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EDITORIAL

The COVID-19 Pandemic: Impacts on Women's Health

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The coronavirus disease 2019 (COVID-19) caused by the novel coronavirus (SARS-CoV-2) has spread rampantly worldwide, leading to the declaration of a pandemic by the World Health Organization (WHO) in March, 2020. It has disturbed the socio-economic composition globally, especially in low-income countries. It also has provoked public health concerns over women's wellness, including psycho-sexual and reproductive health as well as maternal health (1,2).

Most countries have promoted active and decisive actions averting the potential hazardous impact on public health, as well as maternal health. Pregnant women are a vulnerable population that can be easily infected by a majority of infectious diseases, particularly respiratory diseases. We assumed the effect on pregnancy is more harmful during this stage of the COVID-19 pandemic (3). However, to date the literature reveals that pregnant women have favorable maternal and neonatal outcomes despite of higher prevalence of operative delivery and prematurity. There have been no documented cases of clinical evidence of vertical transmission (2,4). The reviews have a limited number of those infected in pregnancy in the cohort during the immediate crisis. Thus, a larger cohort study over a longer term in all parts of the world including Malaysia is required to determine a greater variety of effects on maternal and neonatal outcomes and to provide satisfactory conclusions for clinical implications.

However, apart from maternal health issues, the psycho-sexual and reproductive impacts on women health are also essential. They often go less recognized as an essential aspect to address during the pandemic. A majority of the effects are indirectly caused by social and economic burdens among the population during lockdown. The universal imposition of stay-at-home orders and numerous restrictions, particularly social distancing, have increased the rate of unemployment and caused a reduction in accessibility to health care. Limited access to the health care system contributed to a marked reduction access in-person to the health care, inability to pay, loss of health insurance and fear of contracting an infection (1). Reproductive health issues among women of reproductive age include sexual activity, contraception and family planning; psychological behaviours; and exposure to domestic violence. Some reviews have assumed that disparity of

the sexual demand and reproductive health services in the pandemic era in low-income countries will demonstrate the increasing occurrence of unintended pregnancies, illegal abortions and ultimately maternal and neonatal morbidity and mortality (1,3). The universal lockdown and quarantine have exacerbated the inaccessibility of proper healthcare, leading some to unsafe abortions due to limitations in the accessibility of proper contraception and family planning methods. Women from low-income countries are also more likely than those from higher-income countries to access contraception during the pandemic (5). Additionally, women may also be reluctant to undergo cervical cancer screening through Pap smears or to be screened for sexual transmitted diseases (STDs) (6).

Furthermore, the consequences of the Covid-19 pandemic have implications for the social welfare of households due to diverse socio-economic restrictions. The demanding economic crisis and other stresses undeniably may have exposed women to domestic violence, which has shown an increase since early this year. The increase in the unemployment rate among women will indirectly cause reduced avenues for obtaining health care for reproductive issues (7). Additionally, unintended pregnancies may also result in more burdens to the family. Such an event in life will clearly affect the psychology, perceptions and behaviours in the household. Women are at risk of experiencing psychological disturbances such as depression, anxiety and stress post-traumatic events (8). In addition, the paradigm of sexual function and activities also has changed, and this may affect the harmoniousness of the family institution both physically and psychologically. Negative influences on sexuality are possibly caused by fear of to infection as well as mental health instability (9).

Thus, action plans need to be strategized to prevent the hazardous outcomes of novel Covid 19 virus among women by increasing the accessibility and visibility of reproductive health care. This will involve the government, policy experts and Ministry of Health in upgrading the utility of telehealth or telemedicine for medical health related to women. It will also help to increase public awareness as well as contraception admittance. The usage of long-acting contraception is preferable during this pandemic as compared to

short acting (1,3). Moreover, alongside policymakers and experts, society should facilitate community-level services to promote sexual and reproductive health. This review highlights key areas of concern for women's reproductive health in the era of the COVID 19 pandemic. Hence, it is paramount to productively establish appropriate strategies to provide guidelines for strategic efforts to cultivate a higher quality of life among women of reproductive age.

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References

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Author Surname Initials. Title: subtitle. Edition (if not the first). Place of publication: Publisher; Year.

Book with 1-6 authors/editors

Abul A, Lichtman A, Pillai S. Cellular and molecular immunology. 7th ed. Philadelphia: Elsevier Saunders; 2012.

2. Calder PC, Field CJ, Gill HS, editors. Nutritional and immune function. Oxon: CABI Publishing; 2002.

More than 6 authors/editors (Book, Chapter in a book & etc.)

3. Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, et al. Harrison's Principles of Internal Medicine. 17th ed. New York: McGraw Hill; 2008.

Chapter in a book

4. Vidyadaran S, Ramasamy R, Seow HF. Stem cells and cancer stem cells: Therapeutic Applications in Disease and Injury. In: Hayat MA, editor. New York: Springer; 2012.

Corporate/Organization as Author

5. Canadian Dental Hygienists Association. Dental hygiene: definition and scope. Ottawa: Canadian Dental Hygienists Association; 1995.

E-book

6. Frank SA. Immunology and Evolution of Infectious Disease [Internet]. Princeton: Princeton University Press; 2002 [cited 2014 December 17]. Available from: <http://www.ncbi.nlm.nih.gov/books/NBK2394/pdf/TOC.pdf>

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1. Ramasamy R, Tong CK, Yip WK, Vellasamy S, Tan BC, Seow HF. Basic fibroblast growth factor modulates cell cycle of human umbilical cord-derived mesenchymal stem cells. Cell Prolif. 2012;45(2):132-9.

Journal article with more than 6 authors

2. Abdullah M, Chai PS, Chong MY, Tohit ERM, Ramasamy R, Pei CP, et al. Gender effect on in vitro lymphocyte subset levels of healthy individuals. Cellular Immunology. 2012;272(2):214-9.

Journal article in press

3. Clancy JL, Patel HR, Hussein SM, Tonge PD, Cloonan N, Corso AJ, et al. Small RNA changes enroute to distinct cellular states of induced pluripotency. Nature communications.2014; 5:5522.Epub 2014/12/11.

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ORIGINAL ARTICLE

The Effectiveness of Qur'an Recitation Therapy and Aromatherapy on Cancer Patients' Stress Level in Abdul Wahab Sjahranie Hospital Samarinda, Indonesia

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ABSTRACT

Introduction: Cancer is a disease that not only causes physical trauma but also affects mental health. Feelings of anxiety and fear of undergoing therapy can trigger stress that causes cancer to get worsened. Qur'an recitation therapy and aromatherapy are considered to have two positive effects that can reduce stress levels in patients. This study aims to determine the effectiveness of Qur'an recitation on reducing stress levels in cancer patients. **Methods:** This is a quasi-experimental research with one group of pre-test and post-test without control design on 50 cancer patients in the chemotherapy unit of Abdul Wahab Sjahranie Hospital. Interventions are in the form of three therapy sessions of Qur'an recitation and aromatherapy, 30 minutes for each session. Measurements were carried out 4 times, one pre-test and three post-tests using questionnaires adapted from DASS. Data then were analyzed using the Friedman Test. **Results:** There is a decrease stress level in the four groups of measurement time intervals ($p < 0.0001$; $\chi^2 = 143.383 > 7.815$). These results indicate that Qur'an recitation therapy and aromatherapy may be effective in lowering cancer patients' stress levels. **Conclusion:** Hospital is recommended to facilitate cancer patients to access complementary and alternative medicine such as Qur'an recitation therapy and aromatherapy.

Keywords: Quran Recitation, Aromatherapy, Stress, Cancer Patient, Therapy

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INTRODUCTION

Cancer is one of the most deadly chronic diseases in the world. WHO (2019) states that cancer is the second most deadly disease in the world and it is estimated that in 2018 there was an increase of 9.6 million deaths and 1 out of 6 cancer patients died (1).

Nearly 70% of deaths caused by cancer occur in poor and developing countries (2). The Province of East Kalimantan has a fairly high prevalence of 641 people (3). Data from Abdul Wahab Sjahranie Hospital show that the number of cancer patients has increased every year. The cancer patients in 2017 were 400 and in 2018 there were 183 patients treated in the chemotherapy room.

Cancer can cause serious disorders to the quality of patients' life; these disorders include physical,

psychosocial, spiritual suffering and others which include psychosocial problems, such as anxiety, fear of undergoing examination or therapy, disease recurrence, stress, depression, and death. Cancer creates a critical condition that is able to affect the mental and psychological state of the patients, including stress (4). Cancer patients are vulnerable to experiencing chronic stress, triggering quicker cancer development, accelerating cancer cells growing, cancer treatment interferences, and increasing risk of death.

Cancer patients commonly experience stress. One of the stresses in the oncology unit is a woman's fear of losing hair (5). However, it is not impossible if some also experience the feeling of life-threatening. Essential oil as complementary alternative medicine is proven to reduce the stress of patients waiting for operation (6). Stress condition can turn into depression if the management of stress is not applied. Research conducted by S. Widiyono (2017) about the level of depression in cancer patients shows that 25.71% of cancer patients experience mild depression; 45.71% have moderate depression and 28.58% have severe depression. The suggestion in this research is that appropriate intervention is needed

to overcome the symptoms of depression. In addition to providing psycho-pharmaceuticals, health workers, especially doctors and nurses, can provide other psychotherapy, for example, music therapy which is part of complementary therapy (7). Kumar et.al. (2019) also state that healthcare service should focus on the management of depression of cancer patients (8). It is essential to assess some complementary therapy suitable for depression to reduce stress.

Cancer needs to be examined not only as a biomedical disease, but also a disease that involves mental aspects, so there is a need for complementary and alternative medicine as one of the options that support medical care. Based on the results of previous research, there is no study combining Qur'an recitation therapy with aromatherapy, where the effects of both therapies are similar, which are calming and relaxation, therefore this study aims to determine the effect of Qur'an recitation on reducing stress levels in cancer patients.

MATERIALS AND METHODS

Study Design

This research was a quasi-experimental research with one group pre-test and post-test without control design. The intervention was conducted at Abdul Wahab Sjahranie Hospital (AWS) Samarinda. The sample selection was conducted for one month, followed by an intervention for one month for all respondents. During this period, treatment was given 3 times to each respondent for 3 days. The treatment given was Qur'an recitation therapy and aromatherapy, each treatment was given to the cancer patient for 30 minutes.

Participants

Participants in this study were cancer patients who were in the chemotherapy unit and were hospitalized at AWS Hospital for at least 3 days. 50 respondents were willing to sign the informed consent and involved in the research. The selection of respondents was administered purposively based on the period of stay and patient's religion.

Variable

This study measured the stress level of participants before and after receiving Qur'an recitation therapy and aromatherapy. Measurements were carried out 4 times, once before the first treatment (one pre-test) and three post-tests. Measurement of stress levels used a developed questionnaire adapted from DASS (9). The questionnaire consist of 14 statements in DASS to measure stress (available in number 1, 6, 8, 11, 12, 14, 18, 22, 27, 29, 32, 33, 35 and 39) with four scale options (Never= "0", Sometimes= "1", Often= "2", Almost always= "3"). In this study, it is possible that respondents would also listen to music other than Qur'an recitation or other scents such as balm or perfume. To minimize bias, the researcher made an agreement with the respondents

to only listen to Qur'an recitation during this study. However, it is not possible to control and observe several factors related to religion such as prayer, dhikr, salawat and other activities because of hospital rule about the limited time of visit.

Treatment

Qur'an recitation therapy was given simultaneously with aromatherapy. Respondents were given headset to listen to the murrotal / recitation of the Qur'an Surah Ar Rahman and its tarjim (translation). They were also given diffuser with lavender aromatherapy essential oil 2 cc in 100 ml and turned on for 30 minutes. Each respondent were treated once in a day for 3 days.

Ethics

This research has been approved by the Medical Research Ethics Commission of the Medicine Faculty of Mulawarman University with reference number 41/KEPK-FK/IV/2019.

Analysis

Data concerning stress levels will be summed and calculated. The results of the pre-test and post-test scores were analyzed using the Friedman test to measure the effectiveness of therapy by finding the differences in stress levels before and after therapy. The significance level was set at 0.05.

RESULTS

The results in table I show that the majority of participants are in the age range 46 - 50 years and 56 - 60 years (26%) and there are more males (56%) than females. Table I also illustrates some of the main characteristics of the patients. It is apparent from this table that few patients had no history of cancer among their family (32%). In addition, many respondents suffered from breast cancer (32%) and most of them are on stage 3 (76%). Figure 1 shows there is a reduction of participants' stress levels. Further analysis is performed in table II, which is the state that there are differences in the average stress levels reduction in the four groups of measurement time intervals ($p < 0.0001$; $\chi^2 = 143,383 > 7,815$). These results indicate that Qur'an recitation therapy and aromatherapy are considered effective in reducing stress levels.

DISCUSSION

Cancer is a chronic disease that may bring mental pressure to the sufferers. This is because cancer healing requires a long period of therapy and needs funds. Most patients will feel stressed because of the disease itself, the boredom and anxiety about the therapy being undertaken. For a Moslem, reading and listening to the Qur'an will provide peace of mind. Al Quran is the words of God which are proven to have a positive effect on healing diseases; especially the recitation of

Table 1: Respondents Characteristics

Characteristics	n	%
Age		
<=45 years	10	20
46 – 50 years	13	26
51 – 55 years	13	26
56 – 60 years	5	10
61 – 65 years	7	14
65 – 70 years	2	4
Sex		
Male	28	56
Female	22	44
History of Cancer among Family		
Yes	34	68
No	16	32
Type of Cancer		
Breast cancer	16	32
Colon cancer	14	28
Cervical cancer	12	24
Lung cancer	8	16
Cancer stage		
Stage 3	38	76
Stage 4	12	24
Total	50	100

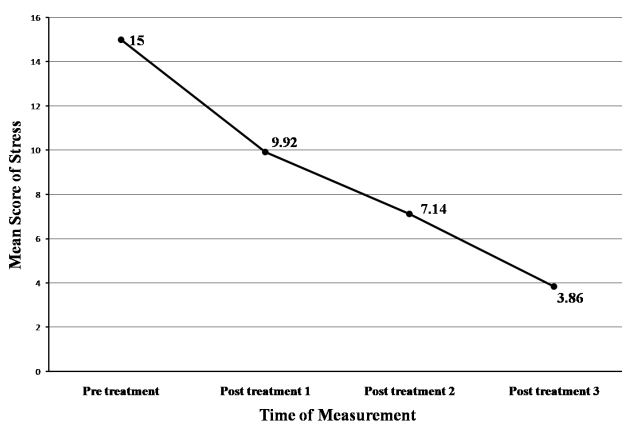


Figure 1: Reduction of mean score in participants' stress level

Table 2.The Effect of Qur'an Recitation and Aromatherapy and Participants' Stress Level

	Mean rank				p-value	(χ ²)
	Pre	Post 1	Post 2	Post 3		
	3.93	2.95	2.10	1.02	<0.0001	143.383

the Quran provides a healing effect on psychological and spiritual diseases (10). On the other hand, Qur'an recitation also provides a good development in the physical condition and quality of life of patients who are undergoing therapy, such as hemodialysis (11). These good effects are combined with the administration of aromatherapy which is considered to provide a relaxed and calm effect on the patient.

Aromatherapy such as lavender is proven to provide good sleep and reduce anxiety in coronary heart patients (12), breast surgery patients (13) and reduce headaches and depression in breast cancer patients (14). In addition, aromatherapy is considered to be a therapeutic choice to reduce depression for various subjects (15). Aromatherapy has also been recommended to be a supplementary therapy for cancer patients (16), as well as an alternative treatment for patients undergoing chemotherapy (17). Patients in the chemotherapy unit are normally inconvenient with the smell of medicine. This smell might have cause uncomfortable and nausea. Even, this condition can influence their mind and feelings. Relaxing aromatic is believed to help patients feel more comfortable and release their stress by aromatherapy inhalation. Several essential oils such as lavender, lavandin, mandarin, rose, bergamot, and frankincense were proven to reduce stress (18,19,20)

This study combines two things considered to have a good impact on reducing stress in cancer patients, which are the Qur'an recitation and aromatherapy. The results show a decrease in stress levels after listening to the Qur'an recitation and aromatherapy ($p < 0.0001$; $X^2 = 143.383 > 7.815$). The recitation can provide peace of mind, as stated in the Qur'an Ar Ra'd verse 28 which explains that one way in Islam to get peace of mind is to read the Qur'an. Several studies support this, in which listening to the Qur'an can reduce stress and anxiety (21). People who recite or listen to the Qur'an will be blessed with peace of mind. If the heart is calm, the stress hormone (cortisol) will calm so that the effects of inflammation will decrease. Another complementary therapy method such as aromatherapy with lavender essential oil and linalool acetate content can provide relaxation and sedation effects, which can overcome stress, anxiety, fatigue, and pain. Furthermore, research by Mehrafsar and Mokhtari (2018) proves that playing the verses of the Qur'an can cause apoptosis in prostate tumor cells (22). In addition, Qur'an recitation audio is also recommended to be a supportive therapy in the treatment of cancer because it is able to present cytotoxic effects on HeLa cells and provide a synergy effect on cisplatin (23).

In line with the research conducted by Nayas and Wahab (2018) stating that the recitation of the Qur'an will have a specific effect on the work of the heart and other organs so it can produce hormones and chemical compounds that provide a sense of calm (24). Another research also supports the opinion that listening to the Qur'an brings impact which is good for the development of the patients' vital signs and awareness (25), improves mental health and obtains greater calm (26), and provides positive emotions and psychological comfort (27). In addition, aromatherapy is perceived to have benefits for reducing pain, providing comfort (28), reducing depression and anxiety (22,29).

This study provides evidence that the combination of Qur'an recitation and aromatherapy can reduce stress levels in cancer patients. However, this study has some limitations. First, these results can not differentiate which one is contributed to changes since both aromatherapy and recitation are used simultaneously. The recitation might be better if it is recited by patients themselves or their relatives. Therefore, the researcher used a standardized recitation which was recorded from a pious man. Although the findings show a reduction of stress level, it is important to bear in mind the possible bias in controlling another factor such as prayer, dhikr, and salawat. Second, this study only measured one group without control, so it cannot measure the effectiveness of therapy. Further studies are still required to look deeper at the effectiveness of the Qur'an recitation therapy and aromatherapy, especially using the control group with more frequency and longer duration.

CONCLUSION

Based on the results of the study, it can be concluded that the combination of Qur'an recitation therapy and aromatherapy may be effective to reduce stress levels in cancer patients. The Qur'an recitation can stimulate the patients' sense of hearing and activate hormones and chemical compounds to calm the body, while aromatherapy spreading in the room can provide a sense of relaxation. This combination is also able to provide comfort and act as an anxiety reduction. It is expected that the hospital will facilitate cancer patients to be able to listen more frequently to the Qur'an and distribute aromatherapy as an alternative treatment.

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