rareness of the disease, there were only six subjects, which constitutes a small sample size. Therefore, the results most likely do not apply to all parents of children undergoing stereotactic thermal coagulation. In the future, it is necessary to conduct continuous interviews and further examination.

Conclusion

It has become clear that mothers of children undergoing stereotactic thermal coagulation, a new procedure for the rare disease hypothalamic hamartoma, experience extremely high stress due to the heavy responsibility associated with surrogate decision-making. Furthermore, mothers feel guilty because the surgery is not urgent and aims to stop episodes, which would improve their QOL. The results suggest that it would be effective for the medical staff to explain the surgery to the child while providing information to the parents. The results also suggested that it is necessary to provide multidisciplinary psychological support to parents.

Acknowledgements

We would like to thank the mothers who agreed to be interviewed and the staff at Hospital A for their cooperation. This work was supported by JSPS KAKENHI Grant Number 17K12378.

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Physician Privacy and Patient Benefit

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Abstract

Privacy is a fundamental human right that provides a sense of security against the disclosure of one's personal life such as emotions, thoughts, and bodies. Physician privacy should also be considered. Ignoring physician's privacy while on duty can cause stress to physicians. This causes their job burnout and dissatisfaction, which in turn reduces their efficiency and has a significant impact on reducing community health service. In the present study, we will first explain the concept of privacy dimensions and scope, then define the physician privacy and privacy concerns for the community and the practical challenges associated with physician privacy and propose a solution to enhance privacy management communication.

Introduction

Respecting patient's privacy and confidentiality is one of the most important physician's moral duties; hence it has a long history in medicine. This has been highlighted and referred to as a sacred matter in Hippocratic Oath. Confidentiality is of special importance in religions, especially in the physician-patient relationship (Parsa, 2009). Respect for patient privacy is rooted in respect for patient autonomy which prevents from psychological harms (Jenkins et al., 2005). While having their own personal autonomy, humans are social beings and their relations with others and social life gives meaning to the concept of privacy and associates its observance with human dignity. Due to the special nature of the physician-patient relationship, respecting human dignity, privacy, and confidentiality has increasingly become critical. Confidentiality is the most basic and unconditional principle in the physician-patient relationship. In a statement of the World Health Organization and the Iranian Patient Rights Charter, it has been emphasized that respecting patient privacy and confidentiality is essential in provision of healthcare services (Parsapoor et al., 2010). Respecting patient privacy maintains trust in physician-patient relationship. This relationship is bilateral and mutual. Although patient privacy and confidentiality is of the utmost importance, patients should respect the dignity of the physicians and the

medical profession. Patients and the society have duties to physicians, to establish an optimal interactive relationship, and both parties should comply with communicative considerations. Observance of physician privacy and providing a safe and secure environment for the healthcare system may improve the quality of healthcare services. In other words, patients and physicians' rights are like two wings of a bird; both should work together for proper relationship and optimal provision of healthcare services.

Unfortunately, physician's rights and their professional dignity have been less considered. Numerous articles have been published about patient privacy (Sankar et al., 2003; Kiser, 2015; Dolan, 2014); however, few papers have addressed physician's privacy. Hence, the present paper aims to deal with the concept and value of physician privacy and its dimensions and scope, to clarify the associated challenges, and to discuss duties of patients and society to physicians.

Methodology

The present review article aims at clarifying the concept of privacy, its dimensions, scope, value, and practical challenges. To this end, the keyword "privacy" was searched on search engines and websites such as PubMed, ScienceDirect, Scopus, and MDConsult. At first, many papers (without limitation) were found but most of them were about patient privacy. Then, other keywords such as "healthcare information", "physician privacy", and "physician confidentiality" were searched during the past 20 years. At this stage, there was a dramatic reduction in the number of papers. In addition, medical ethics textbooks, especially in issues such as autonomy, privacy, and confidentiality, were reviewed. However, no relevant paper was found in our national databases such as Iranmedex and Magiran in Persian.

Concept of privacy

The term "privacy" was derived from the Latin word "Privatus" at the end of the 14th century. "Privatus" means to separate, belong to someone, and not belong to the government, as opposed to words "Publicus" and "Comminus". "Privatus" originates from the word "Privare" which means to deprive and dispossess. "Privare" roots in the Latin word "Privus" which means the property of own, derived from the Latin root "Pri" which means before (Harper, 2000). The term "privacy" is derived from "Priva", or "privilege", which means a special advantage or a desirable opportunity (Leino-Kilpi et al., 2000). In reference books and dictionaries such as Webster and Oxford, the same definitions of privacy have been provided. Most of these definitions refer to the state in which one is alone, away from the public view, and free of any interference of others in his/her personal affairs. In Persian dictionaries, privacy has been translated into personal life, solitude, comfort, and peace (Mehrdad et al., 2005).

Dimensions and scope of privacy

Privacy has several dimensions including physical, psychological, social, and informational (Leino-Kilpi et al., 2000). However, There are five dimensions when privacy

in healthcare is considered: physical privacy (respect for the human body); informational privacy (respect for confidentiality and protection of patient information); communicative privacy (providing a peaceful and intimate environment for the patient and the health service provider); privacy of ownership (respect for one's right of ownership on information about his/her disease, genetics, body tissues, and identity); and privacy in decision-making. Thus, patient privacy is not restricted to physical privacy and includes respect for patient autonomy at all stages of examination, diagnosis, and treatment.

Ethical foundations of privacy

In physician-patient relationship, privacy of both sides should be respected. The right of every human being to be alone should be observed by others. One should be entitled to deal with his/her own personal life away from others and their controlling looks and free from surveillance and inspection. Freedom and individual autonomy are concepts that give meaning to human personality (Leino-Kilpi et al., 2001; Chalmers et al., 2003; Neill, 1999). Privacy means a limited access of others to one's body, thoughts, and feelings. On the other hand, privacy is closely associated with normative values and people naturally desire to protect it (Dehghani-Mobarakeh et al., 2013).

Philosophical bases of privacy

There is no consensus between contemporary theorists about definition, evaluation, and protection of privacy, as they argue over two different philosophical perspectives on the independence of the concept of privacy. A group of theorists do not consider an independent identity for privacy and express a skeptical and critical view about the right to privacy. They believe that any interest included as a benefit of privacy has been already supported by other rights or interests such as right of property and the right to physical security, and thus, privacy lacks any new and specific provision or content and cannot be cited as an independent right. This group of theorists is known as reductionists (DeCew, 2018). By contrast, another group of theorists, known as coherentist, consider an independent identity for privacy and believe that privacy itself is a meaningful and valuable concept. In this view, some argue that there is relevance, coherence, and consistency between topics and issues related to privacy (continuum theory). The third group includes those who subject moral justification of privacy to the acquisition of independent principles of privacy (differentiation theory) (DeCew, 2018). Although theorists of philosophy, bioethics, and law try to explain the meaning and value of privacy, they do not achieve a generally and universally acceptable theory. However, what can be inferred from these principles is that privacy is rooted in human dignity and its observance is one of the necessities of social life.

Legal view into privacy

From a legal standpoint, privacy is one of the most fundamental and basic human rights which is closely associated with human dignity. The right of humans to be alone and away from others and their controlling looks and free from surveillance and inspection is a right that is

essential for an independent personality (Margulis, 2003). According to the resolutions of the International Congress of Jurists in Stockholm in 1967, ten examples of invasion of privacy are as interference in the private and internal life of others; violation of physical and mental integrity and creating moral and spiritual limits; violation of dignity, honor, and reputation of individuals; misinterpretation of the sayings and deeds of individuals; misuse of the name, identity, and images of others for commercial purposes or advertisements; disclosure of private secrets of individuals; spying and monitoring others; arrest or inspection of personal correspondence; abuse of written or verbal correspondence; disclosure of professional information (Naserzadeh, 1993).

According to law, all human beings, regardless of nationality, age, civil capacity, or mental ability, should have the right to privacy. All individuals, either citizens or foreign nationals, can enjoy this right. The human right to privacy is a fundamental right of citizenship regardless of age and all people are subject to this right immediately after being born alive.

Table 1: The proposed strategies for strengthening the process of communication privacy management

Strategies	Interventions
Education and increasing awareness	<ul style="list-style-type: none"> • Communication privacy management training for physicians • Communication privacy management training for public community • Increasing awareness about consequences of bad communication management • Teaching privacy management in media-health system relationship • Strengthening medical students' knowledge about relationship management and persuasion • Creating ethical sensitivity, especially on the effect of wrong connections and professional career
Administrative policy	Culturalization Developing guidelines and ethical codes Physician's rights Charter

Privacy in Iranian law

In accordance with Article 957 of the Iranian Civil Code, even legitimacy or illegitimacy of an infant cannot deprive him/her from the right to privacy (Rahmdel, 2006). The scope of this right is so broad that involves legal entities like natural persons). Although there is no explicit reference to the concept of privacy in Iranian law, examples of privacy have been discussed in many provisions of the law, most of which are related to medical and clinical cases. According to Article 22 of the Constitution of the Islamic Republic of Iran, the dignity, life, property, rights, domicile, and occupations of people may not be violated, unless sanctioned by law. It can be concluded that examination and contact of patients without permission is considered one of the examples of

violation of the physical integrity of individuals and is prohibited by law. On the other hand, human beings have a dual physical and spiritual life. The physical life is limited in human body, but the spiritual life, is more prominent, involves intellectual and emotional foundations, individual and social dimensions, and performance. This important issue has been also taken into consideration by law.

Physician privacy

Like other members of the community, physicians should enjoy human rights including privacy which can be viewed in the form of personal privacy and professional privacy. For physicians all personal and identification information and information on health and professional performance are considered their personal affair and should be protected with respect to autonomy and freedom of choice. Disclosure of personal and family information of physicians will harm their professional reputation and dignity. Sometimes the ethical responsibilities of physicians towards patients, colleagues, society, and the environment are so highlighted that physicians and their families are being neglected. In some cases, people think that being a physician means that one should dedicate himself/herself to the profession and serve the public by overlooking his/her own welfare, health, and rights. This is appreciated in many cultures as a kind of positive sacrifice (Borgan et al., 2015).

Benefits of mutual observance of privacy in the physician-patient relationship: According to duties they have to society, patients should follow their responsibility in the physician-patient relationship, avoid hasty judgments, avoid causing doubt of their physician in the mind of other patients, and avoid disclosure of any false medical information (Cruess & Cruess, 2008; Tallis, 2006). Physicians are expected to provide services of highest quality to their patients, while patients are required to respect the dignity and honor of those who provide such services to them (Gruen et al., 2004) and avoid hasty judgments, publication of incomplete information, and personal impressions which may diminish the dignity of the medical profession. However, in this bilateral relationship, physician's personal and professional information are misjudged. This is also a kind of disrespect and violation of privacy which corrupts the dignity of the medical profession, and its consequences will affect the society.

Regardless of the philosophical bases of privacy, experts of the health sector believe that observance of privacy in healthcare services can maintain peace and increase patient's satisfaction. In the physician-patient relationship, most "Dos" are directed to physicians. Observance of patient privacy and confidentiality is one of these "Dos", which is true as physicians professionally become aware of the details of patients' life.

Maintenance of physicians' professional privacy protects the dignity and sanctity of their career in the society and improves the trust of the society to physicians as a group of service providers. Continued trust improves the physician-patient relationship and will result in patient satisfaction and improvement of the health

system, which directly benefits the public. Respecting physicians' rights including privacy, health and well-being has positive impacts on healthcare services. Studies have shown that paying attention to physicians and protection of their dignity is a prerequisite for maintenance of trust between physician and patient, and this will have direct benefits for patients (Farahmand & Sharifian, 2005).

Previous studies indicate that observance of physicians' privacy can play a decisive role in their job satisfaction and mental security as well as improvement of the quality of healthcare services (Friedberg, 2014; Scheurer et al., 2009). Farahmand and Sharifian have found that job satisfaction has strongly decreased among physicians in recent years. They demonstrated that job satisfaction of physicians has little to do with income, but workplace and colleagues, job and mental security, and mutual trust are more effective in improving their job satisfaction (Farahmand & Sharifian, 2005). Addressing human rights and security in some universities may be effective in improving quality of healthcare services because of the positive impact on physician's lifestyle (Borgan et al., 2015).

Practical challenges related to physicians' privacy

A) Publication of information in cyberspace: Nowadays, much of the communications and social relations take shape in cyberspace. Many people acquire medical and health information from websites, as more than 40% of searches in internet are on health issues (Gruen, 1999). More than 60 million patients find their medical information through internet searches (Hollander & Lanier, 2001). A variety of information about physicians are presented on these websites every day; true or false, comments in relation to physicians or medical errors are provided and images and information about the performance of physicians are shared. The volume of such information is so great that companies can classify physicians based on the evaluation and surveys of people (same as restaurants). Since these are based on reviews and opinions of patients in cyberspace rather than legal findings, it is purely opinion and non-expert impressions (Freudenheim, 2009).

Some pharmaceutical companies obtain information about physicians and their prescriptions from pharmacies and use them to know the patients, how physicians prescribe, and the amount and type of prescribed drugs and apply those for their own commercial interests. Similarly, insurance companies and organizations, such as Medicare in US, misuse electronic information of physicians, their prescription style, and their diagnostic-therapeutic processes and include them in the insurance coverage of people (Field, 2009).

Medical information, type of prescription, diagnostic-therapeutic processes, personal impressions of patients about behavior, deeds, and professional abilities of physicians, and even medical error disclosure all are accessible in cyberspace. At the first glance, this is taken as a matter of free access to information and freedom of communication, while it may be an instance of violation of physician privacy and desecration of the medical profession.

B) Medical error disclosure: Medical error disclosure is one of the physicians' strategies for medical error management which represents honesty in the physician-patient relationship (Chamberlain et al., 2012) and enhances transparency in health professionals. Based on the principle of autonomy, patients should be informed about medical error especially when it results in harm; otherwise, it is considered deception and diminishes the trust to medical profession (Ghalandarpour et al., 2011). In medicine, it is assumed that errors are inevitable while predictable and preventable. Medical error disclosure faces many challenges in practice. Mismanagement of medical errors and improper disclosure will have devastating effects on the healthcare system, hurts physicians' reputation, credibility of hospitals, medical staff, and health system and reduces public trust to health profession (Bernhardt, 2004; Robertson, 2004). This is considered an instance of invasion of privacy and defamation of physicians and health system. Certainly, respecting physician's privacy and the medical profession will benefit patients both directly and indirectly.

Observance of privacy and prevention of inappropriate disclosure of information are considered a moral deed. Undoubtedly, a turbulence of privacy may occur in physician-patient relationship and disclosure of common information can hurt one or both parties. Hence, efficient and transparent management is an important principle of health system in preventing violation of privacy (Petronio, 2010). For solving the ethical challenges of error disclosure, the communication privacy management (CPM) system was designed to properly manage human interactions and relations that may particularly interfere with privacy, in a way to result in the least harm to both sides. One side of this relationship is the patient who needs compensation upon harm, and further damages should be prevented. In addition, they should be informed with enough information. Physicians and hospitals are the other sides of this relationship, and their dignity and privacy should be respected. This system, with a history of 35 years, creates a safe and secure setting for physician-patient relationship (Petronio, 2002; Petronio, 2010). The communication privacy management system, in addition to compensation and prevention of future damages, attempts to address another important issue regarded as the respect for privacy of all parties of the relationship (Petronio, 2006). Accordingly, privacy of patients and their family members, their physicians, medical staff, and the hospital should be respected (Petronio, 2002; Petronio et al., 2012). This system is based on three general principles including private property, respect for privacy, and violation of privacy. Data and information related to medical procedures are basically owned by patients. However, the ownership of these data and information could be shared between two parties. This framework helps managing medical errors with a more comprehensive view. Conditions in which the error has occurred, the amount of information that must be disclosed, disclosure conditions, audiences of disclosed information, and the level of confidentiality of information to the public opinions should be considered in this framework (Petronio & Sargent, 2011).

C) Interaction with media: Interaction with media can result in a better communication and directs public opinion. The media play an important role in raising public awareness, increasing the level of health literacy, establishing appropriate expectations, and directing public opinion (Petronio et al., 2013). However, their negative impact cannot be ignored. Media is a powerful tool with potential capabilities in changing or modifying the public attitudes and inappropriate stances on different issues related to health (Boufford et al., 2002). Although criticism and disclosure of different issues and latent layers of social harms will be a great help in improving health systems, the ethical considerations of media-health system relationship should not be ignored. According to this and for better use of the potential capabilities of media, a guideline was codified in Iran. This guideline defines a framework for media-health system relationship to protect patients and health system privacy.

Communication and criticism by media should be done in a proper and scientific manner. The first modality for moral criticism is its scientific nature. Non-expert comments have detrimental effects rather than improving the status quo. Criticism and disclosure of different issues in the health sector should be done at the right time and place (Jawaid & Jawaid, 2018). Disclosure of physician information before his/her medical error is proved has adverse consequences. If disclosure of medical errors and other similar issues are aimed at improving the health system and national communication, in addition to observing the considerations of constructive criticism and correct communication, reputation and privacy of individuals should be respected. Naming the physicians and hospitals in newspapers and other media and disclosure of minor and major issues in a non-expert basis will have no fruit but diminishing the dignity, honor and reputation of physicians and the medical profession. Therefore, attendance of the media staff in medical centers and preparation of verbal, written, and visual reports could lead to damage to the privacy of patients and health system (Burkle, 2011), while negligence may encourage physicians to commit dishonest and unethical behavior, deception, and secrecy to maintain their reputation.

D) Camerawork from doctor's office and surgical procedures: Today, camerawork from medical procedures by patient's family members is common and is not considered unethical. Some physicians believe this can have positive effects on the recovery process of the patient and encourages physicians to be more careful during the treatment, because the photos and videos taken can be a document of all medical procedures and patient's conditions. Nevertheless, it has some disadvantages such as violation of patient privacy, and negatively affects physician concentration, comfort, and autonomy (Allen, 2021). In addition, presence of patient's family members in the doctor's office or operation room may affect the sterility and cleanness of tools and equipment and other considerations. What happens in today's world, specifically in the field of radiology or surgery, does not merely violate patient's privacy. Camerawork or taking photos during a fetal ultrasound or

in operation room violates the privacy of the operating room and physicians and personnel. They are entitled to be sensitive to camerawork or imaging while working. In this regard, ethical considerations of both sides should be respected, including privacy, informed consent, and confidentiality. Patient's interest is the top priority, and no action should transgress it.

E) Electronic medical records: General Medical Council explicitly states that physicians are responsible for maintaining confidentiality of patient's electronic information and physician's information and must ensure effective protection of information (Stanberry, 2001). In this regard, development of electronic records for patients, upload of information in cyberspace, and information transfer via email, social networks or personal websites are of importance. In the virtual world, it is possible for people to get access to confidential information and even see and hear the transferred data. Hence, physicians who widely use these electronic means to communicate with their patients and develop electronic records for them should apply appropriate security measures to provide the highest level of security for information of their patients and prevent the disclosure of medical secrets (Farnan, 2013; Clark, 2010).

Protection codes for medical information

Considering the above issues, some countries have developed specific codes. The Canadian Medical Association has proposed a set of codes under the title of "principles relating to the protection of physician information". Physician or healthcare provider information includes information on health and personal wellbeing, identification of professional practice, professional performance feedback, and identity information. This set of principles clearly explains how and by whom this information should be kept. This guideline insists on obtaining physician consent about conditions of maintenance, disclosure, and access to information. It is noteworthy that access to this information is possible only in the range defined in goals. This guideline also explains terms of using information without consent under the conditions specified by administrators and managers of the health system. Otherwise, the priority is with information confidentiality and respect for privacy. This guideline also describes terms of physician's access to information, information security, storage and destruction conditions, questions and complaints, transparency, and accountability of authorities to protection of the medical information (Canadian Medical Association, 2018). Health Insurance Portability and Accountability Act of 1996 (HIPAA) statement has dealt with privacy of physicians and explains different conditions and situations which may violate the privacy and confidentiality of physicians (Newport Hospital, 2017).

Conclusion

Active cooperation between patients and physicians is considered as one of the most important commitments of both parties in the healthcare system which improves the quality of healthcare services. Such cooperation means

that both parties have their rights and responsibilities. Although physicians should first try to attract patients' trust, patients should also have an optimistic and unprejudiced view towards their physician.

The principle of autonomy gives the right to patients to be involved in decision-making about their health and treatment, receive complete information, be aware of the needed medical information, and make the final decision. On the other hand, patients also have responsibilities which include providing accurate and complete history, following-up the prescribed medication or treatment procedure, attending the next appointments, sincere expression of the extent of compliance with medical prescriptions, reporting unexpected changes in the disease status, respecting the right of others to health, promoting their health by observing the optimal lifestyle, and respecting physician's dignity and honor.

Therefore, disregarding any of the above-mentioned duties could cause patient's dissatisfaction or complaints that may be considered in media analysis and judgment or disclosure of information in cyberspace or by press. Otherwise, unfair, and unethical disrespect for physicians' honor and dignity may create a stressful and insecure environment in the health system that would not encourage physicians to correct scientific and moral deeds and may trigger unethical behavior and damages to patients and the health system.

It seems that patients can play a major role in respecting physician's privacy and the privacy of medical community. If this role is well played by patients and the society, it can improve the quality of the physician-patient relationship, something which can undoubtedly benefit the society. Therefore, some interventions may be considered for better understanding of the issue such as guidelines or ethical codes devoted to each health system or the Physicians Rights Charter. Accordingly, our suggested strategies for strengthening the process of communication privacy management are presented in table 1. Those strategies are divided into two types: A) education and increasing awareness which contains six interventions; and B) administrative policy which includes three interventions.

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Crispr-Cas9: The need for law reform in Australia

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Introduction

Medicine is on the brink of change as neoteric technologies such as human genome editing enable scientists to tackle diseases and conditions. This change is led by CRISPR-cas9 gene editing (CRISPR), making it feasible to rectify errors in organisms' DNA, including bacteria and animals. CRISPR can eliminate the genes causing heritable illnesses and disorders such as muscular dystrophy and Parkinson. However, the adoption of CRISPR to alter germline cells is ethically controversial.

The advancement of genome editing has internationally prompted governments to reassess the regulatory frameworks that govern genetic technologies, as in the United States (U.S.) and the United Kingdom (U.K.). In Australia, the *Prohibition of Human Cloning for Reproduction Act 2002 (Cth)* (PHCR Act) and the *Research Involving Human Embryos Act 2002 (Cth)* (RIHE Act) govern genome editing in human embryos. However, the current ambiguity of the legislative proscription on human genome editing activity prompted the authors to consider the prohibitions and limitations set under the current regulatory framework. Specifically, section 15 of the PHCR Act prohibits the intentional genome alteration that is inheritable by descendants while not outlining whether this section could be deployed to conduct embryonic genome editing for research purposes solely. This section could be amended to explicitly delineate that the prohibition will exclusively apply to genome alteration for reproduction rather than pursued for research purposes. Thus, the Australian legislation on research involving human embryos could catch up with the swift advancement of the biomedical field, at least in the fundamental scientific research setting.

Considering the regulatory ambiguity of section 15 of the PHCR Act, there has been no recent law review on the area of research involving human embryos. However, as it stands, this section requires an amendment to provide certainty and pave the way for recognizing new interests, being CRISPR technology that may hold future potentials in the biomedical field.

This paper will explore CRISPR technology, which potentials are unrecognized under PHCR Act and which safety and ethical concerns highlight the bioethicists' demand for a moratorium. Furthermore, the study's novelty in light of identified gaps in the literature will highlight the proposition that a public discussion that engages various stakeholders should precede the decision

to amend the regulatory framework that supervises genetic research and technologies. This engagement includes policymakers, biomedical researchers, CRISPR's pharmaceutical pioneers, ethicists, disability groups, social scientists, healthcare providers and the public. These stakeholders could delimit the implications of CRISPR technology, confront the challenges imposed by genome editing and attain a complete societal unanimity.

Critically, this paper explores CRISPR's swift development, tremendous potentials in light of current and future epidemics and pandemics and reveal the necessity of law reform in Australia to enable this promising research as humans' survival may depend on it (Kosal, 2020).

The potentials and downsides of CRISPR

CRISPR, is a revolutionary gene-editing technology. Initially, this repeating segment of DNA was detected in a repeating series in the DNA of *E. coli* Bacteria, where it functioned as a defence against the viruses' attack (Shwatz, 2018). Ultimately, researchers discovered that this bacterial immune system could be employed in genetic engineering. Thus, in 2012, Doudna demonstrated that CRISPR could be designed to alter human DNA (Shwatz, 2018).

Genome-editing technology is a subject of great interest in its potential in treating and eradicating medical conditions (Semiz, 2019). Gene-editing applications have been effectively conducted on animal models to understand diseases that afflict humans (National Human Genome Research Institute). For instance, is the alteration of embryonic development of the neural crest (N.C.) in amphibians (Kosal, 2020). This mutation was passed to the amphibians' next generation of progenies. N.C. is a distinct cell population which are pluripotent and highly migratory; they can generate an array of cell types, particularly the peripheral nervous system and facial bones. This experiment shows the dexterity of the CRISPR gene-editing technique in developing prospective applications into the cognitive neurosciences, an additional category of promising technology.

Wielding CRISPR In future pandemics

CRISPR genome editing could one day be employed to tackle future pandemics. With this technology, it could be feasible to modify immune cells in the body to make them less prone to being weakened by disease (Synder 2020). Furthermore, CRISPR could be deployed to program immune cells to identify those areas before the emergence of an active virus. Hence, 'such genetic vaccination is a long way off, but it could eliminate having to wait until a virus shows up, make a vaccine to that virus and then vaccinate people'. This is, especially that COVID-19 could be the outset of a series of international health crises that could occur.

A report issued by IPBES highlighted the correlation between global pandemics, the loss of biodiversity and climate change (Rabiah, 2020). Prominently, the U.N. report asserts that global climate change directly influences the transmission pace of diseases. Accordingly, the emergence of more frequent pandemics, which could be more fatal than COVID-19, is

foreseeable. Furthermore, if malaria starts emerging in regions with ill-equipped healthcare systems, the repercussions on healthcare provisions could be devastating. Correspondingly, the survival of humans is at a critical juncture where every prudent technology and theory should be considered (Levy, 2020).

The revelation of the first genome-modified babies during the 2018 Second International Summit on Human Genome Editing startled the world, especially the scientific community. Associate Professor He said the CRISPR technique was employed to modify the twins' girls' genomes to confer them immunity to HIV, which could cause AIDS. The conferral was attained by disabling the embryos' CCR5 gene, which generates a receptor that enables HIV to penetrate and infect cells. This heritable genome editing entails the alteration of embryos that are passed down to future descendants. Accordingly, CRISPR applications could emit erratic effects and unforeseen consequences. CRISPR technology cleaves the DNA at a particular spot, enabling scientists to insert, eliminate, or substitute the DNA where it was sliced.

The total number of human genomes is almost 20,000 to 25,000, of which five thousand genes are associated with medical conditions. It is feasible for CRISPR to trigger an off-target effect by modifying the wrong area. Researchers are bewildered about the fallout of the off-target results that may be immutable (National Human Genome Research Institute). Another concern is mosaicism, where not all cells could carry the genetic alteration. The perils correlated with the clinical application of CRISPR are severe, as averred by the *Second International Summit on Human Genome Editing* (The National Academies of Sciences Engineering Medicine).

The World Health Organization (WHO) established the Expert Advisory Committee on Developing Global Standards for Governance and Oversight of Human Genome Editing in 2018. This international committee ensures that various perspectives from around the world are represented. In July 2021, the committee recently issued a report containing multiple recommendations on global governance for genome editing (WHO Human Genome Editing Recommendations, 2021). The recommendations include a call for a mandatory mechanism for approvals for clinical trials of genome editing, including somatic gene editing, to the WHO Human Genome Editing Registry while limiting the potential for fraudulent registration through strict monitoring, an accessible mechanism for confidential reporting of any concerns regarding illegal, unethical, unsafe, or otherwise undesirable research or activities, encouraging patent holders to ensure equitable access to editing interventions and investigating ways of facilitating public consultation, e.g. online ones, consensus conference methods and citizen assembly consensus. In addition, this report guides future steps by presenting appropriate frameworks for effective regulation of scientific and clinical research and practice.

However, due to the ambiguity of the Australian legislative prohibition on genome editing, i.e. section 15 of the PHCR Act, there has been no current applications submitted to conduct human germline editing research in Australia (Taylor-Sands and Gyngell, 2018). Therefore,

section 15 of the PHCR should be amended to permit this research explicitly, and there should be no reproduction. However, the decision to amend the regulatory framework should include the engagement of several stakeholders in the discussion.

The ethical concerns of CRISPR

Before exploring the ethical concerns of CRISPR, a distinction must be drawn between the two types of gene therapies: germline therapy and somatic therapy. Somatic therapy operates on non-reproductive cells like liver or skin cells, and modifications made in these cells affect solely the patient who receives the treatment. With germline therapy, it alters the DNA in reproductive cells like eggs and sperms. Accordingly, as this genetic modification is passed down to future generations, germline therapy raises serious ethical concerns.

The primary concern regarding germline therapy is the social inequalities deriving from CRISPR's 'designer babies' technique (MIT Technology Review). To illustrate, the germline alteration of the hereditary germ cells would allow people to alleviate their descendants' particular traits. CRISPR could be deployed as a genetic enhancement tool to remove undesired traits or elect enviable ones, like physical attractiveness or intelligence. However, the making of 'designer babies', which is not correlated with diseases, will place people on 'a path toward a dystopia of super people for those who can afford it' (Regalado, 2015). Accordingly, this technique will heighten stigmatization and injustices in a society where prejudices are already prevailing. Therefore, unless any clinical intervention is obtainable by everybody, social inequalities will mount further (Zocalo Public Square, 2018).

Germline editing could curb social inequities. Formerly, the Nazis adopted the social Darwinian concept of 'survival of the fittest', by preserving the purity of their gene pool (United States Holocaust Memorial Museum). CRISPR potencies will be imposed to improve the principles of protection, restriction, avoidance, mitigation, and reaction (Kosal, 2020). Thereupon, CRISPR would be deemed as a dual-use technology.

This amendment of section 15 of the PHCR Act may provide more certainty to future researchers, who fear the 15 years of imprisonment set under the PHCR Act (Foong, 2019). Also, notwithstanding the genetic researchers' objectives, whether this type of research is considered ethical is controversial. Therefore, public debates that engage ethicists in the discussion is necessary to explore and clarify the ethical dilemma in using CRISPR technology.

The legal framework on research involving human embryos in Australia

The two main pieces of legislation regulating research involving human embryos in Australia are the *Prohibition of Human Cloning for Reproduction Act 2002* (Cth) (PHCR Act) and the *Research Involving Human Embryos Act 2002* (Cth) (RIHE Act). The PHCR Act prohibits certain activities involving human embryos. It proscribes activities conducted to create embryos unless a license is issued by the *National Health and Medical Research Council*

(NHMRC) licensing committee. The RIHE Act institutes a strict licensing scheme to create and utilize embryos and outlaws their use in unlicensed research. Under section 15 of the PHCR Act, a person will commit an offence if they modified the human embryo's genome in a heritable way. Secondly, they intended the modification to be inherited by descendants of the person whose embryo was modified.

Accordingly, section 15 of the PHCR Act entails the satisfaction of a two-limb test for the offence to be committed. This test outlaws germline genome editing for reproductive purposes. Hence, if Associate Professor He had altered the twins' babies' genome in Australia, he would face the 15 years of imprisonment set out under the PHCR Act. Yet, it is unclear whether section 15 proscribes all types of research that deploy germline genome editing (Taylor-Sands and Gyngell, 2018).

Thus, there are two approaches to the interpretation of section 15. A narrow approach to section 15 proscribes germline genome editing conducted for reproductive purposes. However, where the research comprises a human embryo with no intention for the genomic modification to be inherited ie where there is no intention of implantation, the second limb of the section 15 test would not be satisfied.

However, a broad interpretation of section 15 would proscribe germline genome editing for both research and reproductive purposes. It could be suggested that, in research settings, irrespective of the lack of intention to pursue a modification which will be inherited by the embryo's descendants, an intent to seek a change which is capable of being inherited remains.

The extent of the proscription in section 15 depends on the definition of 'heritable', which is unfortunately not restricted in the PHCR Act. Therefore, it is necessary to refer to the PHCR Act legislative history (Taylor-Sands and Gyngell, 2018). In 2005, the Lockhart Legislative Review Committee conducted a review of the PHCR and RIHE Acts. In the review, the committee made two recommendations regarding the editing of embryos, and of relevance are Recommendations 10 and 26.

Recommendation 10: Implantation into the reproductive tract of a woman of an embryo carrying heritable alterations to the genome should continue to be prohibited.

Recommendation 26: Creation of human embryos using the genetic material from more than two people, or including heritable genetic alterations, should be permitted, under licence, for research, training and clinical applications, including production of human embryonic stem cells, as long as the research satisfies all the criteria outlined in the amended Act and these embryos are not implanted into the body of a woman or allowed to develop for more than 14 days.

These recommendations infer that the Lockhart Committee interpreted section 15 of the PHCR Act as legislation proscribing research comprising heritable genetic modifications. However, section 15 was not amended in the amendment legislation (Taylor-Sands and Gyngell, 2018). One justification for this could be that the

legislation did not entail an amendment to permit embryonic genome editing for research purposes. This is because the legislation is read in conformity with the narrow interpretation of the prohibition in s 15 of the PHCR Act. Yet, this justification is not provided in any of the parliamentary documents related to the amendment Bill.

Another explanation could be that there has been an omission in the amendment bill draft (Taylor-Sands and Gyngell, 2018). The essential amendments to section 15 were overlooked. This section is currently equivocal and depends on two possible interpretations and accordingly, legal reform is necessary.

The vagueness of section 15 of the PHCR Act might worry future Australian researchers who fear the consequences of facing 15 years of imprisonment set under the PHCR Act. The legislative ambiguity of section 15 of the PHCR Act leaves no room for recognizing new interests, such as CRISPR technology and research that may hold future potentials. The PHCR Act operates to dent recent advances in the general research field involving human embryos and human germline modification particularly (Dohn, 2018). Therefore, identifying a gap between law in books and law in action entails reforming the PHCR Act, as the latter reflects practical solutions rather than social practice solely (Davies, 2017).

Nevertheless, the decision to arbitrate between the paradoxical claims of bioethicists and CRISPR proponents by striking a balance between them cannot resolve the dispute of which interests are essential (Masotti, 1979). It is proposed that section 15 should be amended to explicitly delineate that the legislative prohibition on genome editing is limited to activities conducted for reproduction applications rather than research purposes. This is provided that a license is obtained and that '(i) the embryo will not be implanted into a woman, and (ii) the embryo will be destroyed after 14 days' (Taylor-Sands and Gyngell, 2018). Such amendments will provide much more clarity and assurance to future Australian researchers.

Conclusion: Proposed law reform

The Australian framework regulating human genome editing should catch up with the swift advancement of the biomedical field, at least in the fundamental scientific research framework. Notwithstanding that human germline genome editing conducted for reproduction purposes is explicitly prohibited in Australia, the regulatory framework on the legality of the genome editing research, specifically section 15 of the PHCR Act, requires an amendment to provide more clarity to future researchers. However, a public discussion that engages various stakeholders should precede the decision to amend the regulatory framework. The stakeholders include policymakers, biomedical researchers, ethicists, disability groups, social scientists, healthcare providers and the public. They could delimit the implications of CRISPR technology, confront the challenges imposed by genome editing and attain a complete societal unanimity. The revision of the law will provide a legislative certainty that paves the way for recognising the cutting-edge CRISPR technology.

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COVID-19 PPE waste management: A looming ecological crisis in the Philippines?

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Abstract

Presently, the world is focusing on combatting COVID-19; however, the issues of economic crisis and ecological imbalance are quite imminent. Environmentalists warned public health officials that the additional infectious medical waste could have serious impacts on human health and the environment if not managed properly. Personal protection equipment (PPE) has become an essential prerequisite for healthcare workers. PPE kits are reported to provide sufficient protection against pathogens, but their disposal can be devastating to environment.

This paper asserts the following: first, that the wrong disposal of the PPE could become a growing problem for the environment and public health in the Philippines. Second, that the public authority specially policy makers need to lay out new waste disposal standards for the general public and promote reusable PPE whenever possible. Third, the wrong disposal of PPE waste involves environmental risks and raises issues of public health safety. Just like COVID-19, the waste, plastic, and PPE pandemics cannot be solved overnight. But knowing one's moral obligation how to pivot to sustainability, responsibly dispose of waste, and recycle as much as humanly possible is half the battle.

Introduction

The pandemic has altered the waste generation dynamics, creating distress among workers involved in sanitation as well as policymakers. In the Philippines, as COVID-19 cases continue to pile, putting pressure on hospitals,

medical facilities are seeing a surge in the volume of infectious medical waste they produce; there is a need to educate and inform front-line workers who are handling this waste as well. Environmentalists warn that the additional infectious medical waste could have serious impacts on human health and the environment if not managed properly (CPCB, 2020). Covid-19 pandemic threatens to exacerbate the proliferation of plastic waste and its pollution of bodies of water, which were already a major problem in the Philippines even before the coronavirus pandemic (Justine, 2020). The use of Personal Protective Equipment (PPE) has emerged as the most reliable and visible preventive control safety gear to keep the COVID-19 transmission at bay (Herron et al., 2020). Typical PPEs, also referred to as PPE kits, are made of over 50% plastics (which takes up to 500 years to degrade) like PP, PC, and PVC, etc., the surgical face mask with metal strip, gloves, goggles, full-body suits containing pant, gown with head cover and shoe cover (Park et al., 2020). National Disaster Management & Safety protocols advise the use of PPEs, by attending physicians and all the healthcare– nursing staff, funeral workers including visiting families etc., who are directly or indirectly in contact with any COVID-19 (confirmed or suspected) patients (Selvakumar et al., 2020; WHO, 2020d; NMPA, 2020).

In the wake of necessary preventive control measures, it is evident that the used PPEs waste is likely to increase multiple folds and stress the current waste management systems, and pose a grave threat to the environment, if not tackled properly (ICT, 2008). The safe disposal of medical waste during the coronavirus pandemic is a pressing yet overlooked problem, according to an environmental advocate (The Guardian, 2020).

The United Nation's Basel convention on the Transboundary Movement of Hazardous Wastes and their Disposal has recently urged member countries to treat waste management amid COVID-19 as an urgent and essential public service to minimize possible secondary impacts, upon health and the environment (WHO, 2020). Therefore, safe and sustainable recovery and treatment of PPEs should be intensified. It is important to clarify the role of informal recyclers in developing countries, where medical waste has not been adequately regulated.

Surge of waste

The Philippines has generated 52,000 metric tons of medical waste since the start of lockdown in March 2020. This is equivalent to 2 million sacks of rice, with each sack containing 25 kilograms of rice. Of the total figure only 14,000 metric tons were treated (DENR, 2020). The Asian Development Bank estimated that hospitals in Metro Manila—the region that accounts for at least 55% of the nation's cases—would generate 280 metric tons of medical waste in a single day. Before the pandemic struck, healthcare facilities in the capital region were estimated to produce only 47 metric tons of medical waste daily, with 56%—around 26 tons—of this considered potentially infectious (ADB, 2020).

Hospitals outside of the outbreak epicenter of Metro Manila are also grappling with additional infectious medical waste. Before the current health crisis, Dr. Paulino

J. Garcia Memorial Research and Medical Center—known as PJG—in Cabanatuan City, Nueva Ecija, generated only 3,500 kilograms of infectious medical waste monthly. As the pandemic continues to rage, the average volume of infectious medical waste produced per month reached around 15,000 kilograms. Most of the COVID-19 patients in Nueva Ecija, a province north of Metro Manila, are admitted at PJG (DENR, 2021).

Healthcare waste gradually increased in quantity during pandemic not only in the Philippines but also in other countries abroad. This trend has also been observed in France, Italy, and the Netherlands. Healthcare solid waste in France, and the Netherlands has increased from 40% to 50%, respectively (Wei and Manyu, 2020). The trend has also been observed in India and Iran. Used PPE and general waste, i.e., food and dining boxes and fusion bottles and bags used by nurses, have seen a tremendous increase in quantity during the COVID-19 pandemic.

The Philippines has made a special amendment for handling healthcare waste during the COVID-19 pandemic. There are special registered transporters and treatment, storage, and disposal (TSD) facilities for handling healthcare waste and disposing of it on the island of Luzon. There is a special permit in place to collect pathological and infectious healthcare waste for smooth handling. Each registered transporter is required to pass through a special checkpoint, and to provide the following online documents: an official request letter; a transporter and TSD registration certificate; a transport management plan; a transportation route; a schedule; and an agreement between the healthcare waste generator, the transporter, and the treatment workers. Each vehicle used for transporting the waste has the following special markings: name and ID of transport; placard; waste class; and waste number. These are readable from 15m distance from the vehicle. The registered transporter is required to submit a compliance and completion report of transportation, attested by a representative from the healthcare and TSD department (EMB, 2020)

Medical waste in the Philippines is typically disinfected through steam sterilization, also called autoclave, which subjects the waste to intense heat and pressure to kill pathogen prior to disposal in a landfill (DOH, 2005). Autoclaves can process between 100 kilograms to as much as 3,000 kilograms per cycle. Treated healthcare waste is then transported to a licensed sanitary landfill for final disposal in a cell dedicated for infectious waste. Infectious waste must not be mixed with municipal waste or non-hazardous waste. Treated waste that comes in the facility is again disinfected in the landfill. This process is repeated while the waste is being disposed of in a special cell before it is buried.

According to Department of Environment and Natural Resources (DENR, 2021) recent assessment report, Luzon, where many of the country's urban centers are, can handle the increased volume of medical and infectious waste, hazardous waste management section. However, the challenge lies in Visayas and Mindanao. There are at least 26 registered treatment, storage, and disposal (TSD) facilities nationwide, a fourth of which are in Luzon. But there are no TSD facilities in the provinces of Cagayan Valley and the Bicol region, however. Farther south, the

Eastern Visayas region and Zamboanga Peninsula and Soccsargen in Mindanao do not have waste treatment centers.

Volume reduction

The pandemic may strain licensed landfills in the country. There may be facilities outside Luzon, but healthcare is not part of their business. It needs more investors to process healthcare waste. A time may come that our landfills will reach capacity because volume will be too high and there is no reduction. The waste is treated but it is not reduced. If there is no volume reduction at the rate this waste is generated, there will be competition between municipal solid waste and hazardous waste for land disposal. Although the government is looking into building between 10 and 30 sanitary landfills intended for hazardous waste to address the current issue, it takes at least six months to build a sanitary landfill. Incineration is only an option for a worst-case scenario. Moreover, burning of waste is prohibited under the country's Clean Air Act of 1999.

Incineration, hereby defined as the burning of municipal, bio-medical and hazardous wastes, which emit poisonous and toxic fumes, is hereby prohibited, the law states. But, if the incineration facility has proper pollution control technology and complies with incineration standards, then the incineration is not banned. The Philippines is currently treating solid waste and medical waste through landfill and dumping. The environmentalist movement warned the government that it will compromise public health sector since, landfill containing healthcare solid waste generated during the pandemic can contaminate water. The government is pushing for adoption of waste to energy (WTE) treatment facilities to deal with solid waste.

Environmental risk

Landfills help to keep communities clean, but they also pose serious threats to the health of the environment. Landfill and open dump release large amounts of methane into the atmosphere and contribute to climate change. As a potent greenhouse gas, methane traps up to 20 times more heat in the atmosphere compared with carbon dioxide, making it one of the most potent greenhouse gases and a huge contributor to climate change. Emissions from landfills pose a threat to the health of those who live and work around landfills. A study in New York showed a 12% increased risk of congenital malformations in children born to families that lived within a mile of a hazardous waste landfill site (Newton, 2018).

Biomedical waste incineration is never an option because it will add to pollution in the air. It results in the release of extremely harmful pollutants such as dioxins (Emmanuel, 2015). But if dioxins release into the environment, they will stay there not only during our lifetime, but also the lifetime of our children and their children. Dioxins are a group of chemically related compounds that are persistent organic pollutants (POPs). These pollutants accumulate in the environment and in the food chain, mainly in the fatty tissue of animals. Highly toxic, dioxins can cause reproductive and developmental

problems, damage the immune system, and interfere with hormones.

Thermal Waste-to-Energy (WtE) has potential benefits of waste reduction and energy generation; yet there are challenges regarding its applicability and potential impacts on health, environment, and the climate. WTE is not a solution. It causes pollution and in the time of COVID-19, the pollution in the air aggravates suffering from asthma and respiratory illness. Incinerator companies are often marketing "waste-to-energy" as a source of renewable energy. But unlike wind, solar or wave energy, waste doesn't come from infinite natural processes. On the contrary, it is sourced from finite resources, like minerals, fossil fuels and forests, that are cut down at an unsustainable rate. Subsidies to support incineration could be better invested into environmentally friendly, energy saving practices like recycling and composting (IETC, 2019). Incinerators are the most expensive method to generate energy and to handle waste, while also creating a significant economic burden for host cities. The story of Copenhagen's infamous Amager Bakke incinerator is just an example.

Promote reusable PPE

Waste-to-energy plants offer relatively few jobs when compared to recycling. The livelihood of millions of waste workers worldwide depends on recycling. Studies show that the sector creates 10-20 times more jobs than incineration. With a national rate of less than 33%, the US recycling industries currently provide over 800,000 jobs (Muznik, 2018). In developing countries like the Philippines, building incinerators will take jobs away from informal waste workers including waste pickers, recyclers, and haulers. Investment in recycling, reuse and composting can enable informal workers to transition to these green jobs.

The overwhelming amount of medical waste can be countered by promoting the use of reusable PPE, as well as boosting information dissemination on the safety of reusable and safe handling of medical wastes. Reusable PPE's provide the same amount of protection without aggravating the problem of waste. Health experts from around the world have vouched for the safety of reusable PPEs for non-medical use. This must be publicly known. Reusable PPEs are cheaper per use than disposable ones. With proper usage and even better post-use handling, reusable PPEs can make a massive impact not only in pandemic response measures but for the future of the healthcare sector.

The environmental impact of PPE is substantial and requires urgent review to mitigate effects on planetary health. The most opportune and impactful strategies may be through reduced use of gloves by hand washing alone, domestic manufacture of PPE and extended use or reuse of PPE such as masks and gowns. These possibilities warrant further investigation and analysis of feasibility and safety, as well as engagement of policy makers (Rizan et al., 2021).

A new report in the journal *Science* led by researchers from Pew charitable trust and SYSTEMIQ states that nearly 80% of plastic pollution could be resolved by 2040 using current technologies and knowledge. Biodegradable

gloves are available, which decompose in landfill in two years. The Reelshield flip – is a face visor made from paper board and wood pulp cellulose, meaning it can be composted at home (Klemes et al., 2020). These alternatives to disposable plastic PPE could provide options to reduce long-term costs and environmental damage, ultimately helping in the campaign to reduce single-use plastic.

Conclusion

Timely, safe, and proper disposal of medical waste is the second line of defense for epidemic prevention and control in the case of an unexpected public health event. The combination of a solid theoretical foundation and relevant management system is needed to achieve optimization of key links and improvement of the management system. Adopting sustainable solutions help such as proper implementation of the solid waste program and the shift to reusable from disposables. Proper quantification of the medical waste along with prospective policy response and alternative approaches to the medical disposal and treatment facilities are required for building rigid resilience and management of hazardous medical waste volume generated by healthcare facilities and households.

Furthermore, this study recommends the coordination and cooperation of government, hospitals, communities, and other departments in the healthcare waste disposal process and provides guiding suggestions for healthcare waste disposal nationwide to deal with potential risks and provide effective references in all regions.

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Re-education of responsible parenthood to a rural community

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Abstract

The study addresses the documented problems in a rural community of Bukidnon Province in the Philippines on caring for their children along with securing livelihood for survival. Through capability-building, more than half were satisfied with the conduct of training upon participation as manifested: acquisition of skills, application of the knowledge and skills transfer, and changes in their practices that were felt and noticed as claimed by the participants. In retrospect, the findings were indications of the participants' willingness to sustain the knowledge and skills transferred to them.

Introduction

Time may move so fast, changes might be constant, but a parent is a parent. Certain responsibilities and roles are expected for them to fulfill. And these responsibilities and roles, are the duties they need to do for the children and the family itself- providing the needs in multiple aspects of each member of the family, particularly the children, rearing the children to become better versions of themselves, the preparation of meals that are vital for growth, development, and survival in safe ways and of

quality. All these, in one way or another, define them and who they must be.

However, as time brings so many changes day by day, too many demands are resulting in too many expenses, and making a living is no longer that easy; and it is even more difficult if the earning is inadequate of which Base Camp, a rural locale of Maramag, Bukidnon Province in the Philippines is among the spots that have been experiencing this situation. The community is about 2-3 kilometers away from the municipal center. The major source of income by the residents is agricultural production (i.e. sugarcane, rice and making *'balot'*, a boiled un-hatched duck embryo, a local street food); however, the majority of them are not the owners of the farms but are tenants and laborers living the parents with choices: working at the farm sacrificing their roles and responsibilities as parents; or fulfilling their roles and responsibilities as is, but settling for a meager income. All these choices may boil down to certain unpleasant effects on the children and the family's wellbeing.

In the current data of Central Mindanao University (a state-funded university, nearest to the area), through a problem tree analysis, the findings revealed that from a total of 1,530 households, the major problems of the community were: weak and sick children caused by insufficiency of food, lack of supervision to the children as the housewives are also hired as farm laborers, a large number of children and lack of knowledge in family planning; and poverty largely caused by low income, of which most of the farm laborers in the area are earning a maximum of 150 pesos per day for a family with 6 members, and low educational attainment as most residents are just elementary graduates and high school level.

To act on these problems, this study was designed to re-educate the parents about *Responsible Parenthood*, being deemed as the core of the problems. It visualized its participants living a healthy and strengthened family day by day. This vision was anchored from the "2040 Philippine Ambition" which is a long-term vision for the Philippines by the National Economic Development Authority (NEDA), describing the kind of life for Filipinos by 2040 (National Economic Development Authority, 2017).

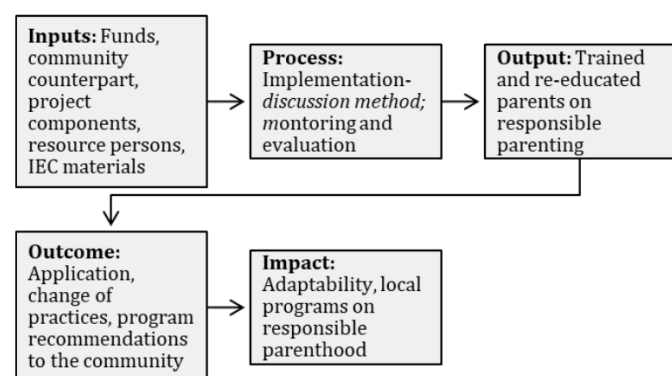


Figure 1: The paradigm of the study

Conceptual framework

In the implementation of this phase, Central Mindanao University funded the procurement of materials and other expenses as reflected in the study's budget plan. The counterpart in the locale provided the venue, sound system, and the meals of the participants in every session. Trainers and resource speakers were faculty members of the College of Human Ecology who are specialists in family and child development studies. Leaflets containing the topics were prepared and distributed to the participants.

The conduct of each session was guided by demonstration and discussion of methods employed in different strategies therein, in which the outputs were products that they had processed and created from the discussions of the trainers and the insights they had valued and organized from the learning episodes.

Several participants claimed that they applied in their household what they learned and noticed certain changes in their practices. Some also suggested certain programs they hoped the community itself would initiate. Their claims, testimonies upon participating in the implementation were taken as indications towards contributing to the long-term vision of the country and the impact of the study.

Context

Responsible parenthood is the fundamental duty of a parent for maintaining good family relations and strengthening the family ties together. It simply pertains to efficient and effective parenting that result in a good relationship between parents and children.

The parenting extension program is the provision of specific knowledge and child-rearing skills to parents and other caregivers to enhance a child's health and development. Parenting education efforts focus on specific child-rearing skills for enhancing the so-called *parent-child interaction*, such as appropriate and recommended discipline practices, or on more general subjects, such as careful and critical understanding of child development. The goals of and objectives of parenting education programs may encompass a variety of parent and child outcomes. While the term "*parenting education*" is not universally accepted, it is sometimes called parent training (Howe, 2020).

Methodology

The implementation was done through pieces of training and capability-building activities. Primarily it adhered to the approach in which a modified discussion method was used. In context, the said approach may be defined as teaching which knowledge is used to develop learning skills. Whereby, in this approach, knowledge is still there but it is not the end of instruction. Participants were actively engaged in the activities so the competencies needed could eventually be acquired by them (Corpuz & Salandanan, 2013).

The conduct utilized the techniques of small group discussion, socialized classroom discussion, panel discussion, recitation, and direct instruction. This method adhered to the following steps:

1. *Planning* served in designing of the activities to be done during the conduct
2. *Starting the Discussion*, served as the presentation of the intent of the training to the participants
3. *Conducting the Discussion Proper*, this served as the training using the mentioned strategies above
4. *Culminating the Discussion*, this served as the concluding part of the training

Ethical consideration: The study adhered carefully and critically to the ethical principles and practices of social research, i.e. no participants were forced to take part in this project and proper protocols were observed and adequate information was given to the participants before the conduct: educating participants about their rights, giving the most appropriate incentives, structuring mechanisms to ensure the privacy of their identities and confidentiality of their responses.

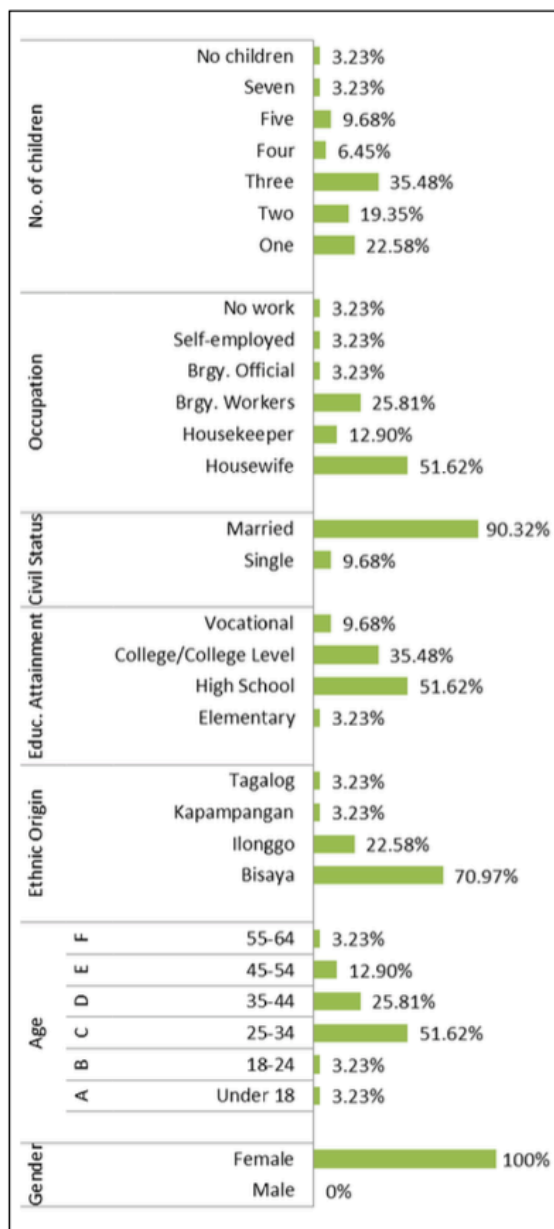


Figure 2: Demographic profile

Results and Discussion

All the participants were female, and mostly were (a) in an age bracket of 25-34 years old (51.62%) and one was a teen-aged mother; (b) high school graduate; (c) married; (d) housewife; (e) and had 3 children. A study suggested that people should get married between the ages of 25 and 32 if they do not want to get separated, at least in the first five years (Girgis et al., 2011) which Cohen and Strong (2020) described this phase as “*conflict-habituated marriage*” where couples argue and experience conflict on a routine basis, i.e., nagging, complaining, criticizing, belittling, and the like. The result was tension and conflict. They communicated to “*win*”, rather than to resolve issues, and if one partner were to apologize, or admit they're wrong, he or she would lose face for the next argument.

While most of the participants were young parents who quite possibly fall under the right age of getting married per se, they were still at a stage of having a lot of things to learn about marriage and parenting yet already raising more than one child. In another spectrum, though mostly housewives there were still many things they could do for their family. They just must be empowered on the things that they do daily in their households in the sense of their relationship to their spouse and children, the ways they prepare and process the food they serve on the table, and the utilization of anything that seemed to be out-of-use in their houses.

Parenting re-education

This study was composed of two sessions. The first session was about educating the participants about “*Marriage*”. In this session, the participants were primarily taught that marriage, itself, is a process whereby certain factors, either internal or external, can influence or distract the flow of the process. Hence, the participants were taught the different types of marital conflicts of which some were relatable to most. During the discussions, the participants opened up about their experiences, while some shared their points of view about these conflicts. But the essence of this talk was about how to solve these conflicts whenever and if ever they experience these. As such the participants were taught by the resource speaker how to handle each of these conflicts and how to resolve them peacefully so that the process of marriage itself flows smoothly. After all, marriage is a lifetime commitment, as each conflict does not always last still there will be more conflicts to face ahead on. By the end of the talk, the speaker gave homework that was designed for the participants to take up with their spouses.

The second session was about “*Parent-Child Relationship*”. In this topic, the participants were re-educated on the fundamental parental duties and responsibilities in which the speaker taught the participants about many effective ways of imposing discipline on children's misbehaviors. The different duties and responsibilities of the children were also tackled. In essence, the speaker emphasized that in everything between parents and children, it's an open communication that builds a strong foundation, considering that nowadays, teenage pregnancy is

becoming an unlikely phenomenon in rural communities. The discussion concluded with a few participants sharing their reflections and insights about what they have learned for the day.

such that in session 1, 20% had rated the workshop as “better” and in session 2, 16% rated “better” and 20% rated “good”.

Table 1: Participant feedback

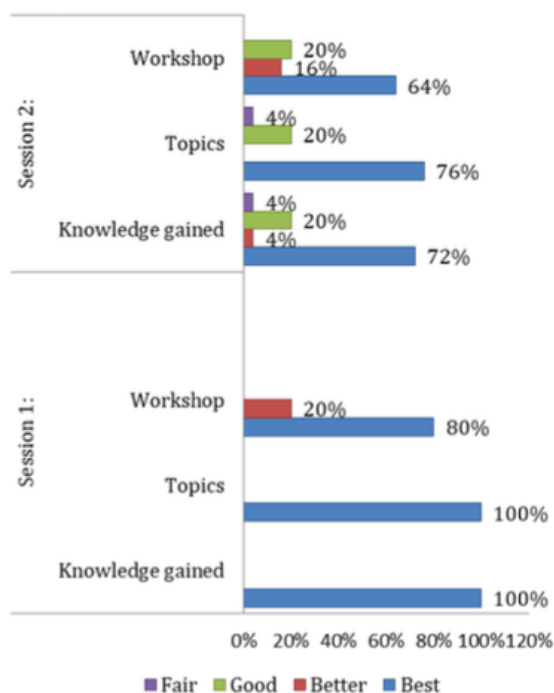


Figure 3: Training evaluation

Most of the participants had rated each session as “best” in terms of the knowledge they gained, topics discussed, and the workshop itself. However, in the conduct of the monitoring and evaluation of this phase, there were certain subtopics in the discussions in which certain participants had clarifications such that in session 2 in the above figure, 4% had rated both the topics and knowledge as “fair” and 20% rated “good” (topics). Furthermore, certain participants gave their suggestions on how to conduct the pieces of training more effectively

On the topics	
The importance of trust to children	9.52%
The acceptable ways of discipline	9.52%
The need for the parents to respect their children	28.57%
Changes of behaviors	
More ways to augment additional income	4.76%
Spending more time to family	4.76%
Lessen unnecessary nagging	9.52%
Lessen corporal punishment	4.76%
More open communication to children	95.2%
Self-trust as a parent	9.52%
Extended patience towards children	23.81%
Drive to attend more parenting trainings	14.29%

A few of the participants had acknowledged that one thing they had learned, which they did not know before as parents, was “the need for the parents to respect their children” (26%). Alongside this are “the importance of trust to children” and “the different acceptable ways of discipline” (both, 10%). These are in line with the changes that they have noticed in themselves as parents.

These changes upon attending the enhancement seminars align with what Deater-Deckard et al. (2011) had indicated that an extension program can bring changes in the behavior of mothers and fathers with their children. It can raise the awareness and knowledge of the parents on child-rearing such as a decrease in beating the child and increase in talking to the child and explain wrongdoings. In connection, Collins and Fetsch (2012) also contended that this kind of program can reduce punishment malpractices among parents, and decrease parental stress, anger, and aggression. It can lower the expectations of some parents to their children and that the use of positive discipline styles may increase.

Table 2: Participant’s perspectives on the roles of parents in community development

Perceptions on how parents can contribute to the progress of the community	
Showing empathy towards the husband	4.76%
Engage in livelihood activities	9.52%
Sharing their learning to others	14.29%
Participating to community programs	19.05%
Participants’ program recommendations to the community	
Women’s programs	95.2%
Family planning program	23.81%
Designating a community family counselor	14.29%
Couple training	19.05%

Upon participating in the two-session parenting enhancement seminar, certain participants perceived that as parents the way to contribute to the progress of their

community is to participate in any programs initiated by the community. Van Roekel (2008) posited that as parents make up the solid foundation of the community, they must support the vision of the community that they are in. For

some, it would be sharing the knowledge they have gained with others, considering that not all parents were able to participate in the said seminars; engaging in any livelihood activities, as it not only increases their income but provides additional resources to other families of the community; and showing empathy towards the husband, who must not only be perceived by the wife as the provider of the family but a partner as well (Cohen and Strong, 2020).

The participants suggested that their community itself should initiate programs related to family planning, couple training, having a family counselor, and women's program. Family planning program in any usual sense aims at preventing pregnancy using methods of contraception. This idea has been widespread as there is a heightened concern that the world's unprecedented rate of population growth only concerns governments not the people (Miller and Babiarz, 2016). The suggestions on couple training and having a family counselor are in support of the idea that family relationships are an important factor in the psychological health of the family interaction regardless of the origin of the problem, and regardless of whether the clients consider it an "individual" or "family" issue. The involvement of families in programs like this helps in strengthening the wisdom and support of the wider system of the community (McShane et al., 2009).

There is already an existing women's association in the community. However, the participants said more activities should be spearheaded by the community to make the association more functional and effective. The feedbacks of some participants about the subtopics/ topics included their suggestions as to how the pieces of training may be conducted more efficiently and effectively; the insights they gained, the changes they noticed in themselves upon participating, and their perceptions how they can contribute to the progress of the community; and their suggestions to the community to empower them more. These definitely set the direction of the second phase of this study towards more empowered parents who will be a stronghold of the Base Camp.

Conclusion

The methodology employed in this project yielded positive results as manifested in the training evaluation as the majority rated each session as "best". Application and changes in practices were claimed and those insights were gained. Parenting education supplemented awareness and understanding about marriage and parental responsibilities to the family and the household. Changes in their household in the relationship towards their husbands and children in different degrees were claimed, an indication that there is adaptability or application upon participating in the study, and there is a drive within them to attend more parenting seminars or pieces of training. Some information was learned from the pieces of training upon participating and was not learned before. Because of their insights from the sessions, they were able to develop the value of the relationship between them as parents and the community they are in, that the progress of the family contributes greatly to the progress of the community. This, then, encouraged them to suggest

certain programs relating to family empowerment to their local officials to design and initiate.

Acknowledgments

This piece of work is dedicated to all rural community parents whose lives are worth uplifting, to the local counterparts of Base Camp community, and the collaborators of the project: *Cherry O. Librando, MS* (the extension coordinator); and *Lady Munique P. Charles, MA and Annie Fritce A. Aballe, DBM*, for sharing their collective experiences as parents to the participants and for being of great help in the overall implementation of the project. Central Mindanao University, the institution of the author, funded this project with 257,000.00 PHP for support.

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Book Review: Harmonizing bioethics -- global ways in integrating people and values

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Publisher: Lit Verlag, Germany

Date of Publication: December 2020

Pages: 250

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With the rapid development of technology, the importance of bioethics has become indisputable as a reminder to humankind that the progress of science cannot be ethically blind. Any human endeavor to attend new things must not neglect the essential human values of “do no harm” and “justice” ... etc. The debates however are going on, such as on what basis should we deliberate the ethics, duty or utility, justice, or convenience...?

The publication of this book comes in time to recommend a new consideration of harmonizing bioethics. The author wrote at the beginning of this book – ‘Harmonizing bioethics – global ways in integrating people and values’ is an attempt to emphasize on comparable value theory among different cultural heritages. Though there are diversities in expressions, all ethical teachings however, uphold the similar value that love is stronger than hatred, life is better than death, and that human harmony and world peace have been the goals of human moral teachings from the beginning of civilization”. The author, Tai, shared his eastern understanding of the nature of things along with his western experience to come up with a recommendation that bioethics must play a role in integrating people and values together for a common morality. He quoted Hans Martin Sass who wrote “interaction and integration, cooperation and competition are as essential for us human as they are for all forms of bios”, thus we must respect every living being and strive for a harmonious relationship among all.

Tai is a chair professor of bioethics and medical humanities at Chung Shan Medical University and an adjunct professor at China Medical University in Taiwan and had served as the president of International Society for Clinical Bioethics from 2002-2006 and was the winner of Fritz Jahr Award in 2019. Tai sees bioethics as a relational science and calls for “bioethics of conscience” which, when facing ethical dilemma, should extend one’s inner knowledge for humanized decision-making without considering any external personal gain and convenience or giving in to biased pressure. The book centers around Tai’s conviction that compassion, respect, responsibility, righteousness (which means to do the right thing and do it right) should be the guides for ethical consideration besides bearing in mind the other common principles such as Georgetown’s which reflect on similar concerns according to Tai’s understanding. Tai presents a very interesting suggestion in decision-making that deserves our attention which he calls “three-dimension approach”

(I will call it *Michael Tai’s three-dimension approach*). This approach first examines the situation in which a decision must be made by judging the motivation and then evaluates it to check whether or not the contemplated decision is reasonable and also if it takes into account the norms of society. If no answer is found through this contemplation process, the last resort is to reply on the governing law which, though as the lowest standard of ethics, becomes a guide at an ethical deadlock. This “situation/motivation, reason/propriety and law/legality” approach is an Asian traditional way of decision-making and Tai re-examines it to give it a new dress that does not overlook other emphases either deontological or consequential arguments. This approach is based on bioethics of conscience as a way of harmonizing different assertions.

The book has eight sections beginning with a discussion of harmony, the goal of bioethics, which Tai regards as the foundation of world brotherhood as the harmony within nature, society and humanity must be essential for any moral cultivation, family closeness and social solidarity. The way to fulfil this goal is by the way of empathy and conciliation to find common ground for all which Tai calls as a process of conscientization. The book advocates that virtues should be cultivated and looked upon as the basis for bioethical dialogue. Tai presents his “three-dimension approach” stressing duty yet still bearing in mind to minimize the possible negative impact upon others. He tends to emphasize the moderation on a middle ground that benefits all. He regards bioethics an interdisciplinary discipline not only from bioethical point of view, but also from other aspects. The book shows that Tai is not only a bioethicist, but also a philosopher, a theologian, a sociologist, and an ecologist who sees life from a holistic perspective that echoes Fritz Jahr’s calls for respect toward every living being. Tai suggests four considerations to promote integrated bioethics: 1) to find the common morality of the world as the foundation and guide for collaboration, 2) to seek translational bioethics that facilitates the practical needs of human society and environment, 3) to develop consultation skills by providing consulting service to contemporary needs including biomedical research and 4) to discuss further the meaning and scope of integrated bioethics and to deepen the dialogue among different views of bioethics.

The debates of bioethics take place in the west, and we are delighted to see an Asian scholar participating in the discussion of an integrated global bioethics. I will recommend this excellent book to anyone who is interested in and concerned with the impact of modern technology upon humankind and the world. As the book back cover indicates: “Harmonizing bioethics is about relationships of peoples and cultures, our civilization and living environments. Following the original concept of bioethics by Fritz Jahr, it searches for harmonizing a discussion over the process of industrialization and globalization. The issues such as euthanasia, organ transplantation, physician-lay collaboration, urban bioethics, research ethics and the influence of artificial intelligence ... are all touched in the book. Building upon these pluri-perspective grounds can direct us and the world in future collaboration to a bridge in global ways in

integrating people and advancing values to a new age for all.

Medical ethics course for residents: A preliminary study

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Abstract

Purpose: The objective of this study is to determine the importance of supplementary medical ethics course for resident physicians. In this study, we assessed the current state of their knowledge of medical ethics and aimed to improve and deepen their understanding with clinical scenarios to increase their awareness of the link between the practice of medicine and ethical issues.

Methods: The course was held for groups of 10-12 people for 3 days a week for a total of 6 hours. Tests given prior to and following completion of the course were used to assess the effectiveness of a medical ethics training course in which 120 resident physicians completed. Evaluation was made on the basis of the same pre- and post-tests (14 scenarios) and direct observation of participants.

Result and Discussion: The average age was 28.23 ± 4.08 and 25% were female and 75% were male. Of the participants, 68.3% were training to be internists, 24.2% were training to be surgeons, and 7.5% were training in laboratory medicine. There was a significant statistical difference between the mean total scores of both tests ($p=0.00$). After completing the course, residents took into account the medical ethical principles while discussing ethical decisions.

Conclusion: After finishing the course, participants defended their responses in regard to issues of medical ethics more carefully and articulated their thoughts more clearly. Our experience demonstrated that the trainees benefited from a structured curriculum in medical ethics. We believe that the development and implementation of our course may serve as a case study for training resident physicians in medical ethics.

Keywords: *Medical ethics; education; ethical dilemma; clinical ethics.*

Introduction

A basic principle of medicine is that healthcare professionals should be loyal to their patients and advocate for their rights within the framework of ethical principles. Medical ethics education and the application of medical ethical principles in the practice of medicine have increased in importance for patients and healthcare providers in last three decades (Childress, Beauchamp 1989), especially in hospitals throughout Turkey (Ekmekçi 2017). The importance of medical ethics education involves theoretical and practical training to

resolve value-laden issues between physicians and patients or patient surrogates. It is now considered a responsibility of health professionals, particularly following the establishment of patients' rights regulations (Türkiye Cumhuriyeti Meclisi 2004; Yüksek Öğretim Kurumu 2020). In recent years, the public has become more aware of issues pertaining to medical ethics as well as medical intervention. There are three main factors that have played a role. The first is increased awareness about patients' rights, while the second is increased interest in patient rights and ethical violations on the part of the legal profession (Türkiye Cumhuriyeti Sağlık Bakanlığı 1998). In September 2004, Article 90 of the Turkish Criminal Code codified the rights of patients and/or volunteers in medical research (Türkiye Büyük Millet Meclisi 2004; Türkiye Cumhuriyeti Sağlık Bakanlığı 1998). The third factor is the implementation of an accreditation programme by the Turkish National Medical Education Accreditation Committee (Yüksek Öğretim Kurumu 2011) with the goal of raising the level of medical education as regards both scientific training and ethics instruction to meet new national requirements and reflect universal principles (World Medical Association 2020).

These developments in Turkey are in line with international declarations and organizations. As is known, the World Medical Association was founded in 1945, and it has regulated international standards on ethics codes, ethics education, human rights, and medical science, both theoretical and practical, since 1947 (WMA 2020). In Turkey, deontology regulations were first published in 1960 to protect patients (Türkiye Cumhuriyeti 1960) and to regulate the relationship between healthcare professionals and patients. In addition, medical ethics education was first begun in Turkey in 1983, after The Higher Education Board (YÖK) established Higher Education Law No. 2547 in 1981, which added medical ethics instruction to the first year curriculum of medical and dentistry schools (The Council of Higher Education (YÖK)n.d.). Medical ethics education was started based on philosophical-theoretical information involving discussion of ethical principles in the first year of instruction in medical and dental schools. This instruction led to the acceptance of 'ethics' as an intellectual concept; hence the frequent misuse of the term 'ethics' by the general public. However, genuine misunderstanding of the meaning of ethics has not prevented the creation of new ethical regulations. After the European Consultation on the Rights of Patients in 1994, authorities in Turkey published the Regulation on Patient Rights (RPR) in 1998 (Türkiye Cumhuriyeti Sağlık Bakanlığı 1998). As a result, informed consent has become the subject of litigation, and thus medical ethics education has gained importance for healthcare professionals. The Turkish National Medical Education Accreditation Committee (UTEAK) was founded in 2008 and applied for accreditation to the World Federation of Medical Education (WFME) in 2013((WFME) 2020). The accreditation process has influenced the standards of medical ethics education by increasing ethics instruction to 20-40 hours for 6th-year medical students and including ethics consultation practices in its agenda.

Why do we organize medical ethics courses for resident physicians? After completing medical school, physicians in Turkey must perform compulsory service by working for one or two years in underdeveloped towns or cities. After or during their compulsory service, they may take an exam to be a specialist after a four- or five-year residency. Medical ethics are an important factor in determining the overall quality of healthcare. Therefore, physicians require medical ethics instruction to consolidate their understanding of ethical issues. The goal of this study was to evaluate how physicians determine whether or not there are ethical dimensions in a given scenario and to improve their understanding of medical ethics.

Materials and Methods

This study was conducted at the education and research hospital of the university to determine the level of medical ethics education of resident physicians and whether their grasp of ethics was sufficient to resolve ethical issues.

This research employed a demographic information checklist regarding participants' characteristics including age, gender, major, and prior knowledge. Each group consisted of between 10-13 participants who participated in the course for 3 hours a day, 5 days a week. Before the classroom-based training programme, the participants completed questions regarding 14 scenarios which incorporated cultural issues (Appendix). The questionnaires were distributed to and completed by all participants, both before and after training, and at the conclusion of the course each group offered its own suggestions. 'What are medical ethics and principles? Why does the practice of medicine require ethical input? What are the functions of research ethics committees and ethics consultation committees? What are the differences between ethical issues and legal issues? What do patient regulations, deontology regulations and ethical codes mean?'

The collected data were analyzed using SPSS (version 16). The descriptive and paired t-tests were used to assess differences, where a p-value of less than 0.05 and 0.01 was considered significant for each item.

Limitations

This study involved several limitations. It was carried out in one hospital with a small sample size, utilizing a 14-scenario questionnaire created by the study author, and the time was too limited to reinforce information and discuss additional cases. Therefore, the findings of this study cannot be generalized. Despite these limitations, this study included ethics courses to measure the extent to which resident physicians' understanding of ethical issues was expanded and deepened, as indicated by pre-test and post-test results. In addition, the findings of the present study and the course content utilized therein can be used as a starting point for new research to set up an international database of cases involving ethical issues and physicians' views on medical ethics.

Results

This study included 146 participants, selected randomly. A total of 120 (82.1%) participants from different medical specialties completed course and the pre- and post-tests

(25% women and 75% men), while 10 participants underwent most of the training and 16 participants underwent half of the training. All participants were divided into 10 groups, each group consisting of 10-13 participants. The participants ranged in age between 23 and 38 years old. The mean and standard deviation of the age of the study group were 28.23 ± 4.08 (Table 2). Of the participants, 68.3% were training to be internists (neurology, infection), 24.2% were training to be surgeons (general, child, plastic, ophthalmology so on), and 7.5% were training in laboratory medicine (psychology, biochemistry, anatomy, medical biology, parasitology). A majority (59.2%) of the participants had practiced medicine for one year, 33.3% for between two and three years, and 7.5% had more than 3 years of experience (Table.1).

Table 1. Demographic data (n=120)

Age	(28.23 ± 4.08)
Gender	
Male	75% (90)
Female	25% (30)
Work experience 0-1years	59.2% (71)
2-3 years	33.3% (40)
3+ years	7.5% (9)
Internist	68.3% (88)
Surgeon	24.2% (29)
Laboratory Science	7.5% (9)

Participants' attitudes to the scenarios

Traditional medical ethics is based on the Hippocratic Oath and the theories of Ancient Greek natural philosophers; however, in the last decades of the 20th century its focus has shifted to the medical ethics principles of 'nonmaleficence, beneficence, autonomy, and justice' (Beauchamp and Childress, 2001). Autonomy, which includes informed consent, is increasing in importance with improvements in human rights. However, autonomy with informed consent is not consistent with traditional practices. For this reason, the practice of medicine provides not only medical treatment but also involves the autonomy of the patient through medical ethics practices and patient rights regulations. The aim of this course was to reinforce the participants' knowledge of medical ethics. According to our data, there was a significant difference in the attitudinal responses between the pre-test and post-test results (pre-mean $36.06 \pm SD 4.91$, post-mean $38.61 \pm SD 4.47$), with $p=0.000$. This study results showed the mean scores of the participants regarding respect for autonomy and informed consent to treatment before and after the course (Table 2). Ten of the scenarios concerned respect for patient autonomy. A statistically significant difference was found between the mean scores of the first six scenarios ($p < 0.05$).

However, for three scenarios, participants' attitudes exhibited no statistically significant change between pre-test and post-test results. These scenarios involved various aspects, such as the 'loss of consciousness' ($p < 0.05$) scenario which led to a deliberation concerning organ loss or loss of life. The next scenario concerned an intersex child ($p < 0.01$). Many Turkish people give more importance and advantages to boys than to girls. This attitude is especially prevalent among poor people. The final of these three scenarios involved esthetic surgery ($p < 0.05$). We can conclude that participants need a value-laden compass to cope with real medical ethics dilemmas. Therefore, comparing the before and after results of these three cases does not result in a significant difference. The next two scenarios measure the concepts of 'beneficence' and 'justice' in terms of medical resources and patient access to health care. There is a significant difference in the results obtained before and after the course according to the data. The first of these scenarios concerns a 30-year-old patient with respiratory failure and limited resources ($p < 0.05$), while the second involves a mass traffic accident ($p < 0.05$). The last scenario in our study concerned the choice between following the law or medical ethics ($p = 0.00$).

After completing the post-test, participants were requested to provide feedback about the course. Almost all (98%) of the participants found the course informative, while 89% stated that the course helped them consolidate their knowledge of ethics, and 90% found the scenarios very useful for discussing ethical issues. A total of 74% of the participants stated that there was enough time to sufficiently cover the material, 89% declared that they would pay more attention to ethical issues after taking the course, 97% were satisfied with the course, and 95% said that they would take another ethics course.

Discussion

This study has provided us with results regarding the knowledge of medical ethics by physicians in Turkey and has shown the need for medical ethics courses to reinforce and improve physicians' knowledge of medical ethics following graduation. The participants were eager to attend the medical ethics course. A total of 86% agreed that the course gave them necessary information on ethical-legal issues in nursing, and 94% stated that it was helpful to discuss cases regarding medical ethics principles of recent decades, since patient rights regulations are increasing in importance and physicians feel more responsibility for both treatment and recognizing patient rights.

This study involved 14 scenarios, six of which concerned patient autonomy. As is known, patient autonomy and the legal requirement of informed consent with confidentiality have forced physicians to follow ethical rules. Most cultures employed paternalistic approaches toward social relationships, including health care, until the French Revolution (1789-1799). After the revolution, European countries started to embrace democracy rather than paternalistic views, in both the social and political spheres. However, paternalism continued to be embedded in social and political life, which can be observed in all aspects of social life.

Table 2: Means and standard deviations for medical ethics scenarios (N=120)

* scenario descriptions and the principals involved	95 % confidence interval		<i>p</i> -value $p < 0.05$; $p < 0.01$
	Pretest Mean \pm SD	Post test Mean \pm SD	
1. Drug research- 'Informed consent'	2.70 \pm 1.10	2.24 \pm 0.67	$P = 0.00$
2. child with cleft palate 'informed consent- from who to respect autonomy'	3.56 \pm 1.30	2.56 \pm 1.46	$P = 0.00$
3. child with avian flu 'The right to refuse treatment- respect autonomy'	3.23 \pm 0.84	3.60 \pm 0.69	$P = 0.00$
4. male patient with cancer 'surrogate offer informed consent from who and privacy'	2.62 \pm 1.36	3.18 \pm 1.23	$P = 0.001$
5. 58-year old male diabetes type II patient 'to respect patient autonomy and to benefit the patient'	1.88 \pm 1.13	2.32 \pm 0.97	$P = 0.002$
6. Female cancer patient 'to respect patient autonomy, confidentiality'	3.09 \pm 1.33	3.64 \pm 1.32	$P = 0.00$
7. Loss of consciousness 'informed consent and to respect autonomy'	3.82 \pm 1.13	3.77 \pm 0.94	$P = 0.60$
8. Intersex child 'informed consent from who, to benefit the patient'	1.32 \pm 0.78	1.21 \pm 0.62	$P = 0.21$
9. Aesthetic surgery 'do no harm- respect of autonomy'	2.48 \pm 0.96	2.56 \pm 1.06	$P = 0.53$
10. 30-year-old patient with respiratory failure 'to do justice'	2.78 \pm 0.66	2.91 \pm 0.36	$P = 0.09$
11. Mass traffic accident 'to do justice, be of benefit'	2.89 \pm 1.37	2.56 \pm 1.46	$P = 0.07$
12. Preference 'law or medical ethics'	2.70 \pm 1.10	2.24 \pm 0.67	$P = 0.00$
13. Sterility problems 'Informed consent and telling the truth'	2.89 \pm 1.37	2.56 \pm 1.46	$P = 0.00$
14. Surgery complications "informed consent and communication issues".	2.48 \pm 0.96	2.56 \pm 1.06	$P = 0.53$
Total data of pre-test and post-test	36.0 \pm 4.91	38.6 \pm 4.47	$P = 0.00$

The practice of medicine still involves paternalistic practices (Flanigan 2013), whereas medical ethics

emphasizes patient self-determination as the ultimate principle.

Regulations pertaining to patient rights have been implemented in a number of countries and are closely related to socio-political-cultural and scientific developments. The historical, cultural and religious background of Turkey supports paternalistic attitudes which are interwoven into all relationships including medical ones, therefore the patient's decisions are sometimes made by the head of the family. Thus, the paternalistic approach has not yet been entirely abandoned. However, educated people advocate respect for autonomy to raise confident, free-thinking children who desire self-determination. The major reasons for the persistence of paternalistic attitudes are, first, that physicians possess more knowledge and experience in medicine than their patients, and thus believe that their decisions are more valid than their patients' own decisions. Secondly, physicians' personalities may play a significant role in the informed consent process. However, physicians must comply with medical ethics and legal regulations. Third, some patients choose to follow their physicians' recommendations, because they cannot diagnose their own conditions, and they are still operating under the influence of paternalism.

However, physicians must change their attitudes towards their patients. As well as legal sanctions, physicians work in partnership with patients/patient surrogates who have the legal capacity to make medical decisions for the patient; they can undertake their treatment program willingly and follow the physician's suggestions to achieve optimal care. The outcome of this study indicated that informed consent, which is the cornerstone of medical ethics, is not well understood by resident physicians, and its application presents a number of difficulties.

In this course, the scope of the resident physician's obligation to inform and how to obtain informed consent was discussed through scenarios and also discussed in Article 26 of the Physician Code of Ethics, "The physician's patient, the patient's condition and diagnosis, the type of the proposed treatment method, rate of success, the duration of the treatment method, enlightens about the risks to patient's health, the use of the drugs given and the possible side effects, the consequences of the disease if the patient does not accept the recommended treatment, possible treatment options, and risks" were re-evaluated.

Eleven of the scenarios incorporated values necessary for the realization of patient autonomy, especially as regards informed consent. However, since each attitude based on these values consisted of three aspects (cognitive, affective, and behavioral), changes in attitude required constant nurturing, involving the assimilation of new information as well as the implementation of said values. For this reason, unlike a change in rhetoric, it is not easy to shift from a paternalistic model to a patient-centered model. The paternalistic model has been dominant in most societies throughout most of recorded history (as the long history of empires, kingdoms, sultanates, colonies, etc. has demonstrated), whereas autonomy (informed consent) has only recently begun to be considered and implemented in the form of patient

rights (Patient right regulation, 1998). The other two scenarios primarily concern the concept of justice, which is still much debated in Turkish society and is discussed within the framework of what-which-how-why questions.

Scenario 1. Physicians have planned a drug research study in their clinic. They must obtain informed consent from clinic patients regarding the potential benefits and risks of the proposed drug. It was found that when ethical principles along with information on sample cases were presented to the course participants, their evaluation of this scenario changed in the direction of patient autonomy after the course, and participants' awareness of medical research regarding informed consent increased after the course. ($p = 0.00$).

Scenario 2. A 17-month-old baby with a cleft palate has been brought to the hospital for treatment; however, the mental ability of the patient surrogates was limited. The question was whether the surrogates could give informed consent through a legal advocate. The participants were very concerned about the mental competency of the patient surrogates. The course results showed that participants received higher scores regarding the issue of informed consent and believed that the involvement of a legal advocate was necessary, indicating that the participants perceived a link between mental competence and informed consent. ($p = 0.00$).

Scenario 3. An 8-year-old girl is suffering from avian flu and the patient surrogate (her father) has refused treatment, because the patient's chance of survival is minimal and the father must also care for seven other children at home. This case involves economic issues, social policy, and cultural features. The population of Turkey is 76 million and unfortunately, uneducated families prefer to have 7-15 children. These children usually do not receive education past primary school, and many start working on the streets at the age of 6-8 years to earn money for their families. Turkish laws include serious measures to prevent child abuse and protect children, and fines are imposed against parents-adults-institutions who abuse children. However, there are not sufficient numbers of authorities and concerned institutions to uphold the laws. The participants were able to make a clear decision concerning this scenario. They assessed patient age and condition based on ethical-legal standards and rejected the father's request to deny care, receiving higher scores after the course regarding the informed consent of patient surrogates to reject care. ($p = 0.00$).

Scenario 4. A 63-year old patient is diagnosed with lung cancer, and the patient surrogate (his son) has requested that the doctor not reveal the diagnosis to his father. This scenario involved the concepts of keeping diagnoses a secret from patients, patient privacy and patient autonomy. The paternalistic approach still persists and results in a tendency for surrogates to make decisions on behalf of patients. People who have assimilated paternalistic attitudes may advocate for democracy, autonomy, and freedom of speech, but their actions do not conform to their speech. This course has contributed to awareness of the discrepancies between behaviors and speech, as indicated by the fact that participants received

higher scores after the course regarding informed consent ($p = 0.001$).

Scenario 5. A 58-year old male patient is diagnosed with diabetes II and when examined 7 months ago it was determined that he has hypertension. He wishes to regulate his medication according to Islamic fasting practices. This scenario is related to the concept of patient autonomy and respect for all faiths. Participants evaluated both the regulation of patient rights and the importance of patient autonomy. The information provided by the course led to changes in participants' thinking, resulting in higher scores on the subject of informed consent after the course ($p = 0.00$).

Scenario 6. A 67-year-old woman was diagnosed with colon cancer by physicians, who recommended surgery. After the operation, the doctors recommended a course of chemotherapy and radiotherapy, but the patient refused both. However, the surrogates tricked the patient into beginning chemotherapy, without obtaining the patient's proper informed consent, by telling the patient that they will be receiving a different treatment. In this scenario, patient rights and the wishes of the surrogates regarding treatment were evaluated in terms of legal and ethical principles. Many people in Turkey support withholding information on diagnoses from patients where cancer is concerned. Patient surrogates generally perceive patient rights regulations as pertaining to themselves (the surrogates), rather than the actual patients. The participants comprehended that secrets/privacy and patient autonomy are considered patient rights, and not surrogates' rights, in this scenario. Participants received higher scores after the course on the subject of informed consent ($p = 0.00$).

Scenario 7. A patient experiences loss of consciousness following a traffic accident, and thus cannot give informed consent. The physician needs to amputate a leg to save the patient. In this case, which ethical principle(s) can be ignored? For this scenario, participants' awareness increased after the course regarding the issue of when informed consent on the part of the patient can be disregarded. Participants suggested that amputation of the unconscious patient's leg without informed consent is not ethical, because amputation will affect his/her quality of life. Participants could not make a clear decision, debating whether it would be better to have the patient's informed consent after the patient regains consciousness, or accept the decision of the patient surrogate. ($p < 0.05$).

Scenario 8. Physicians examined a 15-year-old child who is intersex. After examination, the medical consultation team decided that the child would have a better life as a girl, basing their decision on their medical findings. However, the child's parents, especially the father, wanted the child to live as a boy, as they are valued more. This scenario, which involves the concept of male supremacy, has led to a discussion of paternalistic attitudes in society. In some societies, including many parts of eastern Turkey, having a son is considered crucial to proving one's manhood, thus women must continue to have babies until producing a boy. If a woman does not give birth to a boy, her husband may marry again, whether legally or illegally, in order to have a son. In rural areas of the eastern provinces of Turkey, a daughter is not even counted as a

child. In this scenario participants faced an ethical dilemma, but did not change their decision, perhaps because of subconscious sexist attitudes or support of the paternalistic model. There was no statistically significant difference in participants' decisions before and after the course ($p < 0.01$).

Scenario 9. A patient who has undergone rhinoplasty three times believes that her primary duty is to be beautiful. She demands a new rhinoplasty. The physician evaluates the risk for the patient and concludes that surgery would be very dangerous and that the patient will likely experience health issues as result of the surgery. However, the patient insists on surgery, although she is receiving psychiatric counseling. This scenario involves multiple ethical dilemmas. Can someone's request to have plastic surgery for aesthetic reasons be regarded as an ethical issue? This discussion concerned patient autonomy, but surgery was not medically indicated. There was no statistically significant difference in the participants' responses before and after the course ($p < 0.05$).

Scenario 10. A 30-year-old patient with respiratory failure requires the use of a ventilator. However, there are a limited number of ventilators in the hospital. A 70-year-old patient with a prior diagnosis of dementia has just been connected to a ventilator because he/she was experiencing respiratory failure. What ethical dilemmas arise when a ventilator is taken from an elderly patient to give to a younger patient? There was no statistically significant difference in the participants responses before and after the course ($p < 0.05$).

Scenario 11. After multiple traffic accidents, two patients from the emergency service require urgent treatment. However, all the hospital beds are full, so the physician must prioritize one patient over the other. One is a 75-year old female patient; the second is a 40-year old male drug/alcohol addict, who according to the police reported caused the accident. Which patient should be treated first? Which ethical principle is open to debate in this case? Scenarios 10 and 11 bring the concept of justice to the forefront. The personal qualities of patients cannot be taken into consideration when determining the distribution of limited resources, as this would not be in accordance with the principle of justice. Therefore, ethical instruction includes discussion of the concept of justice to examine the dilemma and propose solutions. Scenarios 10 and 11 both produced similar results. Justice involves a number of different concepts and practices, discussion of which revealed that these were not well understood. Although justice in Turkey is frequently discussed, there is no consensus regarding its application. These scenarios reveal the intransigence of Turkish society in general. There was no statistically significant difference in participants' decisions before and after the course ($p < 0.05$).

Scenario 12. During contact with a patient what is a physician's primary consideration, the medical ethics code or laws related to patient rights? Participants received higher scores on the subject of medical ethics code and laws after the course ($p = 0.00$).

Scenario 13. A 42-year-old man came to the urology clinic because of an inability to produce a second child.

Clinical tests indicated that the patient was not able to have children because of azoospermia and sterility. The physician was hesitant to tell the patient the truth, believing that this information could lead to a family tragedy. The test results are likely to indicate that the patient is not the biological father of his first child. Whether or not the doctor should tell the patient the truth is the question. This scenario concerned the values of informed consent and truth-telling ($p = 0.00$).

Scenario 14. As a result of the examination, the doctor suggests to the patient that he should undergo goiter surgery. The patient also stated that he has some hesitations and accepts the surgery. And postoperative esophageal perforation occurs. Therefore, the patient has started legal complaints about his doctor. As in this case, what would you do if the patient accepted the treatment but had some hesitations? What do you think is the main ethical problem here? This scenario concerned the values of informed consent and communication; the doctor should give more information about complications and also more elaborative information should be given to resolve the patient's hesitation, and even more time should be given to making a decision if possible ($p < 0.05$).

In this course, the scope of the resident physician's obligation to inform and how to obtain informed consent was discussed through scenarios and also discussed in Article 26 of the Physician Code of Ethics, "The physician's patient, the patient's condition and diagnosis, the type of the proposed treatment method, rate of success, the duration of the treatment method, enlightens about the risks to patient's health, the use of the drugs given and the possible side effects, the consequences of the disease if the patient does not accept the recommended treatment, possible treatment options, and risks" were re-evaluated (Türk Tabipler Birliği Merkez Konseyi 2012). The residents obtained information about informed consent being not a burden and also that the illumination to be made should be appropriate for the patient's cultural, social, and mental state. In addition, it has clearly learned that the information in question should be in a form that can be understood by the patient, and the patient himself should determine the people to be informed besides him. Because of the cultural and traditional structure of this city, relatives and even friends of the patients have tried to get information about their patient before the patient and have even made various threats in this regard. However, legal regulations and medical ethics clearly reveal that all health-related initiatives can be carried out with the free and informed consent of the person.

The opinions of the course participants regarding the value of the course were: 98% stated that the course was informative, 94% stated that they understood ethical-legal issues better thanks to discussion of the scenarios, and 89% stated that they could more easily determine ethical and legal issues regarding patient care and that the course helped consolidate their knowledge of ethics. Ninety-five percent of the participants stated that they would willingly attend another ethics course, and 89% were pleased with the conduct of the faculty member and the course itself, in terms of the ethical information presented, duration of the course, and case discussions.

Conclusion

The study reveals that physicians are aware that a variety of ethical and legal problems may arise in the process of treating patients. However, they often do not have very precise information concerning how to resolve ethical and legal dilemmas. Because most physicians in this study had not received medical ethics education by trained ethicists (only 22 of 82 medical schools in Turkey provide ethics education by actual medical ethicists), or had only received theoretical ethics education, they did not possess sufficient awareness of the ethical principles involved for their proper application. Physicians have to create a balance between treatment, ethical principles, and the individual rights of patients.

The course implemented in this study included a variety of scenarios regarding ethical-legal issues of patient care which contributed to better understanding of said issues. Therefore, the participants expressly recognized that ethical-legal issues are concomitant with treatment issues when they carefully evaluated each scenario according to medical ethics principles. Indeed, the participants noticed that informed consent provides a positive and meaningful link between physicians and patients which, by reinforcing patient trust and helping to solve ethical-legal issues, can contribute to patient satisfaction as well as positively impact health outcomes. Medical ethics concepts and patient rights regulations are an important part of core healthcare values and practices. These values are in the patient's best interest and improve levels of patient trust and satisfaction. For these reasons, medical ethics courses should be organized by medical ethicists and specialist educators and supported by health organizations.

Acknowledgements

I would like to express my gratitude to the resident physicians who participated in this study and to the University Research Hospital Authority Head Office for their support. This research received no specific grant from any funding agency in the public, commercial, or not-for profit sectors.

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Appendix (case scenarios)

1. You are working as a doctor at a university hospital; you took part in Phase 3 clinical trials. The patients participate in the study after giving 'informed consent'. What is your main reason for getting informed consent from the participants?

2. A 17-month-old baby with cleft palate has been brought to the hospital for treatment by his family. Palate surgery can be performed on babies, however the baby's family has a low level of intelligence; they cannot understand all of the procedures involved with the surgery and the risk of complications. In this case, what is the ethical approach regarding informed consent?

3. An 8-year-old girl is suffering from avian flu and her father says that he has 7 more children at home. He denies treatment for his daughter and demands that she be discharged from the hospital. What is your ethical solution to this dilemma: to provide treatment without consent, to force the father to consent to treatment under threat of legal action, or to agree to discharge the patient?

4. A 63-year old patient is diagnosed with lung cancer, and the patient's surrogate (his son) requested that you do not explain the diagnosis to his father. The son believes that if his father learns of his diagnosis, his psychological condition will be worsened. If you accept the patient's surrogate's demand, what kind of ethics violation will occur?

5. A 58-year old male patient is diagnosed with diabetes II and when you examined him 7 months ago you determined that he has hypertension. The patient described himself as a religious man and requested to fast for 3 months plus 30 days. He wanted to regulate his medication again, because Islamic fasting rules permit eating between 7 pm-4am. If you regulate his medication based on his fasting, the patient's condition will be worse. The physician's job is to 'do no harm, to benefit the patient and family, to respect autonomy and to do justice'. Which ethical principle would influence your decision?

6. A 67-year-old woman was diagnosed with colon cancer by physicians. Physicians suggested that she have a colon operation. After the operation they recommended chemotherapy and radiotherapy. The patient refused both chemotherapy and radiotherapy, since some of her friends had died during both therapies. The patient's surrogates wanted the patient to begin chemotherapy and radiotherapy. The surrogates beg you to start the therapies without the patient's proper informed consent. What kind of violation can occur in terms of medical ethics principles in this case?

7. A patient experiences loss of consciousness following a traffic accident. When the patient arrives at the emergency room you notice that he/she has a gangrenous leg. The patient cannot provide informed consent due to loss of consciousness. You have to amputate the leg to save the patient. In this case, which ethical principle can you ignore?

8. Physicians examined a 15-year-old child who is intersex. Physicians suggested an examination which involved psychosocial and physical aspects to determine which gender would be better for the child. After examination, the medical consultation team decided that the child would have a better life as a girl, basing their decision on their medical findings. However, the child's parents, especially the father, wanted to have a boy, because boys are valued more. The father didn't accept the team's findings, saying that he had raised his child as a boy. In addition, he asked the medical team, 'How can I explain this to my social circles?' A man who has a son is considered more of a man. However, the child wanted to be a girl. In this case, whose wishes should take priority in terms of ethics?

9. Your patient who has undergone rhinoplasty three times believes that her primary duty is to be beautiful. She demands a new rhinoplasty. When you evaluate the risk for the patient, you concluded that surgery would be very dangerous and that she will likely experience health issues as result of the surgery. However, the patient insists on surgery, although she is receiving psychiatric counseling. How do you determine the ethical approach to this case?

10. A 30-year-old patient with respiratory failure requires the use of a ventilator. However, there are a limited number of ventilators in the hospital. You have just connected a 70-year-old patient with a prior diagnosis of dementia to a ventilator because he/she was experiencing respiratory failure. What ethical dilemmas arise when a ventilator is taken from an elderly patient to give to a younger patient?

11. After multiple traffic accidents, two patients from the end of the emergency service needed to be treated urgently. However, all the beds were full, which you can select the patients. One of them is a 75-year old female patient; second a 40-year old male patient who is drug-alcohol addict and police reported that he caused that accident. Which patients should be treated first? Which ethical principle is opened up discussion in this case?

12. During contact with a patient what is your primary consideration, the medical ethics code or laws related to patient rights?

13. A 42-year-old man came to the urology clinic because of an inability to produce a second child. Clinical tests indicated that the patient was not able to have children because of azoospermia and sterility. The doctor was hesitant to tell the patient the truth, believing that this information could cause a family tragedy. The test results are likely to indicate that the patient is not the biological father of his child. Should the doctor tell the patient the truth?

Scenario 14. As a result of the examination, the doctor suggests to the patient that he should undergo goiter surgery. The patient also stated that he has some hesitations and accepts the surgery. And postoperative esophageal perforation occurs. Therefore, the patient has started legal complaints about his doctor. As in this case, what would you do if the patient accepted the treatment but had some hesitations? What do you think is the main ethical problem here? This scenario concerned the values of informed consent; the doctor should give more information about complications and also more elaborative information should be given to resolve the patient's hesitation, and even more time should be given to making a decision if possible.

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