



Performance model of dental nurses in implementing the integrated ante natal care program the first visit of pregnant women to the dental polyclinic at public health center

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Abstract

Background: Pregnant women are group which is susceptible oral diseases. Some research states that the level of knowledge, attitudes, and behavior of pregnant women can affect oral health. There are some effect of oral health in pregnancy such as pregnancy gingivitis, pregnancy periodontitis, pregnancy tumors, dental erosion, dental caries and tooth mobility.

Objective: This study aims to analyze various factors that influence the performance of dental nurses in the implementation of the integrated ANC program.

Methods: This study is an analytic observational with cross sectional design, the instruments used were questionnaire and forum group discussion, data analysis with SEM.

Results: Internal factors influence psychological factors but do not directly affect performance. The population in this study were dental nurses on duty at the East Java Health Center. Which met the following criteria. While external factors directly influence psychological and performance. Psychological factors have the greatest total effect on the performance of dental nurses in the implementation of the integrated ANC program at the Public health center. New scientific findings from this study are the discovery of nurse performance models that are fully mediated by psychological factors, so that internal factors influence the performance of nurses through psychological, and external factors affect the performance of nurses through psychological as well as directly.

Conclusion: The age, years of service, ability, acceptability, organizational support, leadership style, attitude, motivation, and job satisfaction can improve work quality and work initiatives.

Keywords: ANC program; dental nurses; first visit; performance model; pregnant women

Introduction

Pregnant women are group which is susceptible oral diseases. Some research states that the level of knowledge, attitudes, and behavior of pregnant women can affect oral health. The effect of pregnancy on oral health, including: pregnancy gingivitis, pregnancy periodontitis, pregnancy tumors, dental erosion, dental caries and tooth mobility. Pregnant women must realize the importance of maintaining oral health during pregnancy. Therefore, improving oral health and promoting health can reduce the occurrence of oral health problems. Oral health problems that occur during pregnancy is not merely influenced by the pregnancy itself but also by the knowledge, attitudes, and actions of pregnant women^[1].

Cross-program collaboration between the Maternal and Child Health Room (MCH) and the Dental and Oral Health Room is one form of collaboration that is quite influential on the level of dental and oral health of pregnant women. MCH which is a form of primary activity of the public health center is not only tasked with registering or knowing early on all abnormalities or cases or complaints found in the hard and soft tissues in the oral cavity of pregnant women, but it also provides a referral effort to the Dental and Oral Health room to be carried out dental and oral health care^[2].

The DMF-T rate in East Java is 5.5 which is included in the high

category, this shows that the still high dental problems especially caries experienced by the community including pregnant women. Therefore dental care for pregnant women is among those that must be considered and improved both through Community Based Health Efforts (UKBM) activities and efforts by Public health center^[3].

Previous research by A.Fulani in Ghana suggested that quality ANCs would reduce the likelihood of stillbirths, the ability of officers to intervene and the availability of facilities were other supporting factors. Another study showed that training antenatal services for midwives will be able to improve their knowledge and skills in providing antenatal services.

In addition to training, technical competency is also reflected in the regularity of health workers who provide Integrated ANC services following work procedures (SOP). Obedience is obedience to do something that is recommended and disciplined. Compliance relates to a person's behavior towards a predetermined order. Integrated ANC is a comprehensive (comprehensive) and quality antenatal (pregnancy) service that is provided to all pregnant women in an integrated manner with other programs that require intervention (treatment) during pregnancy. Dental and oral health care services are planned dental and oral health services, aimed at specific groups that can

be followed in a certain period of time carried out continuously in the field of promotive, preventive, and simple curative provided to individuals, groups, and the community [3, 4, 5].

Dental nurses at the public health center as the spearhead of dental and oral health services, especially in the fields of promotive, preventive and simple curative, should have a role in the success of the integrated ANC program. based on several reports mentioned that there are several pregnant women who do not come to dental polyclinic after receiving MCH services, every pregnant woman who comes to check her pregnancy at MCH must check her teeth to dental polyclinic [6].

Materials and Methods

This research has been ethically approved by National Unity and Community Protection. This type of research is analytic observational with a cross sectional study. The population in this study are dental nurses on duty at the East Java Health Center (according to data from East Java PTGMI). Which met the inclusion criteria: 1) Experience working as a dental nurse; 2) Work at a health center that has an integrated ANC program and; 3) Willing to be a respondent during the study. The total number of samples taken in this study are 107 respondents. The sampling technique used was a random sampling. The instrument that would be used in this study was the questionnaire which was obtained of perception, attitude, personality, motivation and job satisfaction, individual age, sex, years of service, knowledge, abilities and skills, which were related to the performance of dental nurses in supporting the Integrated ANC program and the external factors, such as: completeness of facilities, work acceptability, organizational support and leadership style. All data were analyzed used SPSS statistic software in windows.

Result

Descriptive Analysis of Variable Indicators in the Dental Nurse Performance Model in the Implementation of the Integrated ANC Program for Visiting Pregnant Women to Dental polyclinic in public health center.

The Final Model of Dental Nurse Performance in the Implementation of the Integrated ANC Program for Visiting Pregnant Women to Dental polyclinic at the Public health center. Based on the results of the model fit test on the performance model of dental nurses in the implementation of the integrated ANC program for the visit of pregnant women to Dental polyclinic at the Public health center, they have a Model fit index: χ^2 : 518,013, df: 165 *p-value* <0.001, GFI: 0.900, CFI:

0.947 , NFI: 0.9, RFI: 0.845, RMSEA: 0.08 Based on the combination of the various match sizes, it is generally said that the final SEM model as a whole is good fit.

Discussion

Effect of Individual Characteristics on Psychological Factors

Characteristics are certain characteristics of individuals to be distinguished from one another, both in terms of both attitude and behavior [4, 7]. The concept of individual characteristics in this study is spelled out in 4 (four) indicators, namely: interests, identity, personality and social background. Previous study stated that individual characteristics include traits in the form of abilities and skills, family background, social background and experience, age, gender and others that reflect certain demographic characteristics [8]. Motivation is a series of attitudes and values that influence individuals to achieve specific things in accordance with individual goals. When individuals are motivated, they will make positive choices to do something, because it can satisfy their desires. The concept of motivation in this study is spelled out in 3 (three) indicators, namely: the need for achievement, the need for cooperation and the need for power [8, 9].

Table 1: Descriptive statistic of variables for each questionnaire

Variables	Total items	Min-max Score	Mean (SD)
Internal Factor			
Knowledge	12	7-12	11.0 (1.14)
Ability	13	9-13	11.7 (1.14)
Skills	7	1-7	4.6 (1.20)
External Factor			
Completeness of facilities	25	20-25	23.87 (1.00)
Acceptability	4	10-16	13.91 (1.79)
Organization support	7	16-28	24.71 (3.21)
Leadership Style	6	18-24	20.38 (2.56)
Psychological Factor			
Perception	5	5-20	3.32 (1.25)
Attitude	6	18-24	20.52 (2.67)
Personality	5	0-5	3.25 (1.25)
Work Motivation	4	9-6	13.62 (1.96)
Work Satisfaction	6	14-24	19.07 (2.16)
Nurse Performance			
Responsible	7	5-14	11.55 (2.12)
Work Quantity	7	10-14	13.7 (0.64)
Work Quality	9	12-18	16.15 (1.26)
Teamwork	4	4-8	7.77 (0.78)
Initiative	5	13-20	16.5 (1.73)

Table 2: Summary of Model Graph Results

Hypothesis	Coefficient path	Standard error	p-value	Remarks
H1: Internal (Individu Characteristic) Towards Psychologic	0.261	0.031	<0.05	Support
H2: External factor towards psychologic	0.802	0.124	<0.05	Support
H3: Internal Towards performance	0.180	0.016	>0.05	Not supported
H4: External towards performance	-0.391	0.083	<0.05	Support
H5: Psychological towards performance	0.434	0.069	<0.05	Support

Table 1 shows the characteristics of respondents in the study. The majority of respondents were women (72.9%) and D3 education (70%). The average (mean (SD)) age of respondents is 40.8 (6.08) years with an average (mean (SD)) work period of 19.9 (5.57) years.

Effect of External Factors on Psychological Factors

The results showed that the external factors latent variables were built by observational variables namely aseptability, organizational support, and leadership style (CR: 0.910, AVE: 0.771) significantly influence the psychological latent variables

built by the observation variables namely attitudes, motivation, and job satisfaction (CR: 0.883, AVE; 0.716) with a path coefficient of 0.80, p -value <0.05.

Effects of Individual Characteristics

The results showed that the individual characteristic variables (gender, age, Years of service, knowledge, abilities and skills) did not significantly influence the performance of dental nurses in supporting the integrated ANC program at the Public health center. An individual's age affects physical, mental, work ability, responsibility, and tendency to be absent. Conversely, older employees have less physical condition, but work harder, and have greater responsibilities. The results from previous study which stated that there is a significant relationship between age and midwife performance ($\rho = 0,000$)^[9, 10, 11].

Influence of External Factors

The results showed that the external factors (acceptability, organizational support, and leadership style) together had a significant effect on the performance of dental nurses in supporting integrated ANC programs in Public health center with a path coefficient of -0.39, p -value <0.05. In addition to leadership behavioral factors or leadership style, work environment or facilities provided by the organization to employees are also external factors that support employee performance. Broadly speaking, the type of work environment is divided into 2 namely physical work environment and non-physical work environment. Physical work environment is all physical conditions that are around the workplace that can affect employees both directly and indirectly^[12].

Nitsemto in 2002 stated that the work environment is all that exists around workers who can influence themselves in carrying out the tasks that are charged. The work environment is a place where employees perform their duties and all activities and responsibilities in a job. A conducive work environment both physical work environment and non-physical work environment can influence employee morale and work motivation so that they are able to work optimally. Physical work environment is all physical conditions that are around the workplace that can affect employees directly or indirectly. The physical work environment is divided into two categories namely the environment which is directly related to employees and the intermediary environment or general environment that is able to influence the human condition^[11, 13].

Effects of Psychological Factors (perception, attitude, personality, motivation and job satisfaction)

The results showed that psychological factors significantly influence the performance of dental nurses with a path coefficient of 0.43, p -value <0.05 and also influenced by external factors. The performance of a dental nurse is influenced by psychological factors and also influenced by external factors, dental nursing is an integral form of professional health services that cannot be separated from overall health services. The psychology of an executive nurse can be influenced by external factors such as organizational support, poorly coordinated organizations or poor service systems that will affect a nurse's performance. Organizations in the ANC health service program are responsible for the program, namely the head of the Public health center.

Leadership style is an external factor that influences the work psychology of a nurse. A good leader is someone who can master management, making plans to begin preparation, process and evaluation. Leadership style that always monitors the activity process will affect the psychology of dental nurses as program executors, this can be seen from the results of research which states that external factors on psychological influence (coefficient path 0.802, p -value <0.05). Leadership style in addition to affecting the psychological performance will be able to cause work motivation of an executive nurse^[14].

This means that any increase in employee motivation will provide a very significant increase in improving employee performance in carrying out their work. The results of this study are consistent with the previous studies which states that work motivation has a positive effect on employee performance. This means that the better / higher employee motivation, then the employee's performance will also be higher. Motivation is a factor that drives a person to work so that his life needs are met, motivation is a determinant of behavior^[15, 16, 17].

The results of the study prove that nurses' performance is influenced by psychological factors with a path coefficient of 0.43, p -value <0.05 and also influenced by external factors with a path coefficient of -0.39, p -value <0.05, furthermore Nurse's performance is mediated full (full mediator) by psychological factors, so that internal factors influence the performance of nurses through psychological factors, and external factors affect the performance of nurses through psychological factors. Internal factors produce age, years of service, and abilities with CR = 0.781, and AVE = 0.621, external factors produce acceptability, organizational support, and leadership style with CR = 0.991 and AVE = 0.771, psychological factors produce attitudes, motivation, and job satisfaction with CR = 0.883 and AVE = 0.716, while nurse performance produces work quantity, work quality, and work analysis with CR = 675 and AVE = 504. The results of the study prove that the final model of dental nurse performance in the implementation of the integrated ANC program at the public health center shows a fit model with a fit index model: χ^2 : 518,013, df: 165 p -value <0.001, GFI: 0.900, CFI: 0.947, NFI: 0.9, RFI: 0.845, RMSEA: 0.08. So this model can predict the factors that influence the performance of dental nurses in the implementation of the integrated ANC program on visit of pregnant women. All path coefficients were significant (p -value <0.05), except for internal factors on the performance of dental nurses in the implementation of the integrated ANC program at the public health center. The goodness of fit, and fit indices are evaluated using: chi squared / df (the ratio of the chi square to the degree of freedom), goodness of fit index (GFI), comparative fit index (CFI), normed fit index (NFI), and related fit index (RFI). Model fit index: χ^2 : 518,013, df: 165, p -value: 0.00, GFI: 0.900, CFI: 0.947, NFI: 0.9, RFI: 0.845, RMSEA: 0.08^[18, 19].

Conclusions

The final model of dental nurses' performance in the implementation of the integrated ANC program at the public health center shows a fit model, so this model can predict factors that influence nurse performance.

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