# The Ruqyah Syar'iyyah Verses as A Breast Cancer Therapy: A Preliminary Evaluation on Breast Cancer Cell Line Michigan Cancer Foundation (MCF-7)

Sharifah Norshah Bani Syed Bidin<sup>\*a</sup>, Ahmed S.A. Alqodsi<sup>b</sup>, Wan Rohani Wan Taib<sup>c</sup>, Tasnim Abd Rahman<sup>d</sup> & Syed Ahmad Tajudin Tuan Johari<sup>e</sup>

<sup>a</sup>Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, 21300 Kuala Terengganu, Terengganu, Malaysia.

E-Mail: sharifahns@gmail.com

<sup>b</sup>University College Darul Quran Islamiyyah,21200, Kuala Terengganu, Terengganu, Malaysia. E-Mail: ahmedalqodsi99@gmail.com

<sup>c</sup>Faculty of Health Science, Universiti Sultan Zainal Abidin, 21300 Kuala Terengganu, Terengganu, Malaysia. E-Mail: wanrohani@unisza.edu.my

<sup>d</sup> Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, 21300 Kuala Terengganu, Terengganu, Malaysia.

*E-Mail: tasnimrahman@unisza.edu.my* 

<sup>e</sup>Center for Lab Management, Universiti Sultan Zainal Abidin, 21300 Kuala Terengganu, Terengganu, Malaysia.

*E-Mail: syedtajudin@unisza.edu.my* 

\*Corresponding author Email: \*sharifahns@gmail.com

#### Abstract

Breast cancer becomes the most common type of cancer among women worldwide. Nowadays people seek noninvasive treatment for their illness. One of the methods in complementary and alternative medicine (CAM) is Ruqyah Syar'iyyah by reciting Quranic verses in the treatment. As the Holy Quran is the eternal miracle that challenged the world and affects all creatures in general, this study is aimed to disclose the effects of reciting Ruqyah Shar'iyyah as a treatment by evaluating the proliferation of breast cancer cell lines. The spiritual treatment was shown to improve the quality of life that gives better impacts on emotion and physical as well as increase immunity. This study applied the experimental method where MCF-7 cells were divided into two groups, the control, and the treatment group. During the treatment sessions, a compilation of several Qur'anic verses was recited by using the speakers. The study demonstrated that the cell proliferation percentage of the treatment group for both treatment periods (12 and 24 hours) decreased compared to the control group. This empirical study proved the miraculous effects of the Holy Quran on breast cancer cell lines. The study suggests the longer treatment times and repeated treatments would provide significant results for higher-grade cancer cells such as MCF-7 used in this study.

Keywords: Ruqyah Shar'iyyah, Breast Cancer Therapy, Miracle of Holy Quran, Islamic Healing

#### 1 Introduction

According to the National Cancer Institute of Malaysia, breast cancer contributes to the highest incidence rate among women in Malaysia with an average of 3500 cases annually. Despite the increasing number of breast cancer patients, there are advanced medical care being offered, high-tech instrumentation for detection and treatment with awareness campaign conducted by the Ministry of Health, Non-Government Organizations (NGOs) and other related parties. Nevertheless, some patients would prefer to seek treatment from alternative medicine. The aforementioned alternative treatment preferably among Muslims is Rukyah Syarriyyah in which several Qur'anic verses were selected from the Quran particularly for breast cancer treatment. The implementation of this treatment is in line with Allah said: We send down (stage by stage) in the Quran that which is healing and mercy to those who believe: to the unjust it causes nothing but loss after loss.

The National Cancer Institute of Malaysia also offers complementary alternative medicine (CAM) besides modern treatment for cancer patients. Nevertheless, this CAM is only limited to herbs and acupuncture treatments. Many patients among Malay Muslims imply treatment using Qur'anic verses to complement the modern treatment that they receive. Even though there is successful evidence of the Ruqyah Syarriyyah in breast cancer treatment, there has yet scientific research on this treatment. Previous studies conducted on the spiritual treatment and herbs consumption were analyzed for patients' responses on questionnaires and survey only without experimental study design involving Our'anic verses recitation on cancer cell lines. With the aforementioned above, this current study is important to gather scientific evidence on the effectiveness of the selected Our'anic verses in the treatment of breast cancer and thus depict the miraculous of the Quran as a remedy for both physical ailments and spiritual to human.

### 2 Literature Review

In 2014, the World Health Organization (WHO) reported 5410 new cases of breast cancer, and 2524 mortality cases were recorded in Malaysia. This data is ranked as the second-highest mortality rate in Malaysia. According to the Health Informatics Centre, Ministry of Health Malaysia, The National Cancer Registry and the National Mortality Registry, the 5-year overall survival rate was 49% across 10,000 breast cancer patients diagnosed between Jan 2000 and Dec 2005 (Abdullah et al 2013). The rate was improved from 58% to 76% for the diagnosed patients in 1993-1997 in comparison to 1998-2002 (Taib et al, 2011). This is explained by the extensive program by the Ministry of Health with the non-government organization to embark on the awareness of breast cancer for the early detection and treatment and also the establishment of oncology services at the hospital in 1998 (Yip et al, 2014). The treatment given to breast cancer patients encompasses multidiscipline teams such as

surgeons, radiologists, pathologists, medical oncologists, and counselors. Surgery remains standard gold treatment the with chemotherapy, radiotherapy, and hormone therapy. Mastectomy or surgical resection has been shown to reduce the risk of mortality to 28% even for the late stage of metastatic breast cancer (Pathy et al 2011). Removing cancerous cells from the breast tissue is later followed by reconstructive surgery that would reduce the negative impact on body image (Shameen et al, 2008). The procedure may not be suitable for the high-risk patient that may not be tolerated as they are relatively weak due to the aging factor or advanced cancer stage.

Radiotherapy and chemotherapy are aimed to kill the cancerous cells and has been proved to improve the survival rate. One of the most commonly used anticancer agents in chemotherapy is Anthracyclines (Yip et al 2014). The therapy may eventually kill the normal neighboring cells and immune cells that disrupt the immune system indicated by febrile neutropenia from the blood count analysis. Febrile neutropenia was reported to occur in 10% of cases upon chemotherapy received in breast cancer patients (Phua et al, 2012). There was also a study that revealed hypercalcemia occurred among patients who underwent chemotherapy. This study was conducted among 1023 breast cancer patients and showed 17% of them had an increased level of calcium in the blood (Hassan et al. 2012). Chemotherapy was also observed to be responsible for ovarian failure in 57% of women aged less than 35 years old, 95% for patients aged 35-45 years old and the percentage increased to 97% who aged more than 50 years old (Tiong et al, 2014). Regarding treatment-related side effects, wellplanned patient management in mastectomy,

chemotherapy, and radiotherapy would minimize the discomfort of treatment and improve the survival rate among breast cancer patients with better efficacy.

These modern treatments somehow do not project 100% of the recovery rate in which it only alleviates and reduces the symptoms with no guarantee of recovery and may progress to a different type of cancer. Noteworthy, CAM such as herbs consumption, acupuncture, Qur'anic verses and dua ma'thur introduced to the community may provide different platforms of treatment to these patients. The practice of Qur'anic verses in treatment is not new. It has been practiced since Prophet Muhammad (PBUH) and his companions. It is noteworthy that a great scholar of Tafseer, al-Shanqiti May God Have Mercy On Him (ND) explains in the noble ayah that He has sworn to help and give victory to those who help Him. It proves that the Quran contains all beneficial knowledge for human needs. Therefore, practicing treatment using Qur'anic verses by the Companions has revealed Surah Al-Fatihah as a healing medium.

In hadith, Abu Sa'id Khudri reported that some persons amongst the Companions of Allah's Messenger (29) set out on a journey and they happened to pass by a tribe from the tribes of Arabia. They demanded hospitality from the members of that tribe, but they did not extend any hospitality to them. They said to them: Is there any incantatory amongst you, at the chief of the tribe, has been stung by a scorpion? A person amongst us said: 'Yes. So, he came to him and he practiced incantation with the help of Sura al-Fatiha and the person became all right. He was given a flock of sheep (as recompense), but he refused to accept that, saying: I shall make a mention of it to Allah's Apostle (28), and if he approves of it. then I shall accept it. So we came to Allah's Apostle (2) and made a mention of that to him and he (that person) said: Allah's Messenger by Allah, I did not practice incantation but with the help of Sura al-Fatiha of the Holy Book. He (the Holy Prophet) smiled and said: How did you come to know that it can be used (as incantation)? - and then said: Take out of that and allocate a share for me along with your share. Al-Kahal (ND) reported that Rasulullah PBUH said): How did you come to know that it can be used (as incantation)? Even though the whole verses in the Ouran are used for the blessings from Allah, some of the verses can be used as remedies to the ailments. Thereby, Islamic scholars provide guidelines and requirements for the healers to avoid any mischief of aqidah (belief) in the process of treatment. Healers must bear in mind that God's power over all things; that our intercession in healing (and other situations) is only with His permission. Norshah Bani Syed Bidin (2011) emphasized three requirements that must be achieved by the Islamic healers

explicitly; fear of Allah, continuous practice of Shari'a, and committed in religious practice. Rachelle E. Moore(2014) transmitted in his article a study conducted by Akhu-Zaheya & Alkhasawneh (2012) the most common forms of complementary medicine used by Muslim Jordanian cancer patients included dietary supplements, reading the Qur'an, and ZamZam water.

The National Traditional and Complementary Medicine was first introduced in 1996 and exalted by the Ministry of Health in 2004. In this Islamic, Medicine Practice was included as one of the treatments at selected hospitals under the Ministry of Health (Shamsaini Samsudin et al, 2011:20). Gurcharan Singh Khera (t.t:19) emphasized that most of the cancer patients are prone to use alternative medications compared conventional to medications based on scientific research for the reason that lack of knowledge and influenced by their emotion due to pain and frustrated with the treatment leading them to seek for better treatment. Besides, alternative medicine has yet to be tested and proved for its by effectiveness. A research conducted Suhaina Sulaiman and her colleagues on genetic, molecular and proteomics of breast cancer in Malaysia from January until June 2007 reported that even though the integration with spiritual therapy was undoubted, Weiger WA proclaimed that pray and spiritual therapy can give a positive impact to the emotion and physical symptoms of patients. This group of research suggested that faith in religion and spirituality uplifted the inner strength throughout their life and improve the quality of life (Abdul Ghani Nasir, 2012). Meanwhile, a study conducted by Mohammad Salleh (2011:178) supported this aforementioned finding. He justified that performing prayer(salah) tahajjud can increase and improve the immune system and reduce the pain. Furthermore, a group of study from Universiti Malaya revealed the scientific facts about congregational prayer in five times a day, comprehend the recitation in prayer, the foot position during tahiyat (sit on the left leg while keeping the right foot upright) and the position of the spine in 90 degrees during bowing position(rukuk). Besides, solat can also bring serenity and consciousness in preparing the minds for a bigger task. In conclusion, movement in salah is similar to the physical work-out which gives benefits to human health if doing it continuously

Genetics and molecular study on breast cancer may unravel gene involvement in the biological system and physiology of the human body leading to cancer development. The imbalance of physiology may be due to alteration in estrogen hormone level, protein factor that responsible for the signaling pathway, the influence of mutated genes that alter the expression, and the production of an abnormal protein with diet and lifestyle factor can contribute to breast cancer development. There are well-established and known genes involved in breast cancer pathogenesis namely BRCA1, BRCA2, HER2, and others. Most of these mutated genes are served as a molecular test in the detection and diagnosis of this disease. Thereby, it is important to test any treatment towards these cell lines transfected by these genes.

Even though there is no scientific evidence on the effect of Qur'anic verses towards cancer cell lines, Lokman Abdul Hamid (the Islamic healer) has proved that the effectiveness of this treatment was testified by his previous patients through practicing selected Qur'anic verses, intensification the spiritual practices and their regular visit to Islamic healer. Meanwhile, a group of researchers from Universiti Putra Malaysia was conducted among 18 cancer patients demonstrated that the majority of the patients used two types of approaches: The first approach was to recite the Quran and read dua ma'thur from the Quran and Sunnah. The second approach was a combination of treatment using herbs and Quran recitation, dua, and healing water. In this related issue, Sharifah N. Bani Syed B and Ahmed SA Algodsi (2017) proclaimed that one of the miraculous of the Quran was al-I'jaz al-Ta'thiri manifested through reading and listening to the Quran. The positive effect is not only limited to Muslims but also nonmuslims.

In another verse in the Qur'an said that it is a cure for the diseases of the hearts and the bodies, Allah the Almighty said in Surah al-Fussilat, verse 44, meaning: "Say: It is guidance and healing to those who believe". The verse highlighted that guidance and healing only special for believers. Al- Qurtubi (2003) said: "The Muslim scholars have two views on the verse: one of which is a cure for hearts by the purification of their hearts from ignorance and the removal of doubtful (about Islam) to understand the miracles that indicate to Allah Almighty. Another view is Qur'anic healing for physical diseases."

Siti Patonah Mohamad et.al.(2013) in their research found that sound therapy for Muslims, especially involving reading or listening of al-Quran, has been seen as a medium that can help children with autism in stabilizing their emotions and improving their verbal skills. Mohamed Akhirudin Ibrahim et.al (2017), in their article, said: "Recently, ruqyah practice is not only used to treat the demotic distraction, but it has been proved that effective to reduce the pain for chronic diseases such as cancer, heart problems, diabetes and many more." Each disease has certain rugyah which contains a bundle of Qur'anic verses and the patient must follow certain procedures during the treatment with the rugyah practitioner. Some of the treatment is a combination of reciting Qur'anic verses on the patient and also another medium like herbs as a medium to treat the diseases. Berhubung dengan terapi bunyi ini, terdapat satu kajian oleh Russell E-Helliard(2003) yang bertajuk: " The Effect of Music Therapy On Quality And Length Of Life Of People Diagnosed With Terminal Cancer" and the study showed that the quality of life was higher for those subjects receiving music therapy, and their quality of life increased over time as they received more music therapy sessions. Subjects in the control group however, experienced a lower quality of life than those in the experimental group, and without music, their quality of life decrease over time. Besides that, Sharifah N. Bani Syed B. and Ahmed S.A. Alqodsi (2017) in their article indicated that the Quran also reduces nervous as proven by one of the scientific experiments. Modern science has shown that sound is a picture of energy and is transmitted in the form of waves. When the sound reaches the ear, the auditory acoustics begins, which ends with understanding, imagination, desire, awe, love, hatred, and all the human emotions associated with the sound effect. It has meaning in itself or raised in yourself stories and memories and the origin of that idea and intention, determination and will and action, according to what can carry the voice of the meanings and meanings of the meaning and tone and roar, which has an impact on the soul

380

and the body. Therefore, Al-Sha'rawi (1997) says: "The hour you hear the Quran, it will cure you of the disease that you suffer from. Psychologically and strengthens your ability to resist the disease; and explodes the healing energies inherent in your depth, which is a mercy for you when you take a method, and apply in your life gives you immunity protects you from the disease, both therapeutic medicine, and preventive medicine.

Consequently, this experimental study design was aimed to unravel the effect of selected Qur'anic verses (ruqyah syariyyah) on breast cancer cell lines. Cancer cell lines were used as a research subject to observe for cell proliferation and cell death (apoptosis) after treated with Qur'anic verses solely without interference or any other supported parameter such as dua or spiritual and physical activities. The data may reveal the miraculous effect of the Quran from the aspect of al-Ijaz al-Ta'thiri. Besides, ruqyah syariyyah is hoped to serve as a complementary treatment to alleviate the pain and side effects from the modern invasive treatment among breast cancer patients

# 3 Methodology/Materials

This preliminary study was a mixed method of qualitative and quantitative. In Phase 1, the study design for qualitative was an interview session with the Islamic healers and analyzed the Qur'anic verses as a treatment for breast cancer. Meanwhile, in Phase 2, the study design for quantitative was an experimental study on cell proliferation. In a qualitative study, an interview session was conducted among Islamic healers who have a successful experience in treating breast cancer patients. The researcher gathered all selected Qur'anic verses used in the treatment and these verses were categorized into two groups: general verses and specific verses. General Qur'anic verses group was referred to as verses used by all Islamic healers in treating all diseases. While specific Qur'anic verses group was referred to verses in the Quran used to treat cancers and researchers compiled these selected Qur'anic verses according to the theme. In a quantitative study through experimental study design, the effect of ruqyah syar'iyyah was observed on breast cancer cell lines (MCF-7) using Trypan blue exclusion assay. Cancer cell lines were seeded in a 6well plate for 3.0x105 cell/well, followed by incubation at 37C for 24 hours with 5% CO2. After 24 hours, cells were exposed to Qur'anic verses recitation using a sound level meter at 50-60 decibel for 12 hours and 24 hours in a chamber to avoid any other inference factors such as noise, contamination, inconsistencies of sound. The untreated group of cells was considered as a control group. After incubation (12 and 24 hours), live cells and apoptotic cells were counted using Trypan Blue (0.2%). Cell proliferation was measured using this formula.

Percentage of cell proliferation (%) = Number of live cells x100Total number of cells

Math equation of cell proliferation percentage

# 4 Results and Findings

## Phase 1: Selection of Qur'anic verses

Based on several interview sessions conducted, Qur'anic verses were identified and

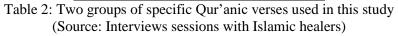
tested in the experimental study using breast cancer cell lines (MCF-7) for cell proliferation. The tables below show a list of Qur'anic verses that were categorized into two groups: general verses and specific verses.

Surah: General	Verses
Surah Al-Fatihah	1-7
Surah Al-Baqarah	255
Surah Al-Hasyr	21-24
Surah Al-Ikhlas	1-4

Surah An-Nas 1-6	Surah Al-Falaq	1-5
	Surah An-Nas	1-6

Table 1: Two groups of general Qur'anic verses used in this study (Source: Interviews sessions with Islamic healers)

Surah: Specific	Verses
Surah Al-Ma'idah	97-105
Surah An-Nahl	66-74
Surah Al-Anbiya'	82-90
Surah Ar-Ra'd	16-28
Surah Al-Hajj	40-55
Surah Al-Kahf	9-26
Surah Al-Mukminun	63-77
Surah Al-Mukminun	93-100



### Phase 2: Evaluation of cell proliferation

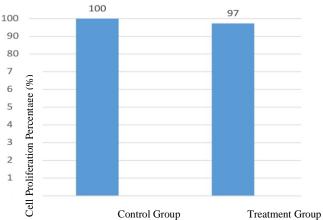


Figure 1 The effect of rukyah syariyyah on  $N_{\text{const}}$ ,  $C_{\text{const}}$  iferation and  $C_{\text{const}}$  of treatment. (source: a laboratory experiment on MCF-7 cell)

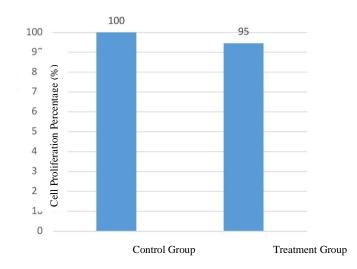


Figure 2 The effect of rukyah syariyyah on MCF-7 cell proliferation after 24 hours of treatment. (source: a laboratory experiment on MCF-7 cell)

The study findings demonstrated that the cell proliferation percentage for both time points (12 and 24 hours) decreased compared to the control groups (Figure 1 and Figure 2). Our current data was consistent with a previous study conducted on other breast cancer cell lines (HeLa) using surah al-Fatihah recitation for 30 minutes read by Syaikh Misyari Rasyid from audio Bluetooth speaker with the effect of cytotoxic with 80.14% on cell viability (Mutiah et al, 2019). The cell proliferation activity is different in normal cell lines. Hashim et al demonstrated the effect of Surah Al-Fatihah on chondrocytes (cells of articular cartilage) with highly proliferated using a scratch assay. The recitation encouraged and promoted cell regeneration (Hashim et al,2018). The study findings demonstrated that the cell proliferation percentage for both treatments (12 and 24 hours) decreased compared to the control groups. Even though the changes were minimum and insignificant, the causes might be reflected in the frequency of recitations and the type of higher cancer stage (stage 3 and 4) for MCF-7. Therefore, the alternative treatment is needed as a supplementary therapy to conventional medicine. Based on our study, the insignificant data might be due to the higher grade of breast cancer cell lines (MCF-7) which require longer duration and repetitive treatment to yield significant effect.

## **5** Conclusion

In conclusion, this preliminary study revealed that Quran recitation did give an effect to the cancer cells, in which it decreased the cell proliferation. Even though the percentage was insignificant, the study proved the miraculous of the Quran does give an effect to the life cells when exposing the recitation to these cells, as it also gives effect to humans, djinn, and other creatures. The study also suggests that the duration and frequency of Qur'anic recitation should take into accounts. Nevertheless, a measurement of the gene expression level is worth to be taken into account to evaluate the effectiveness at the molecular level. Moreover, the Quran gives a positive impact on the human soul that brings serenity and peace, this would improve physical health and reduce cancer cell proliferation.

Acknowledgment: This research work is supported by the Fundamental Research Scheme Grant (FRGS/1/2017/SS103/UniSZA/02/01).Special thanks to the Ministry of Higher Education Malaysia and Center for Research Excellence & Incubation Management, Universiti Sultan Zainal Abidin for their funding and support.

## References

Abdullah NA, Wan Mahiyuddin WR, Muhammad NA, Ali ZM, IbrahimL, Ibrahim Tamim NS, et al. Survival rate of breast cancer patients in Malaysia: a population-based study. Asian Pac J Cancer Prev. 2013;14(8): 4591-4

Gurcharan Singh Khera (ND). HOPE Handbook. Persatuan Onkologi Malaysia, Kuala Lumpur.

- Hashim R, Shaban M, Rahmat S, Zainuddin ZI (2018) Identifying the potential of Quranic recitation on the proliferation of chondrocytes derived from rabbit articular cartilage: Work in Progress. International Medical Journal of Malaysia, 17, Special Issue 1.
- Hassan BA, Yusoff ZB, Hassali MA, Othman SB, Weiderpass E. Impact of chemotherapy on hypercalcemia in breast and lung cancer patients. Asian Pac J Cancer Prev. 2012; 13(9): 4373-8.
- Al-Kahhal, Abu al-Hassan Ala' al-Din (2001).al-Ahkam al-Nabawiyyah Fi Sina`ah al Tibbiyyah Dar al Ekin Bairut
- al-Tibbiyyah. Dar al-Fkir, Beirut.
- Mohamed Akhirudin Ibrahim et.al. (2017). Concept of Shifa' in al-Quran: Islamic Medicine Approach in Healing Physical Disorder. al-Qanatir International Journal of Islamic Studies. 6(2)

Muslim bin Hajjaj (2005). Sahih Muslim. Chapter 1 & 7 Dar al-Jil, Beirut.

- Mutiah R, Mustafa MR, Indrawijaya YYA, Hakim A, Annisa R, Susanti N, Nashichuf-ddin A, Zainuddin M (2019). Exposure of murattal Al-Quran audio enhances Cisplatin activity on growth inhibition and cell cycle modulation on HeLa cells. Indonesian Journal of Cancer Chemoprevention, 10(2),71-78.
- Pathy NB, Verkooijen HM, Taib NA, Hartman M, Yip CH. Impact of breast surgery on survival in women presenting with metastatic breast cancer. Br J Surg. 2011 Nov; 98(11): 1566-72.

- Phua CE, Bustam AZ, Yusof MM, Saad M, Yip CH, Taib NA, et al.Risk of treatment-related death and febrile neutropenia with taxane-based adjuvant chemotherapy for breast cancer in a middle-income country outside a clinical trial setting. Asian Pac J Cancer Prev. 2012; 13(9): 4623-6.
- Russel E. Hilliard(2003). The effects of music therapy on the quality and length of life of people diagnosed with terminal cancer. Journal of Music Therapy, XL (2),114.
- Shameem H, Yip CH, Fong E. Immediate breast reconstruction after mastectomy-why do women choose this option? Asian Pac J CancerPrev. 2008 Jul-Sep; 9(3): 409-12.
- Shamsaini Shamsuddin et.al, A Handbook Traditional and Complementary Medicine Program in Malaysia, Kementerian Kesihatan Malaysia, Putrajaya, 2011.
- Al-Shanqiti, Muhammad al-Amin bin Muhammad (1995). *Adwa' al-Bayan Fi Idah al-Quran bi al-Quran*. Chapter 3. Beirut: Dar al-Fikr.
- Sharifah N. Bani Syed B.& Ahmed S.A. Alqodsi(2017).The manifestation of miraculous effects of the Quran on the creatures from the perspective of al-Quran, hadith & science. Qur'anic International Journal of Quranic Research,9(2),25-36.
- Siti Patonah, et.al. Terapi Bunyi Melalui Bacaan al-Quran Bagi Masalah Emosi dan Kemahiran Motor Pertuturan Kanak-kanak Austistik. Quranica, International Journal of Quranic Research. Vol.5. Issue 2. Dec 2013.
- Taib NA, Akmal M, Mohamed I, Yip CH. Improvement in survival of breast cancer patients - trends over two time periods in a single institution in an Asia Pacific country, Malaysia. Asian Pac J Cancer Prev.2011; 12(2): 345-9.
- Tiong V, Rozita AM, Taib NA, Yip CH, Ng CH. Incidence of Chemotherapy-Induced Ovarian Failure in Premenopausal Women Undergoing Chemotherapy for Breast Cancer. World J Surg. 2014 Apr 4

Yip CH, Pathy NB, Teo SH. A review of breast cancer research in Malaysia. Med J

Malaysia Vol 69 Supplement An August 2014:8-22