Coping Strategies of Filipino Mothers of Children with Congenital Heart Disease in a Tertiary Hospital in the Philippines

Eva Belingon Felipe-Dimog, RM, MSc,^{1,2} Ma-Am Joy Realce Tumulak, MD, MSc,^{1,3} Emma Liza A. Dacquigan⁴ and Jerome A. Padilla⁵

¹College of Medicine, University of the Philippines Manila, Manila, Philippines

²College of Health Sciences, Ifugao State University-Lamut Campus, Nayon, Lamut, Ifugao, Philippines

³Institute of Human Genetics, National Institutes of Health, University of the Philippines Manila, Manila, Philippines

⁴Luke Foundation Inc., Baguio City, Philippines

⁵Localized Peace Engagements Office - Office of the Presidential Adviser on Peace, Reconciliation and Unity (OPAPRU), Pasig City, Philippines

ABSTRACT

Background and Objective. Mothers play a significant role as primary caregivers for children with congenital heart disease (CHD) within the family. Given the complex health needs of children with CHD, coping strategies are needed to deal with the challenges associated with caring for their children with the condition. Coping mechanisms encompass fostering resilience, seeking support, and maintaining a positive outlook to navigate stress, uncertainty, and obstacles throughout their child's medical journey with CHD. The objective of this study is to explore the coping strategies employed by mothers of children diagnosed with CHD in a tertiary hospital in the Philippines.

Methods. Employing a descriptive qualitative study design, data was gathered through key informant interviews utilizing a semi-structured topic guide, which aimed to explore the perspectives and experiences of mothers with children with CHDs. Ethical approval was obtained, and data collection occurred from January to March 2016. Interview transcripts were recorded, transcribed verbatim, and underwent content analysis. Themes derived from the analysis were then validated and confirmed by the study participants.

Results. A total of 11 mothers voluntarily participated in the study. These participants expressed utilizing various coping strategies to manage their child's condition, including seeking assistance from both physicians and traditional healers, advocating for their children, receiving support from their family and friends, regulation of emotion, and prayer and faith in God.

Conclusion. This study sheds light on the coping mechanisms used by mothers in raising thier children with CHD, highlighting the value of spirituality and psychological support in their journey. Enhancing assistance for impacted families and advancing genetic counseling services are two benefits of incorporating these findings into healthcare practice.

Keywords: congenital heart disease, coping strategies, descriptive qualitative study design

INTRODUCTION

Congenital anomalies or birth defects affect millions of newborns each year. ¹ Its prevalence varies across regions, with approximately 6.9 per 1000 live births in North America, 8.2 per 1000 in Europe, and 9.3 per 1000 in Asia. ² Congenital heart disease (CHD) is an example of a congenital anomaly and ranks among the top 10 types of birth defects in newborns in the Philippines for decades now. ³⁻⁵ In the Philippines, CHD affects 5-10 children per 1000 live births as of 2015. ⁶ CHD is a health condition that places a significant burden on parents, both during the time of heart surgery and throughout the years

Corresponding author: Ma-Am Joy Realce Tumulak, MD, MSc College of Medicine University of the Philippines Manila 547 Pedro Gil St., Ermita, Manila 1000, Philippines Email: mrtumulak@up.edu.ph of ongoing treatment. Research suggests that the etiology of CHD is multifactorial. Teratogen exposure, sickness, and infection during pregnancy all contribute to 10% of CHD cases, whereas genetics have a part in 34% of cases. The remaining 56% of cases have unidentified causes. Although several genes have been linked to both syndromic and non-syndromic variants of CHD, the bulk of sporadic cases remain unknown. In genetically-linked CHDs or hereditary CHD cases, genetic advances, such as chromosomal microarray and next-generation sequencing, have shed light on the complex genetic influences implicated in aberrant heart development. Accessing and comprehending this information, however, can be difficult for mothers and families.

CHD and its consequences have a significant influence on family life, which has been widely documented.^{9,10} Parents of children with CHD are especially vulnerable to psychological and social suffering, and the problems impacted by the condition can influence the entire family from diagnosis until childhood.¹¹ CHD has been shown to increase the sensitivity of the entire family to psychological and social challenges. 12-14 Studies, on the other hand, have shown that parents and families are capable of adjusting to the presence and demands of CHD as a means of coping.¹⁵ Coping refers to the numerous ways to handle emotional, physical, or psychological stresses. 16 Coping manifests itself in a variety of ways. For example, women frequently seek social support, discuss their experiences, and utilize spirituality or religious activities as coping techniques, whereas men may be more likely to use alcohol as coping tool.¹¹ These coping methods are used in response to the difficulties connected with CHD and serve as channels for parents and families to navigate the intricacies of the condition.

With approximately 175 ethnolinguistic groups spread across the 7,107 archipelagic islands in the Philippines, patients and their families may embrace diverse health practices and beliefs.¹⁷ This diversity emphasizes the necessity for genetic counselors and other healthcare providers to be culturally competent when delivering healthcare services.¹⁷ The prerequisite to cultural competence is cultural awareness.¹⁷ Cultural awareness is the understanding that a cultural gap exists between the patient and the healthcare provider. 18 Hence, this study aimed to explore and understand the coping strategies employed by mothers with children diagnosed with CHD. The goal is to contribute to the body of knowledge that can assist genetic counselors and other healthcare providers in becoming more culturally aware of the coping strategies employed by mothers as they care for their children affected by CHD.

Previous study has found that parents of children with CHD had higher levels of despair and sadness, as well as symptoms of anxiety, depression, and somatization. 19-21 According to Lawoko and Soares, 20 these elevated levels of parental anxiety and hopelessness may be the result of recurrent feelings of guilt for their child's cardiac ailment. Parental guiltiness can contribute to low self-esteem, self-

blame, and a sense of irrelevance, which can emerge as depression or anxiety symptoms.²² A study in Canada indicated that a significant proportion of parents of children with CHD do experience depression and moderate to severe anxiety when caring for their children's complex needs.²³ Understanding coping strategies is essential for developing an effective healthcare provider-client relationships and helps client avoid maladaptive behavioral response.²⁴ Genetic counseling, particularly in terms of addressing concerns about the inheritance of CHD, may be beneficial in reducing worry and guilt.²⁵

While various literature has looked at the effects of having CHD in the family, there has been few studies on the coping techniques used by mothers of children with CHD, especially in the Philippines. As a result, the purpose of this study is to explore the coping techniques by mothers of children with CHD in a tertiary care hospital in the Philippines. The outcomes of this study will be useful for genetic counselors and other allied health professionals who work with families with CHD. These findings will make it easier to provide appropriate genetic counseling and psychosocial support to families struggling with issues of CHD.

METHODS

Research Design

This study was part of a broader study that explored on the experiences of mothers whose children were diagnosed with birth defects at the Baguio General Hospital and Medical Center (BGHMC) in Baguio City, Philippines. The abovementioned study explored on the beliefs of 18 mothers on the causes of birth defects in their children. Details on the findings of this study were published previously.²⁶ Out of these 18 mothers, 11 had children with CHD who were then invited to participate in the present study.

The first author is a midwife by profession with constant interaction of providing care to mothers and children, and concurrently pursuing a Master of Science in Genetic Counseling (MSGC) during the study. In addition to her ability to speak and understand Ilocano and some of the common local languages of the Cordillera Administrative Region (CAR) as well as the Filipino language, her professional background uniquely positions her to explore the perspectives of mothers facing challenges in caring for children diagnosed with CHD. Additionally, the second author is a medical doctor and an MSGC trainee during the conduct of the study, while the third and fourth authors had experiences in conducting field data collection and qualitative studies. Blending midwifery profession and genetic counseling training background, and experiences of the authors to conduct qualitative method of studies guided the research process, ensuring a comprehensive understanding of the nuanced experiences of the participants through qualitative descriptive approach. Descriptive qualitative study design was utilized for its ability to directly describe a phenomenon,²⁷ with the specific focus in this study being the coping strategies of mothers of children diagnosed to have CHD. This design is well-suited to capture detailed views, beliefs, and perspectives of participants towards an event.²⁷

Study Setting and Participants

The BGHMC, a tertiary referral hospital serving the North Luzon Island of the Philippines, is also a voluntary Birth Defects Surveillance (BDS) sentinel that reports epidemiologic data on birth defect incidences.^{28,29} This study included 11 mothers who were the primary caregivers of children diagnosed with CHD, selected through purposive sampling30 with specific inclusion criteria, including legal age (≥18 years old), having children diagnosed with CHD at the BGHMC, ability to give consent, and willing to share their knowledge and viewpoints. The first author conducted interviews in either Ilocano (widely spoken language in the northern island of the Philippines) or Filipino (national language of the Philippines), depending on the participants' preferred language. The interviews were conducted in either at a vacant room at the BGHMC or at the participants' homes to ensure their comfort and feeling of security as well as privacy. This localized approach allowed all participants to openly express their beliefs, views, and opinions on their coping strategies of having children with CHD.

Data Collection

Participants were recruited through face-to-face contact initiated by the physician-on-duty in various clinics in BGHMC, including the outpatient department, underfive clinic, in-patient clinic, and pediatrics clinic, where diagnosed CHD cases received consultations and admission. Once a participant expressed willingness to join the study, the physician-on-duty contacted the first author to facilitate further communication. The contact details of the first author were provided in each clinic department for easy reference. The first author was responsible for obtaining consent and scheduling face-to-face interviews with the participants. Participation in the study was entirely voluntary from the moment of recruitment. The first author provided the participants with general information about the research, including its objectives, significance, informed consent process, and expected duration of the interviews. Upon giving both verbal and written consent, the interviews took place, lasting approximately 30 to 45 minutes each.

The semi-structured interview guide used during the data collection were formulated based on the objective of the study. Furthermore, the interview guide was translated into Filipino and Ilocano languages and was validated by two nurses from the BGHMC who can understand and speak both the Filipino and Ilocano languages to ensure rigor of the data collection tool before its use. The main questions that were asked to the mothers included what were their concerns while providing care for their children with CHD, and what were their coping strategies in dealing with challenges of caring

for such children. Probing questions were asked to explore nuances and clarify responses of the study participants. Data were gathered until data saturation was achieved, at which point the participant responses were not yielding any new insights or themes. All interviews were conducted by the first author. Interviews were recorded and transcribed verbatim, and resulting themes were validated by the participants through phone calls. Data collection was conducted between January and March 2016.

Data Analysis

The accuracy and familiarity of the data were ensured by cross-checking the transcripts with the audio tapes. Since the interviews were conducted in Ilocano and in Filipino languages, they were translated into English before the analysis process. Content analysis described by Padget was then applied to the transcriptions. Inductive content analysis was employed hence there were no anticipated and predicted themes to guide the study. The interview transcripts were read several times by the researchers in order to interpret the responses of the study participants. After reading each participant's statement aloud word by word, transcripts were coded to determine the words or phrases that provided meaning for the sentences. The same interview transcripts were coded by the first and second authors in order to find and analyze discrepancies and assess intercoder reliability. Themes were developed through classifying similar words and phrases that were indicative of the views and perspectives of the participants.³² The developed themes were deliberated and agreed upon by the researchers and were validated by the study participants to ensure the accuracy and reliability of the final study findings.

Rigor

Trustworthiness of the study findings was enhanced with the ample time given to each study participant during interviews, and validation from the participants for the developed themes derived from the responses.³³ Additionally, non-verbal cues exhibited by the participants were carefully noted during the data collection process, and discussion of accuracy of the analysis and results with other researchers on the team and colleagues improved the validity of the study and minimized the potential errors or biases of the study results.^{33,34} With these strategies, rigor is improved.

Ethical Considerations

The study received ethical approval from both the University of the Philippines Manila Research Ethics Board (UPMREB) and the BGHMC Ethics Review Committee (BGHMC ERC). Only mothers who provided informed consent were invited to join the study. Each participant was assigned a code, and their names were not mentioned in the audio recorded interviews and transcripts to ensure anonymity. The findings of the study were reported in aggregate form, without any mention of participants' identifying information.

To maintain confidentiality, the data were securely stored in a password-protected file database accessible only to the research team, thereby upholding anonymity and safeguarding participant information.

RESULTS

The study included mothers aged 21 to 42 years, who had children between the ages of 1 and 5 years. All the participants were Christians, and most were housewives. Details about the demographic characteristics of the participants were shown in Table 1.

The participants reported that their children were diagnosed with CHD after undergoing various tests and evaluations at BGHMC immediately after their children's birth. In the interviews, the various strategies employed by mothers to deal with having children diagnosed with CHD was explored. The themes were developed after the interviews and were based from the responses of the study participants. The recurring theme of coping strategy of the participants is their faith in God in dealing with challenges of providing care to their children with CHD. In addition, the participants mentioned that they found ways to cope with their children's condition by seeking assistance from physicians and traditional healers, advocating for their child, receiving support from families and friends, and regulation of emotion.

Seeking Assistance from Physicians and Traditional Healers

Mothers rely on physicians to address the complex healthcare needs of children with CHD. They hold doctors in high regard because they can provide tangible evidence of the condition, such as 2D echo laboratory results. One mother expressed her trust in doctors, stating, "I go to the doctor because they know what they are doing and they have studied about CHD" (P3). Another mother viewed physicians as instruments of God, believing that they were given to help those in need: "God gave us doctors to treat patients, they are God's gift" (P5). A mother also mentioned their commitment

to their doctor's medical advice. For example, one mother said, "Whenever there is a need for a checkup, I bring him regularly to our doctor" (P2).

In some instances, mothers sought help from traditional healers for other health symptoms of their children. For example, a mother shared her experience of visiting a traditional healer to treat her child's *subisubi*, which she described as having dirt in her child's *tummy*. She stated, "I went to a traditional healer for my child to receive a massage for his *subisubi*. He got better and no longer had *subisubi*" (P3). Another mother sought the services of an herbalist to boost her child's immune system. She explained, "He [the herbalist] said that my child had a complicated health condition. Then he used his oil and various traditional medications to treat my child. We used these herbal products, and they helped my child recover. My child's toenails are already turning red. Previously, they were bluish in color" (P9).

Advocating for their Child

Mothers of children with CHD expressed their unwavering dedication to their children's well-being, stating that they would go to great lengths to ensure their children receive the necessary care. One mother emphasized the importance of monitoring the health condition of her child and being proactive in seeking medical attention when needed. She stated, "The heart of my child needs to be monitored. If he needs medical treatment, I need to do it and bring my child to the hospital no matter what happens" (P2). Another mother expressed her commitment ensuring her child receives therapy sessions recommended by physician stating, "I will not allow my child to remain dependent on me as he grows up. I will do everything that the doctor advises. I bring him for therapy sessions" (P3).

Furthermore, mothers acknowledged that not everyone may be open-minded or understanding towards children with CHD and their special needs. To address this, one mother stressed the importance of comprehending the information provided by healthcare professionals to educate others about CHD and the necessary treatments. She stated, "Others may

Table 1. Characteristics of the Study Participants with Children Diagnosed to have Congenital Heart Disease

ID	Age (Year) Civil status I	Educational Attainment	Religion	Occupation	Age of the Child (Year)
P1	33	Married	Tertiary	Protestant Christian	Housewife	1
P2	28	Married	Tertiary	Born Again Christian	Housewife	3
Р3	30	Separated	Vocational	Roman Catholic Christian	Self-employed	5
P4	30	Married	Secondary	Church of the Latter-Day Saints	Housewife	2
P5	23	Married	Primary	Roman Catholic Christian	Housewife	1
P6	38	Married	Tertiary	Born Again Christian	Self-employed	5
P7	35	Married	Tertiary	Protestant Christian	Housewife	3
P8	21	Married	Vocational	Protestant Christian	Housewife	2
Р9	37	Married	Secondary	Born Again Christian	Housewife	1
P10	42	Married	Primary	Roman Catholic Christian	Housewife	2
P11	33	Living together with partner	Secondary	Born Again Christian	Housewife	2

label my child as special, and I acknowledge that. My baby is special and requires treatment. I teach them about CHD and my baby's conditions using the doctor's explanations. I explain to them that my child may have delayed physical growth and development, but with treatment and monitoring, my child will be alright" (P7). These mothers show that they understand their children's condition and demonstrate their willpower to advocate for their children, educate others, and ensure their children receive the care they need.

Receiving Support from Family and Friends

For some mothers, the hardships of parenting a child with CHD can be overwhelming. However, the assistance parents receive from loved ones and family members is critical in supporting them in coping with their children's condition. The mothers shared that the support they received were generously provided by their families and friends when they would ask for help and assistance. One mother emphasized her husband's consistent support in accepting and dealing with their child's health condition. She went on to say, "Initially, when I have known my child's condition, it was extremely difficult. However, with the support of many people, especially my husband, I was able to eventually accept it" (P9). Another mother described the difficulties she had while caring for her child on her own. Nonetheless, with the help and financial support of her siblings, she went on to say, "There were times when I felt like giving up because it was very challenging to handle this situation [having a child with CHD]. I feel so alone. But, with the support of my siblings, I managed to arrange the necessary funds for the regular treatment and monitoring of my child" (P10).

One mother acknowledged the support of friends as an important source of comfort when dealing with her child's condition. "Sometimes, I feel down. The support and prayers of my friends uplift me and make me capable of providing proper care for my child" (P9). These mothers emphasize the critical role that support networks, including spouses, siblings, and friends, play in assisting them in navigating the difficulties associated with raising a child with CHD. Their collective support and encouragement contribute to their ability to face the challenges with strength and resilience.

Regulation of Emotion

Several mothers emphasized the importance of acceptance when it comes to moving forward and focusing on the necessary treatment for their children with CHD. One mother expressed accepting her child's condition due to the available treatment options. She explained, "We must accept that my baby has a congenital heart disease. There is a 50 percent chance that the septal defect can be cured. My baby can also undergo surgery" (P1). Other mothers expressed their surprise at their child's condition but acknowledged that they need to accept it as a chance occurrence. They shared statements like, "I was surprised, but maybe it just happened, and I need to accept it" (P4), and "I accepted it because there

was nothing I could relate to, that might have caused it" (P9). One mother also viewed having a child with CHD as a trial given by God, which she believed must be accepted. She stated, "I accept the condition of my child, even though it pains me because it is a trial from God to make us stronger" (P11). These responses highlight the significance of accepting the reality of their children's CHD viewing it as a part of their journey to personal growth and endurance. To further elaborate these responses, it is worth noting that the mothers' children were aged one year or older during the conduct of the study. This timeframe may have allowed these mothers ample time to process their emotional responses and adjust to the health needs of their children.

Prayer and Faith in God

Prayer holds significant importance for mothers when facing life's challenges. One mother shared a near-death experience of her child and attributed their survival to prayer. She explained how she rushed to the church, fervently prayed for the doctor's assistance, and witnessed her child's recovery. She stated, "My child nearly died... I ran to the church, cried out, and prayed so hard that the doctor could help my child. My child survived by the grace of God and with the help of the doctor" (P9). Mothers view prayer as a means to seek divine intervention for illnesses. They believe that God's love and mercy make prayer essential for asking His help. They have faith that when they ask for something, God will provide. One mother expressed, "I do not know what would happen if there is no God. They say that God is loving and merciful, so praying is very important to seek His assistance" (P6). Another mother acknowledged that having a child with CHD is a trial from God, and prayer becomes her way of seeking help: "I know that having a child with CHD is just a trial from God so I use prayer to ask for help" (P11).

Additionally, mothers find prayer to be a source of strength in coping with everyday challenges. They described how prayer uplifts their spirits and makes them feel stronger to face various problems. One mother shared, "Prayer makes me feel better and stronger to deal with many problems" (P10), while another stated, "I always pray because it is the greatest among all other things in this world. It is also the main source of strength and courage" (P11). The faith in God helps mothers cope with the challenges involved in caring for their children. They entrust everything to God, turning to prayer, especially during difficult moments. As one mother concluded, "We just entrust everything to God. We always pray to Him, especially when my child nearly died" (P5). Prayer serves as a pillar of support and solace, providing mothers with comfort, strength, and a sense of guidance as they navigate the journey of caring for their children.

DISCUSSION

This study aimed to explore the coping strategies of mothers with children diagnosed with CHD in a Philippine

tertiary hospital. The findings provide insights for genetic counselors and other healthcare providers, helping them understand the perspectives of these mothers and offer appropriate support. By understanding the individual coping mechanisms and incorporating cultural knowledge, healthcare providers can improve genetic counseling and psychosocial support for families affected by CHD.

Cultural competence plays a crucial role in delivering quality care, regardless of religious beliefs or cultural backgrounds. ³⁵ Cultural competency lies on a spectrum that extends from cultural awareness to cultural proficiency. ¹⁸ Cultural awareness involves recognizing the cultural differences between the genetic counselor and the patient, while cultural proficiency deals with the ability of the genetic counselor to navigate interactions with counselees from various cultures. ³⁶ One way to develop cultural awareness and proficiency in genetic counselors and other healthcare providers is by exploring various perspectives of patients including their families. Hence, this study attempted to explore the coping approaches of mothers of children diagnosed with CHD to contribute to culturally appropriate healthcare genetic counseling services in the country.

The findings of this study have direct relevance to the provision of genetic counseling for mothers of children diagnosed with CHD at BGHMC. Understanding the coping strategies of these mothers enable healthcare providers tailor their healthcare and genetic counseling services to their clients' needs. As BGHMC is involved in birth defect surveillance and aims to enhance systematic registries and reporting of birth defects, including CHD, the insights derived from this study can contribute significantly to the delivery of urgent public healthcare services, such as genetic counseling.²⁸ Additionally, the knowledge gathered from this study benefits genetic counselors and other healthcare providers working with CHD-affected families in the Philippines. These findings equip genetic counselors and other healthcare providers to better assist mothers in dealing with the challenges associated with caring for a child with CHD, leveraging the established coping strategies to proactively address psychological and emotional components of the condition.

Mothers of children with CHD in the Philippines rely on both biomedical and biocultural healthcare services and information, as revealed in this study. They diligently follow the recommendations and advice of physicians, while also seeking additional care from traditional healers. This demonstrates the simultaneous utilization of traditional and Western medical approaches in the country.³⁷ Financial constraints often lead Filipinos from disadvantaged socioeconomic backgrounds to turn to traditional or folk medicine services and products. Although the mothers in this study mentioned visiting traditional healers for massages and herbal remedies to boost their children's immune system, it is important for genetic counselors and other healthcare providers to emphasize that surgery is always the prioritized CHD treatment, ^{38,39} and that

massage can be practiced post-surgery to reduce pain and improve physiological parameters, such as heart and respiration rates, and oxygen saturation in children with CHD.⁴⁰

Mothers of children with CHD expressed their unwavering commitment to supporting their children by actively participating in their treatment and health monitoring. They also took on the role of educating others about CHD in order to advocate for children with the condition. This finding aligns with previous research that highlights the parents' determination to provide the best possible medical care for their child with CHD, often making personal sacrifices for their well-being. It illustrates the mothers' resilience and optimism in dealing with the hardships of having a child with CHD. Parents of children with CHD should be supported in their positive coping mechanisms. Giving parents detailed information about treatment options will assist families in making educated decisions and maintaining hope for a better health outcome for their afflicted children.

The study demonstrates that psychosocial support serves an important impact in reducing the psychosocial difficulties that parents of children with CHD encounter.⁴³ Our findings are consistent with prior research, which indicates that spouses, family, and friends are excellent sources of support for mothers dealing with the experience of having a child with CHD.^{11,44} These findings emphasize the favorable impact of loved ones on the coping mechanisms of mothers living with CHD-affected child. Furthermore, our findings imply that family and friend support may supplement the psychosocial support provided by genetic counselors and other healthcare providers. Therefore, support from family and friends can have a substantial influence on mother's mental health and should be addressed. This demonstrates the vital role of collaborative partnership between healthcare providers and genetic counselors with patients' families and friends in the healthcare approach for a better provision of health services and psychological support to mothers of children with CHD.

In this study, mothers of children with CHD verbalized readiness to accept their children's condition as a way of moving forward and focusing on their children's healthcare requirements. Acceptance is a way that mothers regulate their emotional responses to the challenges they experienced in providing care to their children's needs. Emotional regulation is a process by which an individual exert effort to adapt to stressful events in his/her life.45 A study has found that some mothers embrace their children's condition as part of their adaptation to their children's CHD.⁴⁶ Another study demonstrated that family members caring for a child with CHD learn to accept and adjust to the difficult caregiving role with time. 15 These findings emphasize that acceptance is an emotion regulation process that serves as a stress management and coping method for mothers and parents dealing with the challenges of having a child with CHD. While acceptance improves the psychological well-being of mothers of children with CHD, genetic counselors and other healthcare providers must address other potential psychological problems, such as guilt, self-blame, and denial, that may need to be navigated and resolved.

Religion and spirituality have long been acknowledged as important societal factors of human health. In the Philippines, where almost 90% of the population identifies as Christian, it is clear that Filipino participants in this study, share a Christian religion.⁴⁷ This strong Christian faith may explain the mothers' view that CHD is a God-given trial and that heavenly intervention can aid in their children's condition. Other studies have also indicated that individuals perceive health and illness as bestowed by God and that divine assistance plays a role in the process of healing.⁴⁸ The present study further demonstrates that mothers consider prayer and faith in God as sources of strength and resilience in coping with the challenges of having a child with CHD, aligning with findings from previous research on parents of children with CHD.41 Additionally, studies have shown a positive association between prayer, spirituality, and higher levels of optimism. 49,50 This demonstrates the importance of incorporating religion and spirituality in the provision of genetics education and counseling.⁵¹ It is recommended that genetic counselors and other healthcare providers integrate the spiritual dimension into their genetics education and counseling sessions. A study noted that spirituality is a significant element in how patients and their families cope with chronic illness and suffering.⁵² To demonstrate this, healthcare providers are encouraged to show compassion by actively listening to patients' fears and beliefs, incorporating these spiritual aspects into the treatment plan.⁵² Creating a free-flowing, accepting environment can make clients feel comfortable is very important for them to share their spiritual views which can be integrated into the genetics education and counseling services. This study showed that faith and prayer are positive coping strategies to caring their children with CHD. Hence, spirituality is important component that can be integrated in the healthcare services provided to families with CHD-affected members.

One primary constraint of this study pertains to the limited generalizability of the findings due to the chosen research method. Although the findings offer insightful information about perspectives of those mothers who participated in the study, views and opinions of mothers who did not participate were not drawn. This limitation highlights the need for future study to examine the coping strategies of a larger and more varied group of mothers whose children have been diagnosed with CHD, including those who might not be able to access healthcare services from tertiary care hospitals. Additionally, the small sample size represents another limitation. However, it is important to note that the study focuses on a specific group of participants (mothers of children with CHD) within a particular healthcare setting. Nevertheless, these findings serve as a foundation for future research with broader scope. The insights gained from this study can be applicable to other mothers, families, and healthcare professionals in similar healthcare contexts.

CONCLUSION

This study sheds light on the strategies to cope utilized by mothers of children with CHD in a tertiary hospital in the Philippines, addressing the challenges of caring for their children with this condition. The findings highlight the importance of psychosocial support, emotion regulation, and the influence of religion and spirituality in their coping process. Mothers demonstrated their steadfast dedication to providing the best possible care for their children by actively seeking help from their spouses, family, and friends. Throughout their journey, their deep faith and prayerfulness to God, and spirituality served as sources of strength and perseverance. These findings highlight the importance of genetic counselors and other healthcare practitioners recognizing and incorporating these aspects into their practice. By acknowledging the significance of psychosocial support and spiritual beliefs, genetic counselors and healthcare providers may provide culturally appropriate healthcare services and improve well-being of mothers and families with CHD-affected family members. Finally, this study contributes to our understanding of coping processes and support networks among mothers of children with CHD, providing useful insights for enhancing genetic counseling and psychological support services in this setting.

Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

All authors declared no conflicts of interest.

Funding Source

The study was funded by the Department of Science and Technology-Accelerated Science and Technology Human Resource Development Program (DOST-ASTHRDP).

REFERENCES

- Liu Y, Chen S, Zühlke L, Black GC, Choy M-K, Li N, et al. Global birth prevalence of congenital heart defects 1970-2017: updated systematic review and meta-analysis of 260 studies. Int J Epidemiol. 2019 Apr 1;48(2):455-63. doi:10.1093/ije/dyz009. PMID: 30783674; PMCID: PMC6469300.
- American Heart Association [Internet]. 2021 Heart Disease & Stroke Statistical Update Fact Sheet Congenital Cardiovascular Defects. 2021 November 2. [cited 2023 May 23]. Available from: https://professional. heart.org/-/media/PHD-Files-2/Science-News/2/2021-Heart-and-Stroke-Stat-Update/2021_Stat_Update_factsheet_Congenital_ Cardiovascular_Defects.pdf.
- Padilla CD, Cutiongco ÉM, Sia JM. Birth defects ascertainment in the Philippines. Southeast Asian J Trop Med Public Health. 2003;34 Suppl 3:239-43. PMID: 15906745.
- Padilla CD, Baluyot MMP, Sur ALD, Merencilla RJE, Alcausin MMLB. Birth defects at the outpatient department of the Philippine General Hospital from 2000-2010. Acta Med Philipp. 2017;51(3): 187-96. doi: 10.47895/amp.v51i3.541.

- Maceda EBG, Alcausin MMLB. Prevalence of birth defects among neonates born at the Philippine General Hospital from 2011 to 2014. Acta Med Philipp. 2017;51(3):228-32. doi: 10.47895/amp. v51i3.1966.
- Reganion JG. Transcatheter intervention of congenital heart diseases: 40-years Philippine Heart Center experience. Philipp Heart Cent J. 2015 Jan-Jun;20(1):1-9.
- Diab NS, Barish S, Dong W, Zhao S, Allington G, Yu X, et al. Molecular genetics and complex inheritance of congenital heart disease. Genes (Basel). 2021 Jun 30;12(7):1020. doi:10.3390/genes12071020. PMID: 34209044; PMCID: PMC8307500.
- Rachamadugu SI, Miller KA, Lee IH, Zou YS. Genetic detection of congenital heart disease. Gynecol Obstet Clin Med. 2022 Sep;2(3): 109-23. doi: 10.1016/j.gocm.2022.07.005.
- Davey BT, Lee JH, Manchester A, Gunnlaugsson S, Ohannessian CM, Rodrigues R, et al. Maternal reaction and psychological coping after diagnosis of congenital heart disease. Matern Child Health J. 2023 Apr;27(4):671-9. doi:10.1007/s10995-023-03599-3. PMID: 36786936.
- Parker R, Houghton S, Bichard E, McKeever S. Impact of congenital heart disease on siblings: a review. J Child Health Care. 2020 Jun; 24(2):297-316. doi:10.1177/1367493520914738. PMID: 32216565; PMICD: PMC7488830.
- Lumsden MR, Smith DM, Wittkowski A. Coping in parents of children with congenital heart disease: a systematic review and metasynthesis. J Child Fam Stud. 2019 Apr;28(7):1736-53. doi:10.1007/ s10826-019-01406-8.
- Biber S, Andonian C, Beckmann J, Ewert P, Freilinger S, Nagdyman N, et al. Current research status on the psychological situation of parents of children with congenital heart disease. Cardiovasc Diagn Ther. 2019 Oct;9(Suppl 2):S369-s376. doi:10.21037/cdt.2019.07.07. PMID: 31737543; PMCID: PMC6837930.
- Hwang JH, Chae SM. Experiences of fathers of young children with severe congenital heart defects in Korea: a qualitative descriptive study. J Pediatr Nurs. 2020 Jul-Aug;53:e108-e113. doi:10.1016/j. pedn.2020.02.040. PMID: 32178884.
- Mangin-Heimos KS, Strube M, Taylor K, Galbraith K, O'Brien E, Rogers C, et al. Trajectories of maternal and paternal psychological distress after fetal diagnosis of moderate-severe congenital heart disease. J Pediatr Psychol. 2023 Apr 20;48(4):305-16. doi:10.1093/ jpepsy/jsac067. PMID: 35976135; PMCID: PMC10118854.
- Dalir Z, Manzari ZS, Kareshki H, Heydari A. Caregiving strategies in families of children with congenital heart disease: a qualitative study. Iran J Nurs Midwifery Res. 2021 Jan 18;26(1):60-7. doi:10.4103/ ijnmr.IJNMR_19_20. PMID: 33954100; PMCID: PMC8074734.
- Snyder CR. Coping: The psychology of what works. New York: Oxford University Press, USA; 1999.
- Abad PJB, Tan ML, Baluyot MMP, Villa AQ, Talapian GL, Reyes ME, et al. Cultural beliefs on disease causation in the Philippines: challenge and implications in genetic counseling. J Community Genet. 2014 Oct;5(4):399-407. doi:10.1007/s12687-014-0193-1. PMID: 25026992; PMCID: PMC4159471.
- Winkelman M. Culture and health: Applying medical anthropology. San Francisco, California: John Wiley & Sons; 2009.
- Lawoko S, Soares JJF. Quality of life among parents of children with congenital heart disease, parents of children with other diseases and parents of healthy children. Qual Life Res. 2003 Sep;12(6):655-66. doi:10.1023/a:1025114331419. PMID: 14516175.
- Lawoko S, Soares JJF. Psychosocial morbidity among parents of children with congenital heart disease: a prospective longitudinal study. Heart Lung. 2006 Sep-Oct;35(5):301-14. doi: 10.1016/j.hrtlng.2006.01.004. PMID: 16963362.
- Menahem S, Poulakis Z, Prior M. Children subjected to cardiac surgery for congenital heart disease. Part 2 - parental emotional experiences. Interact Cardiovasc Thorac Surg. 2008 Aug;7(4):605-8. doi:10.1510/ icvts.2007.171066. PMID: 18490367.
- Barr P. Guilt- and shame-proneness and the grief of perinatal bereavement. Psychol Psychother. 2004 Dec;77(Pt 4):493-510. doi: 10.1348/1476083042555442. PMID: 15588457.

- Roberts SD, Kazazian V, Ford MK, Marini D, Miller SP, Chau V, et al. The association between parent stress, coping and mental health, and neurodevelopmental outcomes of infants with congenital heart disease. Clin Neuropsychol. 2021 Jul;35(5):948-72. doi: 10.1080/ 13854046.2021.1896037. PMID: 33706666.
- Algorani EB, Gupta V [Internet]. Coping Mechanisms. 2023 [cited 2024 Feb 11]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK559031/.
- Blue GM, Kasparian NA, Sholler GF, Kirk EP, Winlaw DS. Genetic counselling in parents of children with congenital heart disease significantly improves knowledge about causation and enhances psychosocial functioning. Int J Cardiol. 2015 Jan 15;178: 124-30. doi:10.1016/j.ijcard.2014.10.119. PMID: 25464235.
- Felipe-Dimog EB, Tumulak MJR, Laurino MY, Daack-Hirsch S, Silao CLT, Conaco MCG, et al. Beliefs on the causes of birth defects as perceived by mothers of children with birth defects in a tertiary care hospital in the Philippines. J Community Genet. 2022 Apr; 13(2):183-91. doi: 10.1007/s12687-021-00543-2. PMID: 34993741; PMCID: PMC8941034.
- 27. Sandelowski M. Whatever happened to qualitative description? Res Nurs Health. 2000 Aug;23(4):334-40. doi: 10.1002/1098-240x(200008)23:4<334::aid-nur9>3.0.co;2-g. PMID: 10940958
- David-Padilla C, Cutiongco-de la Paz EM, Cavan BCV, Abarquez CG, Sur ALD, Sales RI, et al. Establishment of the Philippine birth defects surveillance. Acta Med Philipp. 2011;45(4):12-9. doi: 10.47895/amp.v45i4.4744.
- Department of Health Philippines. Entry No. 1-7 Amazing facts of how BGHMC grew through the years [Internet]. Manila, Philippines: Department of Health Philippines. Updated 2017 August 8. [cited 2023 May 18]. Available from: https://bghmc.doh.gov.ph/7-amazing-facts-of-how-bghmc-grew-through-the-years/.
- Etikan I, Musa SA, Alkassim RS. Comparison of convenience sampling and purposive sampling. Am J Theor Appl Stat. 2015;5(1):1-4. doi:10.11648/j.ajtas.20160501.11.
- 31. McKenna L. Translation of research interviews: Do we have a problem with qualitative rigor? Nurse Author & Editor. 2022 Mar;32(1): 1-3. doi: 10.1111/nae2.31.
- Padgett D. Data analysis and interpretation. In: Qualitative and Mixed Methods in Public Health. California, USA: SAGE Publications; 2012. pp. 155-202.
- Johnson JL, Adkins D, Chauvin S. A review of the quality indicators of rigor in qualitative research. Am J Pharm Educ. 2020 Jan;84(1):7120. doi:10.5688/ajpe7120. PMID: 32292186; PMCID: PMC7055404.
- CohenMiller A, Saban GA, Bayeta R. Rigor in Qualitative Research. In: Wa-Mbaleka S, Rosario AH, eds. The SAGE Handbook of Qualitative Research in the Asian Context. Los Angeles, London, New Delhi, Singapore, Washington DC, Melbourne: SAGE Publications; 2022. pp. 327-343.
- Swihart DL, Yarrarapu SNS, Martin RL. Cultural Religious Competence in Clinical Practice [Internet]. Treasure Island (FL): StatPearls Publishing; Updated 2023 July 24. [cited 2023 May 23]. PMID: 29630268. Available from: https://europepmc.org/article/nbk/nbk493216#_NBK493216_dtls_
- Abad PJB. Explanatory models of illness may facilitate cultural competence in genetic counseling. J Genet Couns. 2012 Aug;21(4): 612-4. doi: 10.1007/s10897-012-9487-9. PMID: 22286558.
- 37. Rondilla NAO, Rocha ICN, Roque SJR, Lu RMS, Apolinar NLB, Solaiman-Balt AA, et al. Folk medicine in the Philippines: a phenomenological study of health-seeking individuals. Int J Med Stud. 2021;9(1):25-32. doi:10.5195/ijms.2021.849.
- Karpov VY, Zavalishina SY, Romanova AV, Komarov MN, Sharagin VI. Congenital heart defects in children and the main approaches to rehabilitation after their surgical treatment. Indian J Public Health Res Dev. 2019;10(10):1303-7. doi: 10.5958/0976-5506.2019.03013.4.
- Pettitt TW. Quality improvement in congenital heart surgery. Neoreviews. 2020 Mar;21(3):e179-e192. doi: 10.1542/neo.21-3-e179. PMID: 32123122.

- Harrison TM, Brown R, Duffey T, Frey C, Bailey J, Nist MD, et al. Effects of massage on postoperative pain in infants with complex congenital heart disease. Nurs Res. 2020 Sep/Oct;69(5S Suppl 1):S36-s46. doi:10.1097/nnr.0000000000000459. PMID: 32858717.
- Nayeri ND, Roddehghan Z, Mahmoodi F, Mahmoodi P. Being parent of a child with congenital heart disease, what does it mean? A qualitative research. BMC Psychol. 2021 Feb 19;9(1):33. doi:10.1186/ s40359-021-00539-0. PMID: 33608056; PMCID: PMC7893860.
- Demianczyk AC, Bechtel Driscoll CF, Karpyn A, Shillingford A, Kazak AE, Sood E. Coping strategies used by mothers and fathers following diagnosis of congenital heart disease. Child Care Health Dev. 2022 Jan;48(1):129-38. doi: 10.1111/cch.12913. PMID: 34519072; PMCID: PMC9007227.
- Wei H, Roscigno CI, Hanson CC, Swanson KM. Families of children with congenital heart disease: A literature review. Heart Lung. 2015 Nov-Dec;44(6):494-511. doi:10.1016/j.hrtlng.2015.08.005. PMID: 26404115
- 44. Carlsson T, Klarare A, Mattsson E. Peer support among parents of children with congenital heart defects: A qualitative analysis of written responses submitted via an online survey. J Adv Nurs. 2020 Dec;76(12):3528-36. doi:10.1111/jan.14541. PMID: 33009854; PMCID: PMC7702174.
- Compas BE, Jaser SS, Dunbar JP, Watson KH, Bettis AH, Gruhn MA, et al. Coping and emotion regulation from childhood to early adulthood: points of convergence and divergence. Aust J Psychol. 2014 Jun 1;66(2):71-81. doi: 10.1111/ajpy.12043. PMID: 24895462; PMCID: PMC4038902.
- Ahn JA, Lee S. The adaptation process of mothers raising a child with complex congenital heart disease. J Child Health Care. 2018 Dec; 22(4):520-31. doi:10.1177/1367493518762584. PMID: 29534605.

- Cornelio J, Aldama PK. Religious diversity and covenantal pluralism in the Philippines. Rev Faith Int Aff. 2020;18(4):74-85. doi:10.1080/ 15570274.2020.1834978.
- 48. Kahissay MH, Fenta TG, Boon H. Religion, spirits, human agents and healing: a conceptual understanding from a sociocultural study of Tehuledere Community, Northeastern Ethiopia. J Relig Health. 2020 Apr;59(2):946-60. doi:10.1007/s10943-018-0728-6. PMID: 30406493; PMCID: PMC7113191.
- Moons P, Luyckx K, Dezutter J, Kovacs AH, Thomet C, Budts W, et al. Religion and spirituality as predictors of patient-reported outcomes in adults with congenital heart disease around the globe. Int J Cardiol. 2019 Jan 1;274:93-9. doi:10.1016/j.ijcard.2018.07.103. PMID: 30077534.
- Ogunkorode A, Holtslander L, Ferguson L, Maree JE, Anonson J, Ramsden VR. Seeking divine intervention to manage the advanced stages of breast cancer in Southwestern Nigeria. Cancer Nurs. 2021 May-Jun;44(3):E163-e169. doi:10.1097/ncc.00000000000000789. PMID: 32000175.
- Paddock EJ. The Role of Religion and Spirituality in Genetic Counseling: A Qualitative Interview-Based Study on Genetic Counselors' Recognition and Use of the Category of Religion and Spirituality in Their Practice. Canda, McGill University; 2022.
- Puchalski CM. The role of spirituality in health care. Proc (Bayl Univ Med Cent). 2001 Oct;14(4):352-7. doi: 10.1080/08998280. 2001.11927788. PMID: 16369646; PMCID: PMC1305900.