

# Effects of Physical Fitness Program on the Quality of Life of the Inmates in Iligan City Amidst COVID-19 Pandemic

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**Abstract.** The purpose of the study was to examine the effects of physical fitness program on the quality of life of the female inmates in Iligan City amidst COVID-19 pandemic. The study used a quasi-experimental research design. Sixty-eight female inmates were assigned in two groups (controlled and experimental) of 34 participants each group based on non-random criteria. The duration of the physical fitness program for the experimental group was 12 weeks. Control group individuals did not participate in the physical fitness program. A set of questionnaires, which included sections of the respondents' profile, and a short version of Short Form Health Survey (SF-12), was administered twice to both groups before and after the physical fitness program. The findings of this study revealed that the physical fitness program, regardless of the frequency, intensity, type, and time of participation was significantly associated to the quality of life in terms of general health ( $P= 0.004$ ), body pain ( $P= 0.010$ ), vitality (0.023), and emotional state ( $P= 0.002$ ) of the female inmates (experimental group). Although further study is necessary (e.g., longer fitness program), the present study showed that a 12-week physical fitness program could improve the quality of life of the female inmates. Thus, the researcher recommends that the BJMP continue with the fitness program and further studies be conducted that would assess and validate the effects of fitness program within jail setting.

**Key words:** Female Inmates, Physical Fitness Program, Quality of Life

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## INTRODUCTION

The coronavirus disease (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and was declared a pandemic by the World Health Organization on March 11, 2020, with more than 118,000 cases in 114 countries and more than 4,000 deaths (World Health Organization, 2020). In the Philippines, over 70,000 cases and almost 2,000 deaths were reported as of July 22, 2020 (Department of Health - COVID-19 Tracker Philippines, 2020). In response, the government has implemented strict controls on movements, including local lockdowns, physical distancing and closure of some establishments to reduce the spread of the virus (Department of Health, 2020). Such measures and health concerns have caused detrimental effects not only on people's physical health, but also on their mental health and quality of life (Algahtani et al., 2020; Buenaventura et al., 2020; Ping et al., 2020; Sieberer et al., 2021). Various institutions and sectors have been affected by this pandemic, most notably correctional facilities like jails and prisons (Hawks et al., 2020; Hewson, 2020).

Prisons and jails in the Philippines are among the most overcrowded in the world (The Borgen Project, 2020), with inadequate access to proper hygiene supplies and poor sanitation practices, insufficient environmental disinfection, non-functioning ventilation systems, and inadequate provision of medical services (Franco-Paredes et al., 2020), which makes it susceptible to the coronavirus. Given the conditions, people in prisons and jails tend to have a poorer quality of life and are sick compared to the general population with a

higher risk of morbidity, mortality and mental disorders (Dore, 2020), many of whom are physically vulnerable, and have understandable worries about infection, resulting in high anxiety and increased need for support (Kothari et al., 2020). According to the national correctional health data from 2004 indicated that a large percent of offenders had hypertension (13.8%), heart problems (6.1%), and diabetes (4.0%). In addition, more than two-fifths of State prisoners (43%) and more than half of jail inmates (54%) reported symptoms that met the criteria for mania. About 23% of State prisoners and 30% of jail inmates reported symptoms of major depression. An estimated 15% of State prisoners and 24% of jail inmates reported symptoms that met the criteria for a psychotic disorder (Bureau of Justice Statistics, 2006). Understandably age, Body composition, duration of detention, and participation to other activities demographics are also recognized as factors affecting Quality of Life in prison (Kalonji et al., 2017).

Physical activity has been shown to play a positive role in the prevention of different diseases, such as heart and respiratory disease, type 2 diabetes, and chronic pain in different people (Katz & Pate, 2016, as cited in Villalobos et al., 2019). It ameliorates general health, acting on heart, circulatory and respiratory as well as immune function. Moreover, several evidences have demonstrated that physical activity can be effective in ameliorating the mental well-being and having the potential to prevent symptoms of mental health disorder, such as depression and anxiety (Maugeri et al., 2020). It relieves stress, improves memory, helps you sleep better, and boosts your overall mood (Robinson et al., 2019; Maugeri et al., 2020).

Although evidence of the positive effects of physical activity on the quality of life has been clearly provided, those studies were made in many different periods, to different people and different walks of life (Miyashita et al, 2013; Gill D. et al., 2013; Vagetti G. et al, 2014; Mipatrini D. et al, 2015; Rodriguez A. et al, 2016). However, this study was particularly done during this COVID-19 pandemic, with which no studies have yet been done inside the jail settings, taking the females as respondents of the study. The aim of this study was to examine the effects of physical fitness program participation on the quality of life of the female inmates in Iligan City.

## **METHODS**

In this study, the researcher used a quasi-experimental design to examine the effects of physical fitness program on the quality of life among female inmates. The questionnaires were administered twice for the female inmates, at the beginning and at the end of the physical fitness program for three months to evaluate their quality of life.

Before entering the study, informed consent was obtained from each participant and the study was approved by the Management of Iligan City Jail- Female Dormitory. The subjects of this study consisted of 68 female inmates of the Bureau of Jail Management and Penology (BJMP) Iligan City. Questionnaires were administered in the BJMP setting under the supervision of the jail personnel, and anonymity of the data was ensured. Instructions were given to the female inmates by the jail personnel which also included the presentation of the goal of the study and the request to complete all the items of each questionnaire. Subjects with severe cardiovascular or respiratory conditions that would preclude participation in the physical fitness program, or those with a serious medical condition were also excluded. After which, the respondents were assigned in two groups (control and experimental) of 34 participants each group based on non- random criteria. Nineteen subjects did not complete the study (due to the fact that they were released from prison during the study period). And thus, the final number of subjects evaluated was  $n = 23$  and  $n = 26$  for the control and experimental group, respectively.

A letter of request was given to the office of city jail warden. Attached therewith, were the samples of the participants consent, the research questionnaires and the proposed physical fitness program. Upon the approval, a standardized questionnaire was used to gather the necessary data for the study. It was utilized to gather the respective profile of the respondents. Questionnaires were administered twice, before and after the physical fitness program inside the jail under the supervision of the jail personnel. Anonymity of the data was ensured. Instructions were also given to the respondents in answering the questionnaire and it also included the presentation of the study's goal and the request to complete all the items of each questionnaire. Due to COVID-19 pandemic, all the transactions were made only outside the gate.

### **Experimental Group**

The duration of the physical fitness program for the experiment group was 12 weeks at a frequency of three (3) sessions per week of 45 to 60 minutes each session, with the use of the projected video performances of

physical fitness activities. The physical fitness program took place in an open space of Iligan City Jail. The materials used for the physical fitness program included laptop, projector and speaker.

Each session was composed of 5 to 10 minutes of general warm-up, 40 min of aerobic exercises and 5 to 10 min of cool-down with stretching. The virtual physical fitness program comprised of pre-video recorded pinoy aerobics performed every Monday, social dances such as rumba, cha-cha, and swing performed every Wednesday, and other form of dances such as Zumba, line dance, retro, and pop dance performed every Friday. These pre-recorded performances were flashed or projected on a screen every session, and then the respondents followed the given dance performances with the supervision of the jail personnel.

### **Control Group**

The control group did not participate in any physical fitness program and they just continued their daily activities in jail (educational program, laundry, maintenance work, and others) and they filled in necessary instruments used in the study.

Participation in physical activity was assessed using the seven-item scale International Physical Activity Questionnaire (IPAQ). These items investigated the time spent carrying out moderate/vigorous intensity activity, walking and sitting in a week and adopted examples for inmate. Quality of life using the shorter version of Short Form Health Survey (SF-12) to measure the overall health-related-quality of life (HRQoL). The answers provide two outcome measures of the physical and the mental QoL: the Physical Component score (PCS) and Mental Component Score (MCS) (Ware, Kosinski, Turner-Bowker, & Gandek, 2002).

## **RESULT AND DISCUSSION**

### **Subjects**

The population of this study was composed of student-athletes from different Colleges and Universities in Iligan City. A purposive sampling procedure was employed. A total of 1,015 student-athletes who participated in formal sports competitions and any level of participation were taken as respondents of the study.

### **Research Instrument**

The principal instrument that was used in this study is a questionnaire which consists of three (3) parts. Part I composed the demographic profile of the respondents which contains the athlete's age, gender, school, type of sport, and level of participation. Part II consists of the motivation for Sports Measure-Revised (MSM-R), a modified version of the motivation for Physical Activity Measure-Revised (MPAM-R) developed by Ryan, Frederick, Lepes, Rubio, and Sheldon (1997). The 30 questions were categorized into 5 types of motivation: appearance, competence, fitness, interest/enjoyment, and social. Respondents answer each item on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Part III covers sports participation. This was measured through the Sports Participation Model Questionnaire (SPMQ) which was developed by Avicenna (2002). The SPMQ which has a Cronbach alpha of 0.873 was composed of seventy questions, where the subjects were to choose "agree" or "disagree" with each statement reflecting on how they feel about the sport in general, in youth sport or school sport, and how they feel about their teammates, coaches or even their opponent.

### **Statistical Analysis**

The analysis of data was carried out in several steps using the SPSS Version 20.0. The estimation-maximization technique of imputation was used to replace values that were missing at random. Specifically, descriptive statistics was used to assess the demographic profile of the respondents while Pearson R was used to test the significant relation between and among variables.

## **RESULT AND DISCUSSION**

Most of the female inmates in the control group belonged to age range 31-45 years old and 46.2% of the female inmates in the experimental group belonged to the same age range. Most of the female inmates in the control and experimental groups were normal in terms of the body mass index. Most of the female inmates in the control and experimental groups were detained in jail for more than 6 months. 39.1% of the female inmates in the control group participated in laundry and 46.2% of the female inmates in the experimental group also participated in laundry. There were no significant differences observed between the pretest and posttest results on the quality of life among the female inmates in the control group, which means that the quality of life of the

female inmates did not change during the posttest. On the other hand, there were significant differences observed between the pretest and posttest results on the quality of life among the female inmates in the experimental group, which means that the quality of life of the female inmates changed during the posttest and after they underwent physical fitness program.

The pretest result on quality of life had no significant effect on the posttest result on quality of life of the female inmates in the control group. The pretest result on quality of life had no significant effect on the posttest result on quality of life of the female inmates in the experimental group, except for the general health. The physical fitness program in terms of frequency, intensity, type, and duration had no significant effect on the posttest result on quality of life.

Due to COVID-19 pandemic, this study suffers from several methodology limitations. For instance, the study relied on the use of self-reported questionnaire, which can lead to biased estimates. Moreover, the questionnaires were not handed out and explained personally by the researcher to the respondents due to physical restrictions, although questionnaires were translated into the local language (Cebuano), it is possible that participants may not fully understand the context in which the questions were presented, and as a result, answer may not reflect the reality. The conduct of the virtual physical fitness program was managed solely by the jail personnel for the reason that outsiders were not allowed inside the jail premises. Control group individuals might see and hear the participation of the experimental group during the conduct of the virtual physical fitness program which might affect their moods. Several dropouts occurred due to the fact that they were released from prison during the study period.

## CONCLUSION

The findings of this study revealed that the 12-week physical fitness program, regardless of the frequency, intensity, type, and time of participation was significantly associated to quality of life in terms of general health, body pain, vitality, and emotional state of the female inmates (experimental group). Although further study is necessary (e.g., longer fitness program), the present study showed that a 12-week physical fitness program could improve the quality of life of the female inmates. Thus, the researcher recommends that the Bureau of Jail Management and Penology's administration shall continue with the fitness program and future researchers must conduct similar studies taking larger sample and longer fitness program that would directly assess and validate the effects of fitness program within jail setting; Look for other factors that may affect the quality of life of the inmates; seek help from medical and psychological experts to help assess the quality of life of the inmates. further studies be conducted that would assess and validate the effects of fitness program within jail setting.

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