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# Effect of Nurse's Characteristics on Their Willingness to Involve Patients in the Care Process in Hospitals in Tehran, Iran

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**ABSTRACT**

***Introduction:***
Patient involvement in the care process is a widespread concept, which is considered an important issue to improve the quality of healthcare. This study aimed at assessing the effect of nurses' characteristics on their willingness to involve patients in the care process in hospitals in Tehran, Iran.

***Materials and Methods:***
This study utilized the patient participation culture tool for healthcare workers to measure patient participation behavior. The cross-sectional data were collected from randomly selected nurses who were working in 11 hospitals affiliated to Tehran University of Medical Sciences, Tehran, Iran. Furthermore, the data were analyzed using a linear mixed model to analyze the differences among the nurses' characteristics. Moreover, the data were adjusted by the random effects of differences between hospitals and wards. A P-value less than 0.05 was considered statistically significant.

***Results:***
In total, 220 nurses from 18 wards participated in this study. The results showed that male nurses had a higher tendency to answer challenging questions (β=1.4; P=0.04), and younger nurses had significantly lower perceptions on coping with notifying questions asked by the patients (β=-1.7; P=0.02). In addition, nurses with Bachelor's degrees felt more support (β=2.8; P=0.02) and were more engaged in information sharing and dialogue (β=5.0; P=0.03). Furthermore, the full-time employed nurses perceived a lower lack of time (β=-1.2; P=0.002), compared to part-time peers.

***Conclusion:***
The findings indicate that the features and characteristics of the nurses might have an essential influence on patient involvement. Therefore, attention must be paid to these factors to overcome problems and obstacles that are encountered on the way of achieving effective patient involvement.

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## Introduction

The framework of the recent healthcare system is shifting towards a value-driven care model. In this model, patient value is delineated as the best outcomes from the perspective of patients at the lowest possible costs (1). The achievement of better outcomes requires an enhanced recognition of patients' perspectives and

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rights to be involved in decisions concerning their healthcare. A body of evidence suggests that the involvement of patients in all stages of care improves their health and well-being (1). Therefore, there has been a global tendency in recent years towards more active participation of patients in the care process (1,2). However, in the healthcare system, healthcare workers have a significant influence on patient involvement in sharing power and responsibility (3). In the care process, nurses have longer as well as more frequent and continuous interactions with patients, compared to other healthcare workers. Nurses can establish therapeutic relationships with patients, in which they have a wide range of opportunities to enter into dialogue, as well as include and validate patients' perspectives (4,5). In order to reach the goal of patient participation in the care, it is important that the nurse or caregiver put some issues into practice. These measures include getting the patient to be aware of the examination, treatment, alternatives, possible side-effects, and risks, as well as sharing the decision-making process with the patient, and asking the patient's consent for examination and treatment. Despite this evidence, nurses or practitioners often fail to listen and elicit patients' concerns or negotiate the treatment options. This failure may be partially due to the ineffectiveness of the learned skills or nurse's characteristics. A previously conducted study by Malfait et al. (2017) indicated that some nurse's characteristics including age, gender, level of education, and work status influenced nurses' willingness to involve patients in the care process (3).

Even though, many care providers agree that patient involvement is important and beneficial; however, there is a lack of clarity on the effective approaches. This lack of clarity may lead to a lack of uptake of offered involvement activities, lack of appropriate coordination within the healthcare team, and variable implementation of patient involvement strategies.

In Iran, the concept of patient involvement entered the healthcare system with the implementation of clinical governance as an accepted model to improve the quality of hospital care, and it became a nationwide task for all hospitals (6,7). Nonetheless, the determinants of implementation of patient's participation in practice and mutual decision making in the care process were less identified in Iran. A part of the patient involvement is critically dependent on the desire and the characteristics of the healthcare workers (i.e., nurses), which could have a significant influence in this regard. Therefore, this study aimed to ascertain a better understanding of the effects of nurse's demographic characteristics on involving patients in the care process in hospitals affiliated to Tehran University of Medical Sciences, Tehran, Iran.

## Materials and Methods

This quantitative study adopted a cross-sectional design using multilevel modeling. The multilevel aspect was reflected in the hierarchical structure of the data, in which the nurses were nested within wards and, in turn, they were nested within hospitals. Moreover, this study focused on surgical and internal medicine wards in teaching and non-teaching hospitals in Tehran, Iran.

## Instruments

The established and validated "patient participation culture tool for healthcare worker" (PaCT-HCW) (3,8) scale was utilized in order to evaluate the effect of nurses' demographic characteristics on their willingness to involve patients in the care process. The questionnaire comprised of 52 items with eight distinctive components, including competence (n=3), support (n=8), perceived lack of time (n=3), information sharing and dialogue (n=18), factual questions (n=5), challenging questions (n=4), notifying questions (n=4), and acceptance of a new role (n=7). The items were measured using a four-point Likert scale from 1=strongly disagree to 2=disagree, 3=agree, and 4=strongly agree.

The five items of this component operationalized foundational aspects of the patient participation, including nurses' willingness to share information with the patient and nurses' tendency towards sharing power and responsibility with patients. Moreover, the factual, challenging, and notifying questions represent three types of questions that may be asked by the

patients from the healthcare workers about a variety of issues, problems, and risks. Table 1 tabulates an overview of the included PaCT-HCW components and items. The full-validated content of the questionnaire used in this study is described elsewhere and has been used in a previous study conducted by Malfait et al. (3).

**Table 1:** An overview of the included PaCT-HCW components and items in the questionnaire

| Components | Explanation | Items |
|---|---|---|
| Competence | **Perceived competence of nurses to involve the patients in the care process** | **3** |
| Support | **Perceived support nurses receive from the hospital's management, supervisors, and peers to involve the patients in the care process** | **8** |
| Received lack of time | **Perceived shortage in time to involve the patients in the care process** | **3** |
| Information sharing and dialogue | **Interaction and dialogue with patients regarding patient involvement in the care process** | **18** |
| Factual questions | **Realizing possibilities on coping with factual questions by the patient** | **5** |
| Challenging questions | **Realizing possibilities on copping with challenging questions by the patient** | **4** |
| Notifying questions | **Realizing possibilities on coping with notifying questions by the patient** | **4** |
| Acceptance of a new role | **The self-reported tendency toward a more collaborative relationship with the patient** | **7** |
| **Total** | | **52** |

## Translation of PaCT-HCW questionnaire into Persian

The original version of the PaCT-HCW questionnaire was translated from English to Persian. The translation process was conducted in two phases. In the first phase, forward translation was undertaken by two translators, who were experienced in questionnaire translation with sufficient proficiency in English and Persian. The translators were then asked to prepare a list of alternative translations for some words if required. Subsequently, the agreed Persian version of the questionnaire was submitted to two other translators who were experts in Persian philology to determine the translation quality. The criteria to assess the quality of the translation included the clarity of the text, conceptual equivalence (similarity of content/meaning), and use of a common language in order to be an acceptable Persian version. In the second phase of the translation (back-translation phase), two English native translators were requested to translate the approved Persian version of the questionnaire into English. Finally, a comparison was made between the translations of these two translators and that of the original version of the questionnaire as performed by the previous translators. The questionnaire was subjected to piloting with nurses (n=10) from one of the hospitals affiliated to Tehran University of Medical Sciences, Tehran, Iran, to assess the reliability and validity. The results of this pilot indicated that the completion of the questionnaire took approximately 20 min; moreover, it was well understood and positively accepted by the respondents. Only minor textual amendments were made to the questionnaire following the pilot. The final Persian version of the questionnaire is provided in the supplementary information.

## Data collection

The sampling was performed in two stages. At the first stage, a number of wards were randomly selected from the qualified wards of teaching and non-teaching hospitals affiliated to Tehran University of Medical Sciences, Tehran, Iran. In the next stage, the nurses were randomly selected using a coordinator and an electronic randomization tool. The inclusion criteria were: 1) work in surgical and internal medicine wards, 2) understand Persian, 3) willingness to complete the PaCT-HCW questionnaire, and 4) work in the same ward for more than 6 months. On the other hand, nurses who were unable to understand the questionnaire or unwilling to provide written informed consent were excluded from the study. The local study coordinators distributed the paper-based questionnaires in sufficient quantities among randomly selected nurses identified as employees in the wards. Before participation, the research objective and procedure, voluntary nature of the study, and confidentiality of the data were explained to the participants. It is worth mentioning that informed written consent

was taken before their inclusion in the study, and three reminders were sent at approximately two weekly intervals. Since the questionnaires were anonymous, reminders were not targeted at non-responders. The data were collected from April to August 2018.

## Demographic characteristics

The demographic characteristics of the nurses included such information as gender, age intervals (≤25 years, 26-35 years, 36-45 years, and >45 years), an education level (Bachelor, Master, or higher), work status (part-time, full-time), time of employment in hospital (≤1 year, >1 year), time of employment in the ward (≤1 year, >1 year), type of ward (Surgical, Internal medicine), and supervising role (Yes, No).

## Data analysis

The profile of nurses was described using summary statistics (frequencies and percentages). The summary index for each component was defined as the sum score of statements in each component divided by the number of statements. The summary index ranges from 1 ("very possibility of having the unwillingness to involve patients in the care process") to 4 ("very possibility of having the willingness to involve patients in the care process"). For all components, the sum score was estimated, and a linear mixed model was employed to analyze the differences among the nurses' characteristics.

In order to overcome a random effect by multilevel clustering of the hospital and ward, they were utilized as a random effect, and all demographic variables (age, gender, education level, and employment status) were used as fixed factors. The data were analyzed in SPSS software (version 25.0, IBM Corporation, Armonk, NY, USA). Moreover, the results were elaborated by describing P-value, beta-coefficient (β; the difference in comparison to the reference category), and a confidence interval of 95% (95% CI). A P-value less than 0.05 was considered statistically significant. The study protocol was approved by the Ethics Committee of the Tehran University of Medical Science, Tehran, Iran (IR.IAU. TMU. REC. 1397.252).

## Results

Table 2 tabulates the demographic characteristics of the nurses. In total, 220 nurses from 18 wards (7 surgical and 11 internal medicine) in 11 hospitals (8 teaching and 3 non-teaching hospitals) participated in this study. The majority of the nurses were female (91.4%) and were in the age range from 26 to 35 years (48.2%). Moreover, a higher frequency of the nurses had a Bachelor's degree (86.4%) with a full-time contract (91.4%) and >1-year employment experience in the hospital (90.9%).

**Table 2:** General characteristics of the nurses participated in the study (n=220)

| Characteristics | N (%) |
|---|---|
| Gender | |
| **Male** | **19 (8.6)** |
| **Female** | **201 (91.4)** |
| Age (years) | |
| **≤ 25** | **28 (12.7)** |
| **26-35** | **106 (48.2)** |
| **36-45** | **52 (23.6)** |
| **> 45** | **34 15.5)** |
| Education level | |
| **Bachelor's degree** | **190 (86.4)** |
| **Master or higher degrees** | **30 (13.6)** |
| Work status | |
| **Full-time** | **201 (91.4)** |
| **Part-time** | **19 (8.6)** |
| Time of employment in the hospital | |
| **≤ 1 year** | **20 (9.1)** |
| **> 1 year** | **200 (90.9)** |
| Type of hospital | |
| **Teaching (General)** | **133 (60.5)** |
| **Teaching (Specialized)** | **39 (17.7)** |
| **Non-teaching** | **48 (21.8)** |
| Time of employment in the ward | |
| **≤ 1 year** | **37 (16.8)** |
| **> 1 year** | **183 (83.2)** |
| Type of ward | |
| **Surgical** | **106 (48.2)** |
| **Internal medicine** | **114 (51.8)** |
| Supervising role | |
| **Yes** | **45 (20.5)** |
| **No** | **175 (79.5)** |

The summary index scores within each component (i.e., competence, support, perceived lack of time, information sharing and dialogue, factual questions, challenging questions, notifying questions, and acceptance of a new role) ranged between 1.9 and 2.5 (Figure 1). These scores have

indicated that the majority of the components were perceived as the possible or very possibility of having a willingness to involve patients in the care process by respondents. The percentage of nurses' responses on different components of PaCT-HCW has been detailed in Supplementary Table 1.

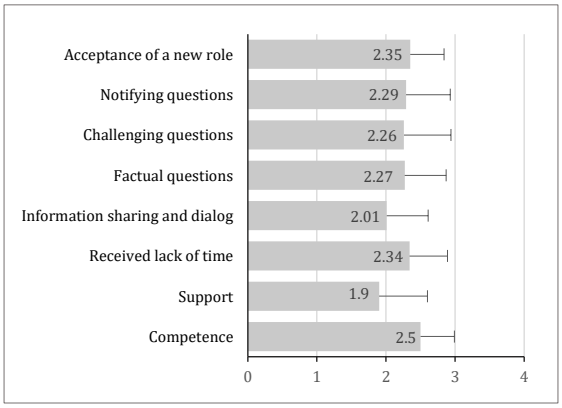


**Fig 1:** Summary index scores derived for each component (mean±SD). Scores 0-2= "very possibility of having the unwillingness to involve patients in the care process"; scores 2-4= "very possibility of having the willingness to involve patients in the care process".

The obtained data were then examined further concerning nurses' demographic characteristics to investigate the extent to which nurses' age, gender, education level, and employment status were related to their willingness to involve patients in the care process. Table 3 presents the association of each component in the PaCT-HCW questionnaire with the nurses' characteristics.

## Gender differences

Gender was used as a between-subject variable to investigate whether there is a difference between males and females in terms of coping with each component. According to the results, a significant difference was observed between male and female nurses in terms of coping with the challenging question. Male nurses had 1.4 times higher (95% CI: 0.09-2.67; P=0.04) tendency to answer challenging questions from patients, compared to female colleagues. Further, no significant difference was observed between males and females regarding other components.

## Age differences

The results revealed that younger nurses (≤25 years) had significantly 1.72 times lower (95% CI: -3.12- -0.33; P=0.02) perceptions on coping with notifying questions by the patient, compared to older nurses. However, there was no significant difference among other age groups in terms of other components.

## Education level

To investigate whether there is a difference among patients with a Bachelor, Master, or higher degrees in terms of each component, analyses were conducted using educational status (Bachelor, Master, or higher) as the between-subject variable. It was noticed that the level of education made significant differences in support and the level of information sharing and dialogue. Nurses with Bachelor's degrees felt more support (β=2.79; 95% CI: 0.59-5.03; P=0.02) and were more engaged in information sharing and dialogue (β=4.97; 95% CI: 0.64-9.30; P=0.03), compared to their colleagues with Master or higher degrees. Moreover, no significant differences were found among other components in terms of patients' involvement in the care process.

## Employment status

Our results also indicated that the full-time employed nurses perceived 1.25 times lower lack of time (95% CI: -2.06- -0.45; P=0.002), compared to their part-time peers. Moreover, there were no significant associations among other included components. The results also revealed no significant differences among all eight components in the PaCT-HCW questionnaire regarding the duration of nurses' employment on different wards in various hospitals.

However, there were significant differences between employed nurses in the surgical and those in the internal medicine wards regarding support and coping with challenging, notifying, and factual questions. Nurses in surgical ward felt more support (β=1.57; 95% CI: 0.11-3.02; P=0.04) and had more tendency to answer challenging questions (β=0.99; 95% CI: 0.29-1.27; P=0.006), notifying questions

(β=0.93; 95% CI: 0.27-1.60; P=0.006), and factual questions (β=0.95; 95% CI: 0.15-1.76; P=0.02) asked by the patients. Furthermore, the supervising role of the nurses had no significant effects on their willingness to involve the patient in the care process.

## Discussion

This study empirically investigated the effect of nurses' demographic characteristics on their willingness to involve patients in the care process. Our results showed that male nurses had a higher tendency to answer challenging questions; moreover, younger nurses had a significantly lower perception of coping with notifying questions by patients. In addition, nurses with Bachelor's degrees felt more support and were more engaged in information sharing and dialogue. Furthermore, the full-time employed nurses perceived a lower lack of time, compared to part-time peers.

The results revealed that male nurses had higher perceptions of the possibilities of coping with challenging questions by the patient, compared to female nurses. In a study on the nurses' willingness to involve patients into the care, it has been noticed that male nurses focused more on the information sharing and patient dialogue, compared to female nurses (3); however, in our study no significant differences were observed between males and females regarding information sharing and dialogue.

Younger nurses were less reluctant to answer notifying questions asked by the patients. There were controversial results regarding the effect of age on the involvement of patients in the care process. Other studies that investigated the effect of physician age on patient participation showed that the age did not affect the patient's participation (9, 10). However, in a study conducted by Malfait et al., it was concluded that different age groups of nurses affected the components of acceptance of a new role, perceived lack of time, and coping with challenging and factual questions (3). Previous results showed that younger nurses who were directly responsible for the treatment of patients were more likely to try to get information from patients and share their decisions with them (11-13). In our population, younger nurses, compared to older ones, and nurses who had a supervisory role felt less managerial support and had fewer opportunities to answer the questions asked by the patients. Accordingly, it is less accepted by the nurses to take a new responsibility to involve the patient in the care and decision-making process. Therefore, they showed a lower willingness to involve the patients in the care process.

The nurses with Bachelor's degrees felt more support and were more engaged in information sharing and dialogue, compared to their colleagues with Master or higher degrees. It was also indicated in this study that higher education did not lead to better results in sharing information and discussing with patients, which was consistent with the results of a previously conducted study (3). It seems that nurses with Bachelor's degrees, who participate in training programs, gain the necessary skills to involve patients in the care process, and promote quality of care. Therefore, clinical service lines and trainings must show more concern about fostering information sharing and collegiality between patients and nurses. Previously, it is stated that sharing of power and responsibility to encourage patient involvement could be considered an advanced nursing skill (14). Care provider's education can be an effective factor in the successful implementation of the patient involvement strategy (15). Patient involvement offers opportunities to take personal responsibility, which is an important aspect of patients' empowerment and personal recovery (16,17). In line with the findings of a previously conducted study, the results of the present study showed no significant association of the duration of nurses' experience in hospitals and related wards with their willingness to involve patients in the care process (3). Moreover, some nurses mentioned that less experienced nurses prefer not to engage patients in the care and decision-making process since they tend to have fewer challenges with them. On the other hand, experienced nurses would

prefer to involve patients in the care process and give them more responsibility to not have a passive role. The full-time collaboration of nurses with the department also had effects on the perceived lack of time. In this study, the type of nurses' collaboration with the department did not affect the other compartments of willingness to involve the patients in the care process. However, it was previously noticed that the type of nurses' cooperation with the department had effects on the feeling of support from the management, and part-time nurses felt that they received less attention from the management (3). Similarly, the presence or lack of a supervisory role did not affect the nurse's willingness to involve the patient in the care process. However, it has been indicated previously that due to high work pressure, the nurse staff was less likely to get the patient to be involved, whereas the supervisors had a different perception of the patient involvement. The supervisor nurses tend to consider patient involvement a simpler task, compared to their peers. This could lead to a misunderstanding of expectations about the involvement of the patients in daily activities, which may even lead to conflict with nursing staff (3). The results also revealed that employment in specialized surgical wards affects the sense of management support and coping with challenging, notifying, or factual questions due to the nature of the ward, compared to other nurses from other sectors. Notably, our findings were consistent with the results of a study conducted by Malfait et al. (3). In general, many of the nurses believed that the patients ' involvement into the care process and giving a task to the patient are beneficial for both of them; however, they mentioned that the explanation of the procedures to the patient was very time-consuming and might lead them to stay away from their medical care task.

The results of the current study were affected by cultural, educational, and state of implementation of patient involvement in the country. In Iran, the conditions of some wards have not been prepared well for the implementation of the patient's involvement in the care process. On the other hand, patients are still unaware of the rights of the patient even though the patient's right is communicated to the hospitals. Since this study only focused on the nurses' characteristics, further studies are required to move beyond and explore in detail the effect of different combinations of staff with different qualifications and experiences on their willingness to involve patients in the care process.

## Limitations of the study

This study utilized the validated PaCT-HCW tool developed by Malfait et al. However, it should be noted that this questionnaire has not been used and validated in any previously conducted studies on the Iranian population; therefore, further research is necessary to validate the questionnaire. Secondly, due to the cross-sectional nature of this study, the interpretation of the results can be affected by selection bias and confounding. Moreover, this study was conducted only at hospitals affiliated to Tehran University of Medical Sciences, Tehran, Iran, with a limited number of participants. Therefore, the results cannot be generalized to other medical centers. It is worth mentioning that a study at several university hospitals can have more credible results.

## Conclusion

This study investigated the positive or negative effects of nurses' characteristics on willingness to involve the patient in the care process.

Moreover, the findings of this study reinforced the notion that the features and characteristics of the nurses might be very important and effective factors on patient involvement in the care process. Therefore, attention might be paid to these factors in order to overcome problems and obstacles that are encountered on the way of achieving effective participation. Patient involvement can be supported by actions, such as the development of guidelines for patient participation, inclusion of training courses aimed at raising awareness and empowerment of nurses in this field, and provision of an environment to improve conditions for both patients and nurses in patient participation. Further studies and interventions are essential to evaluate the

factors that can lead to encouraging nurses to involve patients in the care process.

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**Table 3:** Association of the PaCT-HCW components with nurses' characteristics (n=220)

| | Competence | | Support | | Perceived lack of time | | Information sharing | | Acceptance of a new role | | Challenging questions | | Notifying questions | | Factual questions | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | β (95% CI) | *P*-value | β (95% CI) | *P*-value | β (95% CI) | *P*-value | β (95% CI) | *P*-value | β (95% CI) | *P*-value | β (95% CI) | *P*-value | β (95% CI) | *P*-value | β (95% CI) | *P*-value |
| Gender | | | | | | | | | | | | | | | | |
| Male | 0.05 (-0.67-0.76) | 0.90 | 2.61 (-0.03-5.25) | 0.06 | 0.05 (-0.75-0.84) | 0.91 | -0.15 (-5.27-4.97) | 0.95 | -0.33 (-2.03-1.37) | 0.70 | 1.38 (0.09-2.67) | 0.04 | 0.62 (-0.59-1.82) | 0.32 | 1.25 (-0.21-2.72) | 0.09 |
| Female | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - |
| Age (years) | | | | | | | | | | | | | | | | |
| ≤ 25 | -0.33 (-1.15-0.49) | 0.43 | 0.32 (-2.74-3.38) | 0.84 | 0.36 (-0.56-1.27) | 0.45 | 2.05 (-3.87-7.97) | 0.49 | -1.54 (-3.51-0.43) | 0.12 | -0.55 (-2.04-0.94) | 0.47 | -1.72 (-3.12- -0.33) | 0.02 | -0.98 (-2.67-0.72) | 0.26 |
| 26-35 | 0.15 (-0.48-0.79) | 0.63 | 0.63 (-1.72-2.98) | 0.60 | 0.38 (-0.33-1.08) | 0.30 | -0.38 (-4.94-4.18) | 0.87 | -1.21 (-2.72-0.31) | 0.12 | -0.07 (-1.22-1.08) | 0.90 | -0.9 (-1.16-0.98) | 0.87 | -0.83 (-2.13-0.48) | 0.21 |
| 36-45 | 0.17 (-0.47-0.80) | 0.60 | -0.07 (-2.43-2.30) | 0.96 | -0.04 (-0.75-0.68) | 0.92 | -3.49 (-8.07-1.09) | 0.14 | -0.55 (-2.08-0.97) | 0.48 | 0.61 (-0.55-1.77) | 0.30 | 0.54 (-0.54-1.62) | 0.33 | 0.33 (-0.98-1.64) | 0.62 |
| > 45 | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - |
| Education Level | | | | | | | | | | | | | | | | |
| Bachelor | -0.41 (-1.02-0.19) | 0.19 | 2.79 (0.56-5.03) | 0.02 | 0.21 (-0.46-0.88) | 0.54 | 4.97 (0.64-9.30) | 0.03 | -0.27 (-1.71-1.17) | 0.71 | -0.15 (-1.24-0.94) | 0.79 | -0.21 (-1.23-0.82) | 0.69 | -0.29 (-1.53-0.95) | 0.65 |
| Master or higher | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - |
| Work status | | | | | | | | | | | | | | | | |
| Full-time | -0.075 (-0.79-0.64) | 0.18 | 0.41 (-2.26-3.09) | 0.76 | -1.25 (-2.06- -0.45) | 0.002 | -4.01 (-9.19-1.16) | 0.13 | 0.44 (-1.29-2.16) | 0.62 | -0.69 (-2.00-0.61) | 0.30 | -0.61 (-1.83-0.61) | 0.32 | -0.54 (-2.03-0.94) | 0.47 |
| Part-time | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - |
| Employment in hospital | | | | | | | | | | | | | | | | |
| ≤ 1 year | -0.20 (-1.17-0.77) | 0.68 | -0.34 (-3.94-3.26) | 0.85 | 0.04 (-1.04-1.12) | 0.94 | -2.95 (-9.92-4.02) | 0.41 | -1.68 (-4.00-0.64) | 0.15 | 0.47 (-1.29-2.23) | 0.60 | 1.37 (-0.27-3.02) | 0.10 | 0.61 (-1.39-2.61) | 0.55 |
| > 1 year | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - |
| Employment in ward | | | | | | | | | | | | | | | | |
| ≤ 1 year | -0.20 (-0.95-0.55) | 0.59 | 1.11 (-1.68-3.90) | 0.44 | 0.18 (-0.65-1.02) | 0.66 | 1.40 (-4.00-6.80) | 0.61 | 0.92 (-0.88-2.71) | 0.32 | 0.13 (-1.24-1.49) | 0.85 | -0.42 (-1.69-0.86) | 0.52 | -0.28 (-1.83-1.27) | 0.72 |
| > 1 year | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - |
| Type of ward | | | | | | | | | | | | | | | | |
| Surgical | 0.18 (-0.22-0.57) | 0.38 | 1.57 (0.11-3.02) | 0.04 | 0.24 (-0.20-0.68) | 0.28 | -0.68 (-3.50-2.14) | 0.63 | 0.73 (-0.21-1.66) | 0.13 | 0.99 (0.29-1.71) | 0.006 | 0.93 (0.27-1.60) | 0.006 | 0.95 (0.15-1.76) | **0.02** |
| Internal medicine | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - |
| Supervising role | | | | | | | | | | | | | | | | |
| Yes | 0.13 (-0.45-0.72) | 0.65 | 0.11 (-2.06-2.27) | 0.92 | 0.42 (-0.23-1.07) | 0.20 | -0.11 (-4.30-4.07) | 0.96 | -0.18 (-1.57-1.21) | 0.80 | -0.77 (-1.83-0.28) | 0.15 | -0.26 (-1.24-0.73) | 0.61 | -0.77 (-1.97-0.43) | 0.21 |
| No | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - | 0.00 | - |