SUMMARY

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Title : Analysis of Factors Influencing the Implementation of Electronic-Based Discharge Planning among Nurses in Inpatient Wards at Dr. Ramelan Naval Central Hospital

Discharge planning is an essential component of nursing care that ensures continuity and safety of patient care after hospital discharge. It is a systematic, collaborative process covering needs assessment, education, medication information, follow-up care, and preparation for self-care at home. Electronic Medical Records (EMR) have transformed conventional discharge planning into an electronic process that improves documentation accuracy, accessibility, information continuity, and coordination. However, success depends not only on technology but also on nurses' knowledge, attitudes, and motivation, organizational support, workload, resources, and family or caregiver involvement. Because studies on electronic-based discharge planning remain limited in Indonesia, particularly at Dr. Ramelan Naval Central Hospital, this study was conducted to address that gap.

The study was grounded in the concepts of discharge planning, EMR, the IDEAL discharge planning model, and the Theory of Planned Behavior (TPB). The IDEAL model has five components: Include (involving patients and caregivers), Discuss (the condition and treatment plan), Educate, Assess (patient and family understanding), and Listen (to their concerns). The TPB explains how attitudes, perceived behavioral control, motivation, and environmental support shape nurses' intentions and behavior.

This quantitative cross-sectional study involved 201 nurses from 22 inpatient units at Dr. Ramelan Naval Central Hospital, Surabaya, selected through simple random sampling. The independent variables were individual nurse factors (X1: knowledge, attitude, motivation), organizational factors (X2: resource availability, management support, workload), technology factors (X3: usability, reliability, electronic system training), and family/caregiver involvement (X4: identification, participation, understanding, readiness). The dependent variable was electronic-based discharge planning implementation (Y), measured with an observation checklist based on the IDEAL model. Analysis included univariate analysis, Chi-Square and Odds Ratio for bivariate analysis, and multiple logistic regression with Adjusted Odds Ratio (AOR) at a 95% confidence level.

Overall, 65.7% of nurses implemented electronic-based discharge planning in the good category. However, 58.7% had poor individual factors, indicating a need to improve knowledge, attitudes, and motivation. Organizational support was relatively balanced, with 51.2% reporting inadequate and 48.8% adequate support. Technology needed improvement: 71.1% of respondents had inadequate technology factors and only 28.9% were rated good. Family/caregiver involvement was inadequate among 68.7% of respondents.

Among the IDEAL components, Include achieved the highest implementation (100%). An important gap appeared in Discuss, particularly discussion of diagnosis, current condition, and prognosis, completed in only 59.7% of cases.
Bivariate analysis showed significant associations between all four factors and discharge planning implementation. Individual factors had the strongest crude association (OR = 12.020; 95% CI 5.115–28.246; $p < 0.001$), followed by organizational factors (OR = 7.791; 95% CI 3.866–15.700; $p < 0.001$). Technology and family/caregiver involvement were also significant at the bivariate level.
Multivariate analysis showed that individual nurse factors remained dominant (AOR = 6.633; 95% CI 2.253–19.528; $p = 0.001$), and organizational factors were also significant (AOR = 5.528; 95% CI 2.583–11.833; $p < 0.001$). Technology (AOR = 1.462; $p = 0.606$) and family/caregiver involvement (AOR = 1.486; $p = 0.489$) were not significant after adjustment. The model showed good fit, with Nagelkerke $R^2 = 0.414$, Hosmer–Lemeshow $p = 0.624$, and 79.6% classification accuracy.

The findings indicate that nurses' knowledge, attitudes, and motivation are important determinants of electronic discharge planning implementation. This is particularly relevant because 85.6% of respondents had never received discharge planning training and 79.1% had never received EMR training. Organizational support also matters, through management support, supervision, resources, workload management, and clear procedures. Although technology and family involvement were significant in the bivariate analysis, they were not independently significant after controlling for other factors. Electronic discharge planning should therefore be viewed not merely as a technological intervention but as an integrated nursing management process requiring competent nurses, organizational support, supervision, workload management, effective training, and a user-friendly system.

Electronic-based discharge planning using the IDEAL model was generally implemented well, although improvement is needed, particularly in discussing diagnosis, current condition, and prognosis, and in completing electronic documentation and education materials. Individual nurse factors were dominant based on the highest AOR, followed by organizational factors.
The study recommends strengthening nurses' knowledge, motivation, and competence through regular training; implementing all IDEAL components consistently; improving clinical supervision and organizational support; managing workload; conducting regular documentation audits; and optimizing EMR usability and reliability. Future studies should examine individual sub-variables separately and consider additional factors such as interprofessional communication, time, and patient characteristics.