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Malaysia
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# 11TH NATIONAL PUBLIC HEALTH CONFERENCE & 1ST GLOBAL PUBLIC HEALTH CONFERENCE:

***Theme:***
**Building a Resilient Public Health System for a Better Future**

***Date:***
**25th - 27th July 2023**

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# FHSMPP09/92: Pooled Confirmatory Factorial Analysis On Authentic Leadership, Psychological Capital, Job Burnout And Organisational Commitment Based On Primary Healthcare Workers In Sarawak

Ainaa Anum Araffin Bakar[1], Noorzilawati Ishak[1]
[1] *Universiti Malaysia Sarawak*
*Corresponding author's email: ainaaanum@gmail.com*

**Summary**
In Structural Equation Modelling, the author steps in the analysis by performing the first step, called Confirmatory Factor Analysis (CFA). It can help researchers avoid erroneous estimations once they try to predict the relevance of a particular factor. It can also be utilised in various scientific areas. Four constructs, including authentic leadership, psychological capital, job burnout and organisational commitment, were assessed simultaneously in a pooled CFA for model fitness based on primary healthcare workers in Sarawak. The compensation of these factors can improve the model's capabilities.

**Keywords**
Pooled Confirmatory Factor Analysis, Organisational Commitment, Authentic Leadership. Psychological Capital, Job Burnout

## Introduction

Committed healthcare workers in healthcare organisations are essential to delivering high-quality services. They bring value to the organisation through their determination, proactive support, high productivity, and quality awareness. Pooled Confirmatory Factor Analysis (Pooled CFA) is the first step of Structural Equation Modelling (SEM) that can identify the fitness of a complex measurement model based on four second-order constructs, including authentic leadership, psychological capital, job burnout and organisational commitment.

## Materials and Methods

The study populations were assistant medical officers (AMOs) and nurses working in public health clinics with doctors in Sarawak, and 549 samples fulfilled the analysis requirements. Pooled Confirmatory Factor Analysis ascertains the researcher to develop the capability of the latent measurement model to be more effective and precise for drawing the conclusion besides avoiding the violation or regression assumption. Tools for measurement are all Likert Scales which are the Authentic Leadership Questionnaire (ALQ), Psychological Capital Scale (PsyCap), Oldenburg Burnout Inventory (OLBI) and Three-factor Organisational Commitment Scale (OCS).

## Results and Discussion

**Uni-dimensionality.** The latest model demonstrated all factor loading of all items above 0.5 (Table 1) after deleting six items that are below 0.5 (OC17, JB2, JB4, JB10, JB12 and JB15), which indicated the uni-dimensionality of the new measurement model. (Figure 1). **Construct Validity.** Fitness Indexes acceptable fit (CMIN/DF = 2.588, RMSEA = 0.054, CFI =0.904, SRMR = 0.0617). (Figure 1)

**Convergent Validity and Composite Reliability.** The Average Variance Extracted (AVE) and composite reliability (CR) of all constructs exceeded their threshold values of 0.5 and 0.6, respectively. The convergent validity and composite reliability for all latent constructs in the model have been achieved.

**Discriminant Validity.** The Root of the average Variance of a component is higher than the average Variance of other components in Table 3. The criterion of discriminant validity is fulfilled.

**Table 1** The Factor loading of each item in the new measurement model.

| Construct | Sub-construct | Item | Factor Loading |
|---|---|---|---|
| Authentic Leadership | Self-awareness | AL1 | 0.865 |
| | | AL2 | 0.843 |
| | | AL3 | 0.883 |
| | | AL4 | 0.867 |
| | Internalised Moral Perspectives | AL5 | 0.759 |
| | | AL6 | 0.917 |
| | | AL7 | 0.943 |
| | | AL8 | 0.922 |
| | | AL9 | 0.647 |
| | Balanced Processing | AL10 | 0.844 |
| | | AL11 | 0.921 |
| | | AL12 | 0.924 |
| | Rational Transparency | AL13 | 0.874 |
| | | AL14 | 0.936 |
| | | AL15 | 0.939 |
| | | AL16 | 0.915 |
| Psychological Capital | Self-efficacy | PC1 | 0.917 |
| | | PC2 | 0.950 |
| | | PC3 | 0.895 |
| | Hope | PC4 | 0.838 |
| | | PC5 | 0.850 |
| | | PC6 | 0.942 |
| | | PC7 | 0.916 |
| | Resilience | PC8 | 0.870 |
| | | PC9 | 0.896 |
| | | PC10 | 0.890 |
| | Optimism | PC11 | 0.918 |
| | | PC12 | 0.949 |
| Job Burnout | Disengagement | JB3 | 0.643 |
| | | JB6 | 0.563 |
| | | JB7 | 0.806 |
| | | JB9 | 0.806 |
| | Exhaustion | JB11 | 0.647 |
| | | JB13 | 0.505 |
| | | JB1 | 0.649 |
| | | JB5 | 0.634 |
| | | JB8 | 0.715 |
| | | JB14 | 0.661 |
| | | JB16 | 0.664 |
| Organisational Commitment | Affective commitment | OC1 | 0.805 |
| | | OC2 | 0.613 |
| | | OC3 | 0.596 |
| | | OC4 | 0.572 |
| | | OC5 | 0.905 |
| | | OC6 | 0.703 |
| | | OC7 | 0.895 |
| | | OC8 | 0.880 |
| | Continuance commitment | OC9 | 0.602 |
| | | OC10 | 0.604 |
| | | OC11 | 0.810 |

| | | | |
|---|---|---|---|
| | | OC12 | 0.821 |
| | | OC13 | 0.617 |
| | | OC14 | 0.748 |
| | | OC15 | 0.786 |
| | | OC16 | 0.785 |
| | **Normative commitment** | OC18 | 0.807 |
| | | OC19 | 0.602 |
| | | OC20 | 0.857 |
| | | OC21 | 0.595 |
| | | OC22 | 0.818 |

**Table 2.** AVE and CR values for all constructs and sub construct

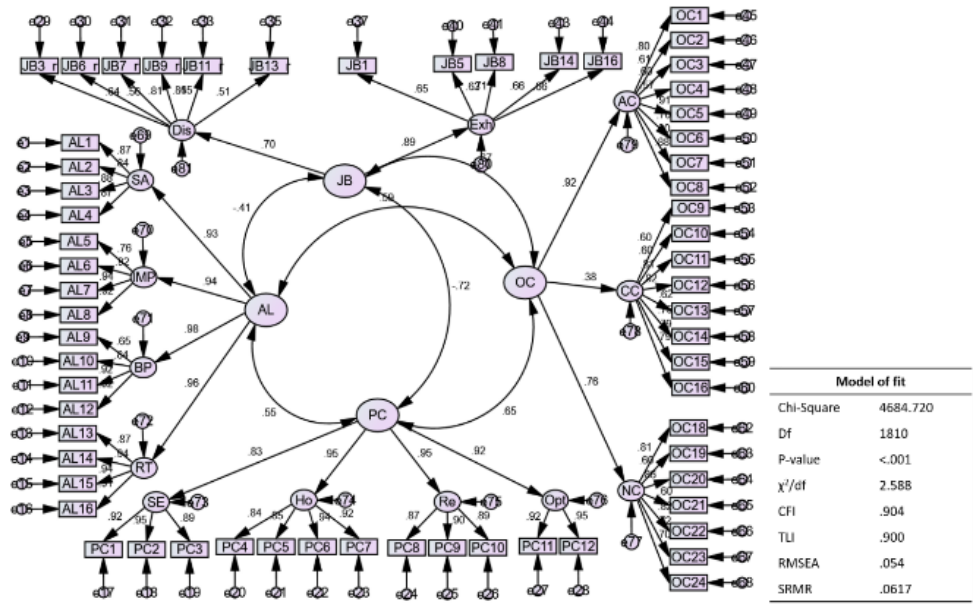
| Construct | Sub-contruct | AVE | CR |
|---|---|---|---|
| Aunthentic leadership | | **0.909** | **0.973** |
| | Self-awareness | 0.748 | 0.899 |
| | Internalised moral perspectives | 0.789 | 0.922 |
| | Balanced processing | 0.708 | 0.888 |
| | Rational transparency | 0.840 | 0.956 |
| Psychological capital | | **0.719** | **0.880** |
| | Self efficacy | 0.848 | 0.934 |
| | Hope | 0.788 | 0.946 |
| | Resilience | 0.748 | 0.925 |
| | Optimism | 0.872 | 0.922 |
| Job burnout | | **0.871** | **0.921** |
| | Disengagement | 0.451 | 0.689 |
| | Exhaustion | 0.442 | 0.637 |
| Organisational commitment | | **0.522** | **0.631** |
| | Affective commitment | 0.574 | 0.861 |
| | Continuance commitment | 0.529 | 0.826 |
| | Normative commitment | 0.539 | 0.816 |

**Table 3.** Discriminant Validity Index

| No | Latent variable | Authentic Leadership | Psychological Capital | Job Burnout | Organisational Commitment |
|---|---|---|---|---|---|
| 1 | Authentic Leadership | **0.954** | | | |
| 2 | Psychological Capital | 0.552 | **0.848** | | |
| 3 | Job Burnout | -0.409 | -0.725 | **0.933** | |
| 4 | Organisati | 0.588 | 0.647 | - | **0.723** |

| | | |
|---|---|---|
| onal Commitment | | 0.669 |

**Figure 1** The pooled CFA for the new measurement model.




The study focused on the validation and reliability of the measurement model. It analysed the components and indicators acknowledged as reliable by the construct validity and reliability tests. The low-value verification is associated with cultural interpretation problems that arise from adapting to the primary healthcare workers' context. Incorporating indicators belonging to another factor might contaminate the weak factor. Therefore, perform Exploratory SEM techniques to ensure whether the scale may have a unidimensional but multi-component construct can be considered. During model fitting, the chi-square/df was less than three. However, the p-value was significant. Some studies ignore the significance of the p-value if other Model fit values are good. AVE is higher than 0.5. According to Formell and Larcker (1981), 0.4 is acceptable, provided that CR is higher than 0.6 and the convergent validity of the construct is still adequate. Based on this paper, AVE for disengagement and exhaustion are below 0.5 (0.430 and 0.457, respectively). However, both CRs are higher than 0.6. Therefore, the convergent validity of all the constructs is acceptable. The current study is the first one that applied pooled CFA to test the conceptual framework on relationships between authentic leadership, psychological capital, job burnout and organisational commitment. The concept of Pooled-CFA is a method that enables scholars to carry out their investigations without spending much time identifying the various issues they might have to deal with the means of empirical study. The findings in the present study are beneficial for researchers to proceed with structural modelling to determine the relationships between authentic leadership, psychological capital, job burnout and organisational commitment. Therefore, the

conceptual contribution of this study is that it extends the human resource management literature by validating the four constructs since such relationships have not been tested together in previous studies.

**Conclusion**

The model has met the requirements for validating and testing the hypotheses presented by the models after the original number of items was reduced to 60 from 68. The findings could be used to proceed with the second step of the Structural Model to study the hypothesis. Pooled CFA is a framework that helps select the best fit for the measurement model.

**REFERENCES**

1. Awang, Z., Afthanorhan, A., & Mamat, M. (2016). *The Likert Scale Analysis Using Parametric-Based Structural Equation Modeling (SEM)*. 9.
2. Awang, Z., Lim, S. H., & Afthanorhan, A. (2021). *SEM Made Simple 2.0*.
3. Bryne, B. M. (2016). *Structural Equation Modeling With Amos*.
4. Hair, J. F. (Ed.). (2014). *Multivariate Data Analysis* (7. Ed., Pearson New Internat. Ed). Pearson.
5. Hair, J. F. (2019). *Multivariate Data Analysis* (Eighth Edition). Cengage.

## FHSMPP10/124 : Exploring The Use Of Menstrual Cycle Applications Among Pharmacy Students

Syahiera Afieqah Rosman[1], Kamaliah Md Saman[1], Anna Liza Roslani[2], Aisyah Saad Abdul Rahim[1]

[1] *Faculty of Pharmacy, Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia*
[2] *KMI Kuantan Medical Centre, Jalan Tun Razak, Bandar Indera Mahkota, Kuantan, Pahang*
*Corresponding author's email: aisyahsaad@gmail.com*

**Summary**

Menstrual cycle apps enable women to predict their general health. Traditionally, women used to track their menstrual cycles manually; however, in this digital era, menstrual cycle apps on mobile devices are enormously popular. Period Tracker Period Calendar, Flo Menstrual & Period Tracker and Ovulation & Period Tracker are the top 3 apps in Google Play Store, with downloads that surpassed 10 million (1). While they can help assist women in tracking their periods and provide good personal care and symptom management capabilities, little is known about why and how women use the digital health data they generate (2). Thus, this novel study explored the use of menstrual cycle apps among undergraduate pharmacy students. Our initial results revealed that tracking menstrual cycles was the primary motivation for the majority of students using the apps.

**Keywords**

Menstrual apps, Menstruation, University student, Mobile health, Women's health

## Introduction

Menstrual cycle apps can help women track their periods and predict their general health. Monitoring the menstrual cycle via mobile apps can improve awareness of their bodies, prepare their emotional moods and detect early physiological indicators, such as the emergence of cervical secretions a few days prior to ovulation. Therefore, the development of mobile applications like menstrual cycle apps can help women track their periods, as the apps provide good personal care and symptom management capabilities (1). Most studies focused on the perspectives towards the general population of women; none focused on a specific population, for example, female students in a particular educational institution (3). Therefore, this study aimed to explore the use of menstrual cycle apps amongst female pharmacy students at Universiti Teknologi MARA (UiTM) Puncak Alam.

## Materials and Methods

A cross-sectional survey was conducted among female pharmacy students at the Faculty of Pharmacy, UiTM Puncak Alam, from March to May 2023. The development of the questionnaire involved three stages. Firstly, questions were adapted from previous studies (2,3). Secondly, the questionnaire was validated by expert panels consisting of academicians from UiTM Faculty of Pharmacy and an Obstetrics and Gynaecology (O&G) consultant. Lastly, the questionnaire was piloted with 20 students, and their feedback was used to refine the final version of the questionnaire for data collection. The questionnaire was administered online through Google Forms; the survey link was shared via Whatsapp groups of each pharmacy student batch. A total of 227 respondents participated in the survey. This study has received ethical approval from UiTM Research Ethics Committee (REC(PH)/UG/063/2023). The preliminary work presented here concerned the demographics and results on the use of menstrual cycle apps among UiTM pharmacy students.

## Results and Discussion

This research yielded valuable demographic information, as presented in Table 1. The majority of survey participation came from 3rd-year students, comprising 36.6% of the responses, followed by 4th-year students at 22.9%. The 1st and 2nd-year students accounted for 20.3% of the respondents. Out of 227 respondents, approximately 55.5% fell within the normal body mass index (BMI) indexes. We found that many students (63.9%) had chosen to install menstrual cycle apps on their smartphones. Nearly half of the students used the My Calendar app, followed by the Flo app (11%). The primary motivation behind using these apps is revealed in Table 2, which is to track their menstrual cycles. Students also used these apps to understand symptoms or physiological changes during menstruation, and to gain related health information. This tracking feature would enhance students' understanding of their bodies and menstrual cycles and aid them in identifying any changes that may require medical attention (3,4). Interestingly, a small number of students used the apps to predict ovulation and to come off contraception.

Table 1: Descriptive statistics of pharmacy students who responded to the survey (n=227), their body mass indexes and menstrual cycle apps used.

| Variable | n (%) |
|---|---|
| **Year of Study** | |
| 1st year | 46 (20.3) |
| 2nd year | 46 (20.3) |
| 3rd year | 83 (36.6) |
| 4th year | 52 (22.9) |
| **Body Mass Index (BMI)** | |
| <18.5 (Underweight) | 43 (18.9) |
| 18.5 – 24.9 (Normal) | 126 (55.5) |
| 25.0 – 29.9 (Overweight) | 43 (18.9) |
| >30.0 (Obesity) | 15 (6.6) |
| **Own any menstrual cycle apps?** | |
| No | 82 (36.1) |
| Yes | 145 (63.9) |
| **App used (n=145)** | |
| Flo | 27 (11.9) |
| My Calendar | 70 (30.8) |
| Clue | 2 (0.9) |
| Maia | 2 (0.9) |
| Others | 44 (19.4) |

Table 2: Students' motivation for using menstrual cycle app (n=145)

| Reasons for use | n (%) |
|---|---|
| **I can know when my period is arriving and be prepared** | 144 (99.3) |
| **I can understand any symptoms or changes during menstruation** | 71 (49.0) |
| **I can gather information related to my health for self-tracking or informing my healthcare professional** | 75 (51.7) |
| **I can know I am ovulating** | 50 (34.5) |

| | |
|---|---|
| **I can predict when to come off contraception** | 5 (3.4) |
| **Other** | 3 (2.1) |

## Conclusion

This study was conducted to explore the use of menstrual cycle apps among pharmacy students at the UiTM Faculty of Pharmacy. Our study found that the primary motivation for using menstrual cycle apps is to track their periods. A small number of undergraduates were using these apps to predict ovulation and come off contraception. My Calendar Period Tracker seemed to be the most preferred app for nearly half of the students. In conclusion, menstrual cycle apps can offer significant benefits to female students, serving as valuable assistants on their mobile phones for understanding their bodies and menstrual cycles while aiding in the early detection of any significant changes that need medical attention.

## References

1. Karasneh RA, Al-Azzam SI, Alzoubi KH, Muflih SM, Hawamdeh SS. Smartphone applications for period tracking: rating and behavioral change among women users. *Obstetrics and Gynecology International*. 2020; 2020: 2192387.
2. Gambier-Ross, Katie, David J. McLernon, and Heather M. Morgan. A mixed methods exploratory study of women's relationships with and uses of fertility tracking apps. *Digital Health* 2018; 2055207618785077.
3. Broad, Anna, Rina Biswakarma, and Joyce C. Harper. A survey of women's experiences of using period tracker applications: Attitudes, ovulation prediction and how the accuracy of the app in predicting period start dates affects their feelings and behaviours. *Women's Health*. 2022; 18: 17455057221095246.
4. Levy J, Romo-Avilés N. A good little tool to get to know yourself a bit better: a qualitative study on users' experiences of app-supported menstrual tracking in Europe. *BMC Public Health*. 2019;19(1):1213.

# FHSMPP11/146: Building Resilience: The Redesign Of Public Primary Health Care Clinic In A Post-COVID-19 Era

Norain Ahmad [1], Siti Noraida Jamal[1], Ali Munawar[1], Tanty Darwinna[1], Khairani Halid [1], *Rohaizan Abd Kadir Jailani[1] ,Enna Mohd Hanafiah[1], Rozita Halina[1]*
*[1] Health Facility Planning, Planning Division, Ministry of Health Malaysia*
*Corresponding author's email: drnorain@moh.gov.my*

## Summary

The emergence of the COVID-19 pandemic has profoundly impacted healthcare service delivery, necessitating significant adaptations to the primary healthcare clinic design. This paper highlights the multifaceted effects of the COVID-19 pandemic on the function and design of primary healthcare clinics as well as the critical areas that have undergone substantial transformations to ensure patient and healthcare provider safety.

**Keywords**
COVID-19, design, health clinic, pandemic, primary care

## Introduction

A primary healthcare clinic is a community-based health facility that offers basic medical services and promotes preventive care for patients and their families. Since the country's independence, primary health care in Malaysia has begun with the introduction of fundamental health services via Maternal and Child Health Clinics (MCH). Then, the services grew to encompass a greater scope of the community's requirements and needs. In order to provide essential services, the 8th Malaysian Plan (2001-2005) produced seven designs of primary health care clinics, namely health clinic types 1, 2, 3, 4, 5, 6, and 7(1), which serve as the foundation for current designs. However, following the COVID-19 pandemic that has ravaged the country, it has been discovered that existing health facilities confront numerous challenges in implementing prevention and control measures for infectious diseases due to space limitations. This review explains the adaptation of primary health care clinic design, to cater to the requirements of infectious disease prevention and control in primary health care clinics.

## Materials and Methods

A workshop was held in October 2020 to engage stakeholders in a situational analysis of the current situation of COVID-19 and the condition of primary healthcare clinics during the pandemic. Parties involved were from the Planning Division, Family Health Development Division, Dental Health Division, Engineering Services Division, and Public Works Department. The team conducted an evaluation of the current layout and suggested modifications to the standard plan for health clinics in order to comply with the demands of infectious disease control. Subsequently, a few meetings and a series of interactions were held with stakeholders to develop a new standard pre-approved plan (PAP) for primary healthcare clinics. At the end of 2021, the new PAP for health clinic types 2–6 was completed and ready to be implemented in future health clinic projects. Each design is reviewed by the Ministry of Health's panellist before being forwarded to the central agencies for final approval before implementation(1).

## Results and Discussion

The existing layout of a primary health care clinic has a shared, internalised waiting area, which causes the mixing of infectious and non-infectious disease (non-ID) patients. Lack of a dedicated area for ID patients, forcing triage and treatment to take place in temporary tents. Furthermore, the lack of a drive-through pharmacy service led to the exposure of non-ID patients to infectious disease transmission while waiting for medication. Besides, open counters in registration, lab, and pharmacy facilities increase the risk of infection for healthcare personnel.

The ID elements that are incorporated into the new PAP for primary health care clinics are as follows: a) enhanced infection control by implementing standard operation procedures of hand hygiene and regular surface disinfection; b) providing spacious areas by reconfiguring spaces to ensure appropriate physical distancing; c)

providing an isolation area for suspected infectious patients; d) ensuring ventilation systems comply with infection disease prevention policy (2, 3); e) flexible consultation rooms that can be used for virtual clinics or telehealth (4, 5); f) streamlined workflow with clearly defined pathways for staff and patients; g) provision for staff support spaces, which are specialised areas for rest and relaxation; and h) provision for donning and doffing area. The recommended layout of primary health care clinic design is shown in Figure 1.

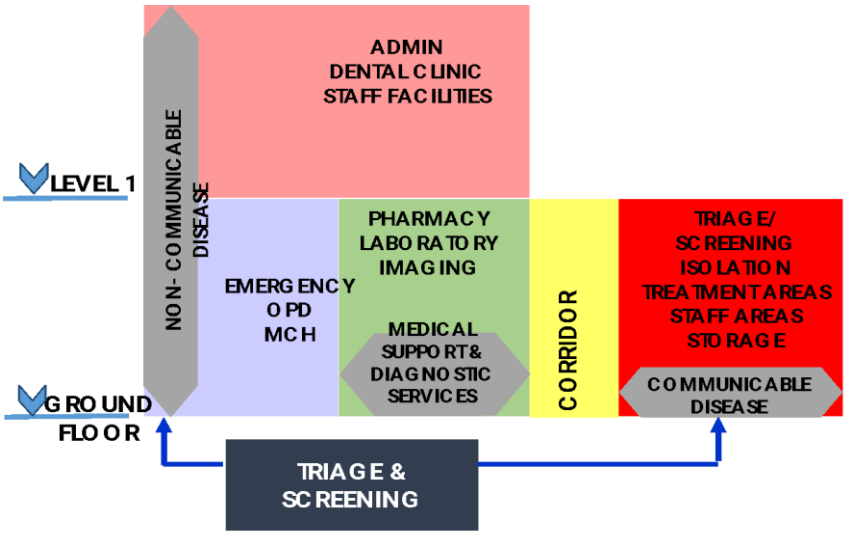



Figure 1. Sketch layout of new standard PAP for primary health care clinic (example of type 3 health clinic)

**Conclusion**

The post-COVID-19 era calls for the adaptation of health clinic design to prioritise infection control measures, virtual clinic, flexible spaces, and improved ventilation systems, ensuring safer and more efficient healthcare delivery while addressing future pandemics and public health emergencies. By addressing these key factors, health clinics are designed to be safer for both patients and staffs.

**References**

1. Nawawi NM. The Significance of Primary Health Care Design Evolution to Health Trend in Malaysia. 24th International Public Health Seminar of the Union of International Architects 30th May-4th June. 2004;(June):1–37.
2. Marinelli M. Emergency Healthcare Facilities: Managing Design in a Post Covid-19 World. IEEE Engineering Management Review. 2020;48(4):65–71.
3. Ministry of Health Malaysia. Guidelines on ventilation in the healthcare setting to reduce the transmission of respiratory pathogens. 2021.
4. Brambilla A, Sun TZ, Elshazly W, Ghazy A, Barach P, Lindahl G, et al. Flexibility during the covid-19 pandemic response: Healthcare facility assessment tools for resilient evaluation. International Journal of Environmental Research and Public Health. 2021;18(21).
5. Thomas EE, Haydon HM, Mehrotra A, Caffery LJ, Snoswell CL, Banbury A, et al. Building on the momentum: Sustaining telehealth beyond COVID-19. Journal of Telemedicine and Telecare. 2022;28(4):301–8.

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# FHSMPP12/69 : Factors Associated With Pre-Pregnancy Care Knowledge Among Undergraduate Students In Selangor

Nur Diyana Sakinah Muhamad Rusdi [1], Nik Nairan Abdullah [1], Mohd Shahril Ahmad Saman[1] Suzanna Binti Daud [2]
[1] *Department of Public Health Medicine, Faculty of Medicine, Universiti Teknologi MARA*
[2] *Department of Obstetrics & Gynaecology, Faculty of Medicine, Universiti Teknologi MARA*
*Corresponding author's email: niknairan@gmail.com*

**Summary**
Pre-pregnancy care (PPC) is important to improve maternal and fetal outcome. This study aimed to determine the prevalence of poor PPC knowledge and its associated factors. A cross-sectional study using convenience sampling was conducted among 145 unmarried female students from Universiti Teknologi MARA, Shah Alam. A self-administered Malay-validated online questionnaire was used. Results from multiple logistic regression revealed that intention to get married in 5 years or less and low awareness on the availability of PPC services were significantly associated with poor knowledge. PPC health education needs to be targeted especially to the young reproductive age population to raise their awareness.

**Keywords**
Pre-pregnancy care, knowledge, awareness, perception, services

**Introduction**
Pre-pregnancy care (PPC) is an intervention that optimises women's health before conception with the goal to improve maternal and neonatal outcomes and reducing morbidity and mortality (1). There was a low prevalence of PPC service utilisation in Malaysia. The main reason was poor awareness of the PPC services. Many studies found that younger women were less likely to utilise PPC (2) and had poor knowledge (3). However, these studies were conducted among pregnant women who attended government clinics. PPC should also be emphasized in the young reproductive population. The youth are the future generation. If their awareness about PPC increases, there is a higher likelihood for them to use PPC services and help prepare for parenthood. This study was aimed at determining the prevalence of poor PPC knowledge and its associated factors among unmarried female undergraduate students.

**Materials and Methods**
This was a cross-sectional study using convenience sampling that involved 145 unmarried female students aged 18–25 years old from Universiti Teknologi MARA, Shah Alam, between October to December 2022. A self-administered Malay-validated online questionnaire (Talib et al., 2018) was used, and it consisted of independent variables, which were socio-demographic data, family history of unplanned pregnancy, intention to get married, perceptions of the risk of pregnancy, awareness on the availability of PPC services and the outcome was knowledge of PPC. Descriptive analysis, simple logistic regression followed by multiple logistic regression analysis were conducted using SPSS version 25.0.

## Results and Discussion

The mean age of the study population was 21.7 (SD 1.6) years old. The prevalence of poor PPC knowledge was 17%. This finding showed discrepancies compared to another study that revealed married women who attended government clinics had a higher percentage of poor knowledge, which was 52% compared to ours (17% vs. 52%) (4). In our study, the prevalence of poor knowledge was low, probably because some of the items in the questionnaire could be answered using logical thinking without true exposure to the PPC service. The questionnaire, however, was chosen because it has been validated in Malay. In addition, a study shows that higher education levels were significantly associated with good PPC knowledge (3) and this may explain our findings among undergraduate students with a higher level of education compared to the general population. In the multiple logistic regression analysis, the intention to get married in 5 years or less (adjusted odds ratio [AOR] = 2.66; 95% CI: 1.06, 6.69; P = 0.037) and low awareness on the availability of PPC services (AOR = 5.4; 95% CI: 1.87, 15.60; P = 0.002) were significantly associated with poor knowledge of PPC. Their low awareness of the existence of PPC services may be due to being young, single, unmarried and without pregnancy experience, hence no PPC exposure. Compared to students who had the intention to get married after 5 years, those who intended to get married in 5 years or less have 2.66 times the odds of poor PPC knowledge.There were limitations in this study. Firstly, sample size is small and non-probability sampling were used. Secondly, the number of Malay-validated questionnaires that measured knowledge on PPC were limited. Thirdly, our study population only confined to Malay and Bumiputra. It is recommended to develop a revised questionnaire tailored to a more suitable study population.

Table 1: Sociodemographic characteristics of the respondents (N=145)

| | | Total Freq, n (%) | Mean (SD) |
|---|---|---|---|
| **Age** | | | 21.7 (1.61) |
| **Ethnicity** | Malay | 130 (89.7%) | |
| | Bumiputra (Sabah/ Sarawak) | 15 (10.3%) | |
| **Income** | ≤ RM 4850 | 96 (66.2%) | |
| | > RM 4850 | 49 (33.8%) | |
| **Chronic disease status** | No | 128 (88.3%) | |
| | Yes | 17 (11.7%) | |
| **Genetic disease status** | No | 132 (91.0%) | |
| | Yes | 13 (9.0%) | |

SD: Standard deviation

Table 2: Family history of unplanned pregnancy, intention to get married, perception of the risk of pregnancy, awareness on availability of PPC services and knowledge of PPC of the respondents (N=145)

| Variables | | Total Freq, n (%) |
|---|---|---|
| **Family history of unplanned pregnancy in the family** | No | 123 (84.8%) |
| | Yes | 22 (15.2%) |
| **Intention to get married** | ≤ 5 years | 49 (33.8%) |
| | > 5 years | 96 (66.2%) |
| **Perception of the risk of pregnancy** | Negative | 47 (32.4%) |
| | Positive | 98 (67.6%) |
| **Awareness on the availability of PPC services** | No | 72 (49.7%) |
| | Yes | 73 (50.3%) |
| **Knowledge of PPC** | Poor | 25 (17.2%) |
| | Good | 120 (82.8%) |

PPC: Pre-pregnancy care

Table 3: Factors associated with poor PPC knowledge, using simple and multiple logistic regression analysis (N=145)

| Variables | Simple Logistic Regression | | Multiple Logistic Regression | | |
|---|---|---|---|---|---|
| | Crude OR (95%CI) | *p*-value | B | Adjusted OR (95%CI) | *p*-value |
| **Age (year)** | 0.97 (0.74,1.26) | 0.807 | - | - | - |
| **Ethnicity:**<br>Malay<br>Bumiputra | 0.315 (0.04, 2.52)<br>1 | 0.276 | - | - | - |
| **Income:**<br>≤ RM 4850<br>> RM 4850 | 1.10 (0.44, 2.77)<br>1 | 0.835 | - | - | - |
| **Chronic disease:**<br>Yes<br>No | 0.27 (0.03, 2.14)<br>1 | 0.216 | - | - | - |
| **Genetic disease:**<br>Yes<br>No | 0.86 (1.80, 4.15)<br>1 | 0.853 | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| **Family history of unplanned pregnancy:** | | | | | |
| Yes | 0.20 (0.03, 1.53) | 0.121 | - | - | - |
| No | 1 | | | | |
| **Intention to get married:** | | | | | |
| ≤ 5 year | 2.53 (1.05, 6.07) | 0.038* | 1.351 | 2.66 (1.06,6.69) | 0.037* |
| > 5 year | 1 | | | | |
| **Perception:** | | | | | |
| Negative | 0.78 (0.30, 2.02) | 0.605 | - | - | - |
| Positive | 1 | | | | |
| **Awareness:** | 1 | | | | |
| Yes | 5.23 (1.84, 14.7) | 0.002* | 1.914 | 5.40 (1.87,15.6) | 0.002* |
| No | | | | | |

PPC: Pre-pregnancy care; OR: Odds ratio; CI: Confidence interval
*significant *p*-value <0.05

## Conclusion

Our study found that intention to get married in 5 years or less and low awareness on the availability of PPC services were significantly associated with poor knowledge of PPC. Through PPC health education, awareness can be raised using a variety of channels, including digital health platforms.

## References

1. Abu Talib, R., Idris, I. B., Sutan, R., Ahmad, N., & Abu Bakar, N. (2018). Patterns of Pre-pregnancy Care Usage among Reproductive Age Women in Kedah, Malaysia. Iranian journal of public health, 47(11), 1694–1702.
2. Du, L., La, X., Zhu, L. et al. Utilization of preconception care and its impacts on health behavior changes among expectant couples in Shanghai, China. BMC Pregnancy Childbirth 21, 491 (2021).
3. Jusoh, N., Tengku Ismail, T. A., & Hamid, N. A. A.. (2020). Utilization of Pre-pregnancy Care Services Among Women With High-Risk Pregnancy in the Northern Part of Peninsular Malaysia. International Journal of Women's Health and Reproduction Sciences, 9(1), 042–048.
4. World Health Organization. (2013). Meeting to develop a global consensus on preconception care to reduce maternal and childhood mortality and morbidity: World Health Organization Headquarters, Geneva, 6–7 February 2012: meeting report. World Health