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The Impact of Ward Round Strategy in Clinical Pharmacy Undergraduate Internship Teaching on the Awareness Rate of Clinical Pharmacists is Being Studied

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Abstract: This study aims to explore the awareness of clinical pharmacists among patients during ward rounds when they are not accompanied by interns, and to compare the level of awareness of clinical pharmacists among them after teaching undergraduate interns about ward rounds strategies. It explores whether undergraduate internship teaching would change (increase or decrease) the awareness of clinical pharmacists.

Keywords: Clinical pharmacist; Undergraduate internship; Teaching; Ward rounds strategy; Awareness rate

1. Introduction

This study focuses on the ward round strategy of clinical pharmacy undergraduate internship teaching, and conducts pharmacy ward rounds for hospital patients through internship teaching. We aim to compare the awareness of clinical pharmacists among patients before and after the implementation of ward rounds with and without interns, as well as between different internship teaching ward rounds strategies. We randomly select three days to survey the awareness of clinical pharmacists among discharged patients through bedside questioning. We compare and analyze the awareness rates of each ward round strategy taught during internships, as well as the awareness rates of ward rounds without interns and with interns. Based on the analysis results, we adjust and optimize the ward round strategy, explore better internship teaching and ward round strategies, cultivate qualified undergraduate clinical pharmacy internship students, and improve the awareness rate of clinical pharmacists among patients, thereby enhancing the overall undergraduate clinical pharmacy internship teaching level of the hospital.

2. Research methods

2.1 Data collection

The statistical period is from January 2023 to December 2023

A. Under the current strategy of clinical pharmacists not conducting internship teaching rounds (clinical pharmacists conducting individual rounds), a random three-day bedside inquiry was conducted on discharged patients on the same day (inquiry method was clinical pharmacist inquiry, patient response, clinical pharmacist record, reflected in questionnaire survey form) to assess the knowledge of clinical pharmacists and calculate the awareness rate of clinical pharmacists.

B. Conduct pharmaceutical rounds for hospital patients according to the newly designed several types of internship guidance and ward rounds strategies, with each type implemented for a fixed period of one month. Randomly select three days to inquire about the knowledge of clinical pharmacists at the bedside of discharged patients, and calculate the awareness rate of clinical pharmacists.

C. Organize the awareness data collected from steps A and B, and compare the awareness data corresponding to each ward round strategy.

D. Adjustment of internship teaching and ward rounds strategy: Based on changes in patient awareness of clinical pharmacists, adjust and optimize to form a new internship teaching and ward round strategy.

2.2 Data analysis

SPSS 28.0 software was used for statistical analysis of the data in this study. X^2 test was used for count data, $\overline{x} \pm s$ for metric data, t-test, and $P<0.05$ were used for statistical significance.

2.3 Technical route

The aim of this study was to improve patients' awareness of clinical pharmacists by optimizing and adjusting internship teaching and ward rounds strategies. The specific ward rounds were as follows (all of the following strategies were conducted with the participation of interns):

Strategy 1 (A): Extend ward rounds;

Strategy 2 (B): Distribute clinical pharmacist business cards; Provide paper-based medication education; Extract the key content of the guide and distribute it as a manual;

Strategy 3 (C): Patient medication tracking throughout the entire process;

Strategy 4 (D): All clinical pharmacists conduct pharmaceutical rounds once a week;

Strategy 5 (E): Provide patients with relevant medical insurance information and inform them of new relevant policies in real time;

Strategy 6 (F): Establish a WeChat group for patient medication consultation, invite patients to join the group during ward rounds, and update drug information in real-time in the group for patients to read; Antibacterial drug education, utilizing existing pharmaceutical related WeChat public platforms to popularize pharmaceutical knowledge;

Strategy 7 (G): Invite pharmaceutical experts from higher-level hospitals to conduct pharmaceutical teaching rounds once a month.

After implementing the above plan, statistical analysis would be conducted to optimize the design of an internship teaching and ward round strategy with the best patient acceptance, clinical pharmacist personnel, time, and economic cost. It would be implemented for one month, and the awareness rate will be counted to test its feasibility.

2.4 Research results

Before implementing the ward round strategy trial, a random sampling was conducted on the awareness rate of clinical pharmacists among discharged patients for 3 days. 100 patients (including discharged and hospitalized patients) were randomly selected, and 31 patients were aware of clinical pharmacists. From January to December 2023, different ward rounds were implemented, and one month later, 100 patients who had been hospitalized for 3 days (including discharge and hospitalization) were randomly selected.

In January 2023, A would be implemented, extending the daily ward rounds from 1 hour to 2 hours, with a focus on increasing the number of patients from 5 to 10. One month later, 40 patients were randomly selected to know the clinical pharmacist. Implement B in February; Provide paper-based medication education; Extract the key content of the guide and distribute it as a manual; One month later, 45 patients were randomly selected to know the clinical pharmacist. Implement C in March; 47 patients are aware of clinical pharmacists. Implement D in April, once a week; One month later, a random sampling was conducted for 3 days, and 50 patients were informed of the clinical pharmacist. In May, E was implemented, and one month later, a random sampling was conducted, and 54 patients were informed of the clinical pharmacist. Implement F in June; One month later, a random sampling was conducted, with 100 hospitalized patients and 57 patients knowing the clinical pharmacist. Implementation G in July: Inviting pharmaceutical experts from higher-level hospitals to conduct pharmaceutical teaching rounds; After one month of random sampling, 59 patients were informed of the clinical pharmacist. Implement A+B+C in August; After one month of random sampling, 67 patients were informed of the clinical pharmacist. Implement A+B+C+D in September; After one month of random sampling, 69 patients were informed of the clinical pharmacist. Implement A+B+C+D+E in October; After one month of random sampling, 70 patients were informed of the clinical pharmacist. Implement A+B+C+D+E+F in November; After one month of random sampling, 87 patients were informed of the clinical pharmacist. Implement A+B+C+D+E+F+G in December; After one month of random sampling, 89 patients were informed of the clinical pharmacist.

3. Discuss

After a year long implementation of ward rounds strategy, different implementation plans were adopted in different months, and the overall data of individual implementation strategies showed little difference. The data was as follows: pairwise comparison of the above 12 implementation plans was as follows: SPSS 29.0 statistical software was used for data analysis, independent sample t-test was used for comparison between the two groups, and paired t-test was used for comparison before and after treatment. The difference was statistically significant with $P<0.05$.

The implementation of C compared to D, $P<0.05$, showed statistically significant differences. The comparison between the effects of C and D schemes before the implementation of the strategy showed statistically significant differences ($P=0.047$);

The implementation of E compared to F, $P<0.05$, showed a statistically significant difference. The comparison between E and F schemes showed no statistically significant difference ($P=0.047$) compared to the effect before the strategy was adopted;

The implementation of F compared to G, $P<0.05$, showed statistically significant differences, while the comparison between F and G schemes showed no statistically significant differences before the implementation of the strategy ($P=0.071$);

The implementation of A+B+C compared to D+E+F, $P<0.05$, showed statistically significant differences. The comparison between A+B+C and D+E+F schemes showed no statistically significant difference before the implementation of the strategy ($P=0.077$);

The implementation of A+B+C compared to E+F+G, $P<0.05$, showed statistically significant differences. The comparison between

A+B+C and E+F+G schemes before the implementation of the strategy showed no statistically significant differences (P=0.088);

The implementation of A+B+C+D compared to A+B+C+D+E, P<0.05, showed statistically significant differences. The comparison between A+B+C and E+F+G schemes before the implementation of the strategy showed no statistically significant differences (P=0.056);

The implementation of A+B+C+D+E compared to A+B+C+D+E+F+G, P<0.05, showed statistically significant differences. The A+B+C and E+F+G schemes compared the effects before the strategy was adopted, and there was no statistically significant difference between the two schemes (P=0.071);

4. Conclusion

Both individual and joint implementation of the above ward rounds strategies can increase the awareness rate of clinical pharmacists. The joint implementation of three or more ward rounds strategies was the most significant for improving the awareness rate of clinical pharmacists. The difference in the effectiveness of joint implementation of three or more ward rounds strategies was not significant. The above conclusion needs to be further verified by a large sample size over a long period of time [5].

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