

Effect of Introducing Electronic Documentation Tool on Patients' Satisfaction Toward Counselling at Secondary Hospital in United Arab Emirates

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Abstract

Introduction: It has been suggested that electronic documentation be used to improve the quality of service, patient safety, and patient counselling. With the global shift from paper-based to electronic documentation, it's more important than ever to find treatments that can enhance quality of care and patient safety. Despite being an essential component of patient-centred care and pharmaceutical care, there is still a gap in recording pharmaceutical care services, which has been a source of worry in the healthcare system. Appropriate patient counselling impacts the improvement of the safe use of High Alert Medication and reduces the risk of negative consequences. **Purposes:** The goal of this study is to use a standard instrument for documentation to establish an electronic documentation system for drug-related (High Alert Medication) patient counselling and analyse its influence on patient satisfaction with the implementation. **Methodology:** This is a descriptive study by using convenience sampling technique carried out in United Arab Emirates from the 1st of March 2020 until the 1st of April 2020. **Result:** The present study consisted of 9 participants. Staff compliance was peak in April (93%), then dropped to 69% in May and June, then increased to 79% in July. After the teaching sessions, the patient's satisfaction increased. Patients, on the other hand, strongly agreed with the health care professionals' explanation of the use of medication in 85.7% of post-education sessions compared to 55.6% in pre-education sessions. **Conclusion:** Staff compliance was highest immediately after the instructional sessions, but dropped as a result of the COVID-19 pandemic, according to the current study. At the same time, the staff was satisfied with the training sessions. In addition, after the education sessions, the patient's satisfaction increased significantly. In order to affect patient behaviour and adherence, counselling is a crucial element of pharmacological treatment. More than ensuring desired pharmaceutical outcomes, good counselling necessitates the use of communication and relationship skills as instruments for providing the best possible patient care.

Keywords

Electronic Documentation, Patients' Satisfaction, Staff Satisfaction, Counselling

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1. Introduction

1.1. Background

Electronic documentation has been recommended to improve quality care, patient safety and patients counselling. With the gradual move from paper-based to electronic documentation internationally, there is a need to identify interventions that

can effectively improve quality care and patient safety [1]. Electronic health records are expected to improve the quality of care provided to hospitalized patients. For pharmacist, use of electronic documentation sources becomes highly relevant because this is where they obtain the majority of necessary patient information and based on that providing patient's

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counselling [2].

Physicians nowadays are prescribing multi-drugs regimens for treatments of patients in order to achieve quick and effective recovery. However, this increase in the number of medications generally leads to an increased probability of medication errors [3]. Hence, may result in nonadherence [4]. The problem of nonadherence to medication therapy is widely increasing and many patients are facing this problem as reported. Patient counselling by a pharmacist plays an effective role in reducing the possibility of patient medication problems [5]. Patient Counselling is described as; providing oral and written information to patients regarding medication use, side effects, adverse effects, storage, precautions as well as dietary and life style changes [6]. Patient Counselling have a key role in providing effective health care as it ensures the patient knows well and have sufficient information regarding the drugs prescribed. Proper Patient Counselling helps improve the use and adherence of medications and reduces the adverse effects related to medications use thus improve the quality of life along with a cost-effective health care [7].

Documentation, defined as “any written or electronically generated information about a client that describes the care or service provided to that client [8].” Drug-related patient counselling is part of the communication that health care providers and especially pharmacists are required to document in Patient Medical Records (PMR); this documentation improves patient safety, adherence to treatment, and patient satisfaction [8].

In a report from the Institute of Medicine reported that from 44,000 to 98,000 deaths occur annually from medical errors. Of this total, an estimated 7,000 deaths occur due to adverse drug reaction. These studies estimate that 6.7% of hospitalized patients have a serious adverse drug reaction with a fatality rate of 0.32% [9]. Drug-related morbidity and mortality represent a serious problem both nationally and internationally [10]. Preventing such problems is an urgent requirement of the pharmaceutical healthcare system. The pharmacist plays a significant role in preventing drug-related problems. Several studies have shown improvement in the clinical outcome of patients after the recommendations and interventions provided by the pharmacist. Moreover, the economic burden can be reduced based on the implementation of recommendations provided by the pharmacist [11].

1.2. Significant of the Study

To date, the effect of introducing electronic documentation on improving patients' counselling is unclear. Research should investigate the day-to-day interactions between pharmacist

and electronic documentation for the provision of quality care to patients. However, the extent to which electronic documentation improves the quality of care to hospitalized patients remains unknown, in part due to the lack of effective comparisons with paper-based counselling documentation. Documentation has been an area of concern in the healthcare system, despite being an indispensable component of patient-centred care and pharmaceutical care, a gap in documenting pharmaceutical care services still exists. Literature addresses the importance of integrated electronic tool to facilitate integration and communication with healthcare providers. It provides evidence for the adherence rate of healthcare providers to practice standards of proper patient counselling. Appropriate patient counselling influences the improvement of the safe use of High Alert Medication and decreases associated potential adverse outcomes.

1.3. Goal

The aim of this study is to introduce an electronic documentation system for drug-related (High Alert Medication) patient counselling using a standard tool for documentation and assess its effect on patient's satisfaction toward the implementation.

2. Methodology

2.1 Design/ Setting /Sample

This is a descriptive study carried out in Ajman, United Arab Emirates by using convenience sampling technique from the 1st of March 2020 until the 1st of April 2020. The participants included in the study were fully understand English or Arabic, age more than 18 years old and all patient who had a prescription to pick up for any High Alert Medication (Methotrexate, Digoxin and Warfarin).

2.2. Study Instruments and Validity

The survey questions were modified from the study used in the assessment of patient's satisfaction with pharmaceutical care services in community pharmacies [12]. Authorization approval was granted by the author. Tool validation was done by five healthcare providers with a medical background and one member from a non-medical experience using Validation Rubric for Expert Panel (VREP) tool. Pilot study carried out among five patients' representatives' officers with non-medical education. All recommendations were considered in the final version to ensure the inclusion criteria the predetermined purpose of the survey. The survey contained ten closed-ended questions and approximately take 5 minutes from participants to be completed. Both English and Arabic version were available. On the other

hand, the author created a demographical data sheet consisted of; gender, age, nationality, and educational level in addition to the questions that are related to patient counselling service.

2.3. Study Procedure

The survey questions were administered by conducting face to face structured interview by a single interviewer of the patients who received their medication in the same day.

2.4. Ethical Consideration

A package of questionnaires with printed participant code numbers, an information sheet, and a consent form were given to each patient. Each patient was informed about the nature of the study and instructed to return the signed consent and completed questionnaire to the principal investigator by using the self-addressed envelope that was provided in the package. The present study was exempted from the ethical approval from Sheikh Khalifa Medical City, Ajman committee.

2.5. Planned Data Analysis

Descriptive statistics including percentages, means, and standard deviations were used to describe the sample and to summarize survey scores. Survey scores were reported as the percentage of correct responses. Data were analyzed using Statistical Package for the Social Sciences (SPSS) Version 23 (IBM Corp., Armonk, NY).

3. Analysis Part

The present study consisted of 9 participants. 5 (55.6%) female and 4 (44.4%) males. The majority were from the age group (45-54). In terms of nationality, 5 (55.6%) local and 4 (44.4%) non-local and the vast majority of participants were Illiterate 5 (55.6%). The education was provided by pharmacists and physicians (55.6%) and 4 (44.4%) retrospectively. The mean time spent with patients 11.66 ±8.29 mins. (Table 1).

Table 1. Participant demographical data (Pre-education session).

Variable	Group	Frequency	Percentage
Age	25-34	2	22.2
	35-44	1	11.1
	45-54	3	33.3
	55-64	2	22.2
	>65	1	11.1
Gender	Male	4	44.4
	Female	5	55.6
Nationality	Local	5	55.6
	Non-Local	4	44.4
Level of Education	Illiterate	5	55.6
	High school	2	22.2
	Graduate	1	11.1
	University degree	1	11.1
Provider	Pharmacist	5	55.6
	Physician	4	44.4
	Multidisciplinary	NA	NA
Continuous Variables			
Variables	Mean±S.D	Minimum	Maximum
Time spent with the patient	11.66 ±8.29 mins	5 mins	30 mins

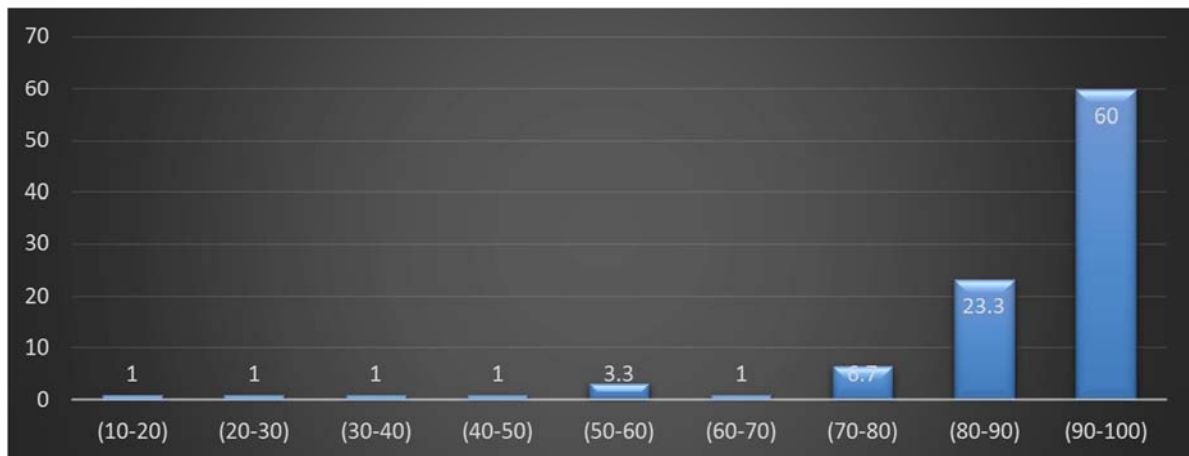
Post education sessions, the gender was 4 (57.1%) female and 3 (42.9%) males. Participants were equal from different age groups. In terms of nationality, 4 (57.1%) non-local and 3 (42.9%) local. In regards to the level of education, they were 4 (57.1%) high school and 3 (42.9%) Illiterate. The education was provided by the pharmacist, physicians, Multidisciplinary 4 (57.1%) and 1 (14.3%), and 2 (28.6) retrospectively. The mean time spent with patients 9.286±4.4987 mins. (Table 2).

Table 2. Participants demographical data (Post-education session).

Variable	Group	Frequency	Percentage
Age	25-34	1	14.3
	35-44	1	14.3
	45-54	1	14.3
	55-64	1	14.3
	>65	2	28.6
Gender	Male	3	42.9
	Female	4	57.1
Nationality	Local	3	42.9
	Non-Local	4	57.1
Level of Education	Illiterate	3	42.9
	High school	4	57.1
	Pharmacist	4	57.1
Provider	Physician	1	14.3
	Multidisciplinary	2	28.6
Continuous Variables			
Variables	Mean±S.D	Minimum	Maximum
Time spent with patient	9.286±4.4987 mins	5.0	15.0

To ensure the staff is engaged, three open education sessions were conducted to review patient counselling, and its related documentation was arranged three days around the “Go Live” on the 1st of April 2020. However, due to the COVID-19 pandemic, two sessions were cancelled and replaced by one long session that was audio recorded with the attendance of fewer than ten people to ensure the physical distancing. The

interactive session involved a detailed discussion of the elements of the proper patient counselling to be provided by the clinical pharmacist and the recording shared with all staff through an official email. The below Figure 1 shows Staff Satisfaction toward Education Sessions. The vast majority of staff 60% were satisfied from (90-100%), and 23.3% were satisfied (80-90%).

**Figure 1.** Staff Satisfaction toward Education Sessions.

The below Figure 2 shows that the vast majority of the staff reflect that they have a clear idea about the reason for the change and agree that the change is necessary. Moreover, they were clear about the outcome of change and can access the information and the information relevant to their role. The minimum score was noticed in “I have worked out the personal impact of change”.

Staff compliance was the highest immediately after the education sessions in April (93%) then declined to 69% in both May and June then increased to 79% in July (Figure 3).

The result below in Figure 4 shows that the patient's satisfaction significantly increased after the education sessions. Whereas, patients strongly agreed about the health care providers’

explanation to the patient about the use of medication 85.7% post sessions compared to 55.6% pre-education sessions. Also, HCP explained to patients about the side effects of medication 33.3% pre-education session and increased to 57.1% post the sessions. In terms of medication usage, patients satisfaction increased from 55.6% to 85.7%. in regards to medication storage, satisfaction increased from 55.6% to 85.7%. Patients reflect satisfaction toward “The instructions were clearly labeled by the healthcare provider on each medication?” increased from 66.7% to 71.4%. A significant improvement was noticed in “The healthcare provider does provide you with written/printed information about medication therapy” from 33.3% to 57.1%. Finally, the patients evaluate the pharmaceutical counseling privacy “very good” 33.3%, “good” 66.7%. (Figure 4).

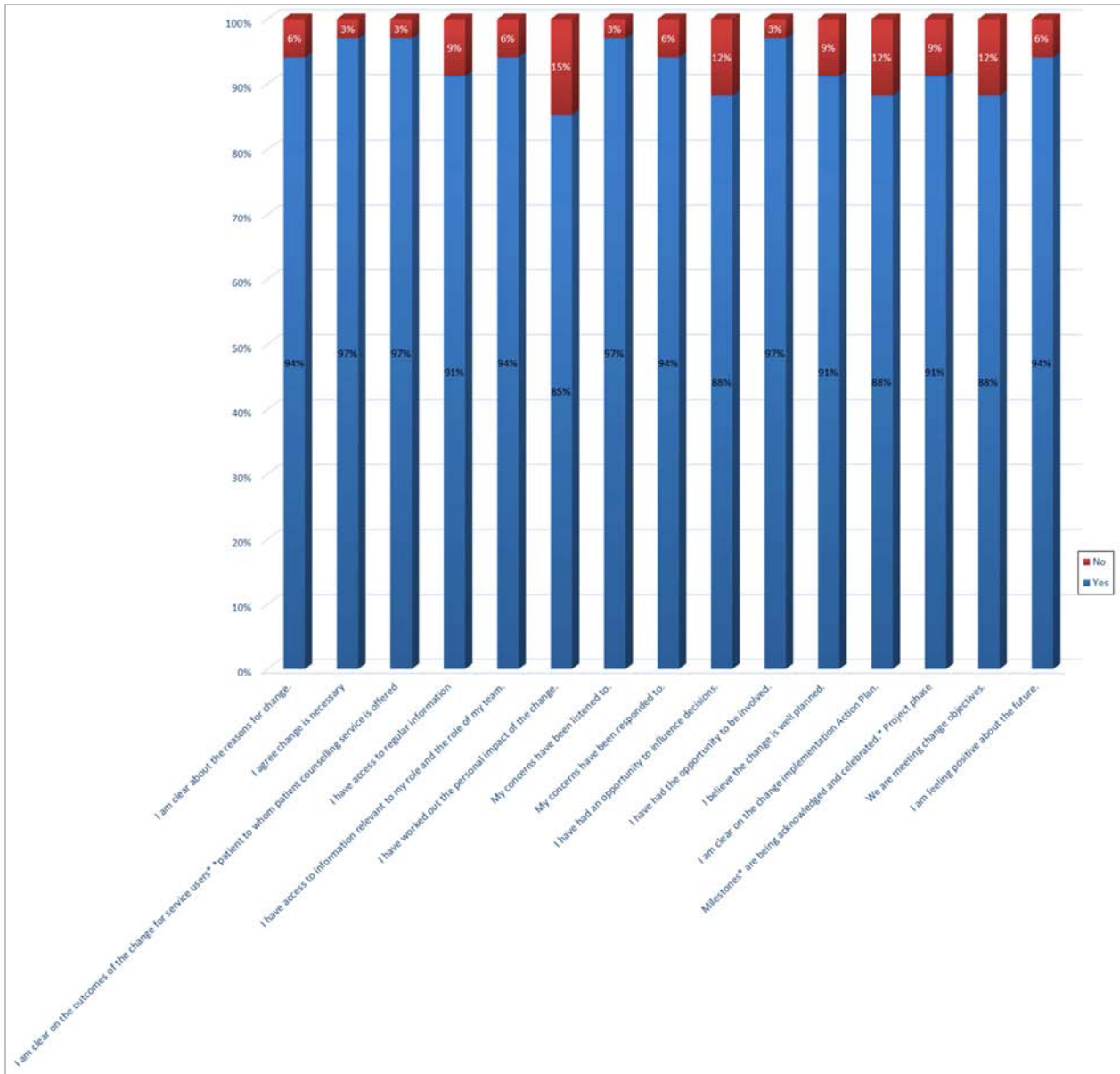


Figure 2. Staff Satisfaction toward Education Sessions.

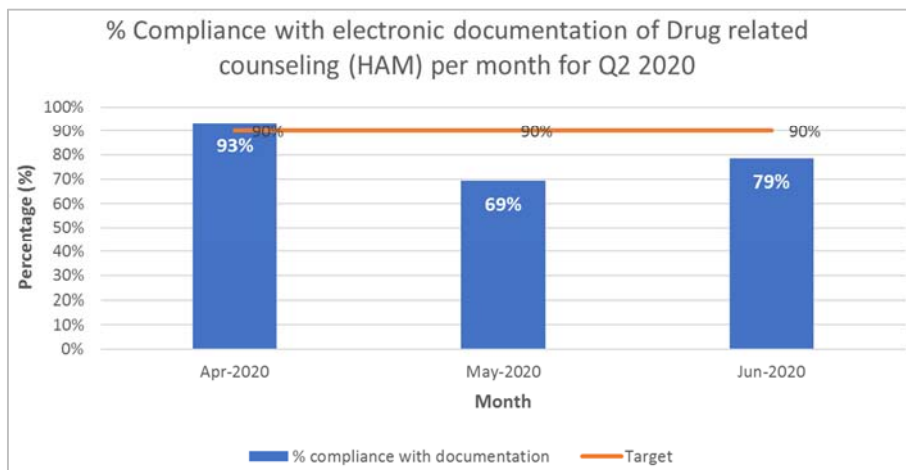


Figure 3. Compliance with Documentation.

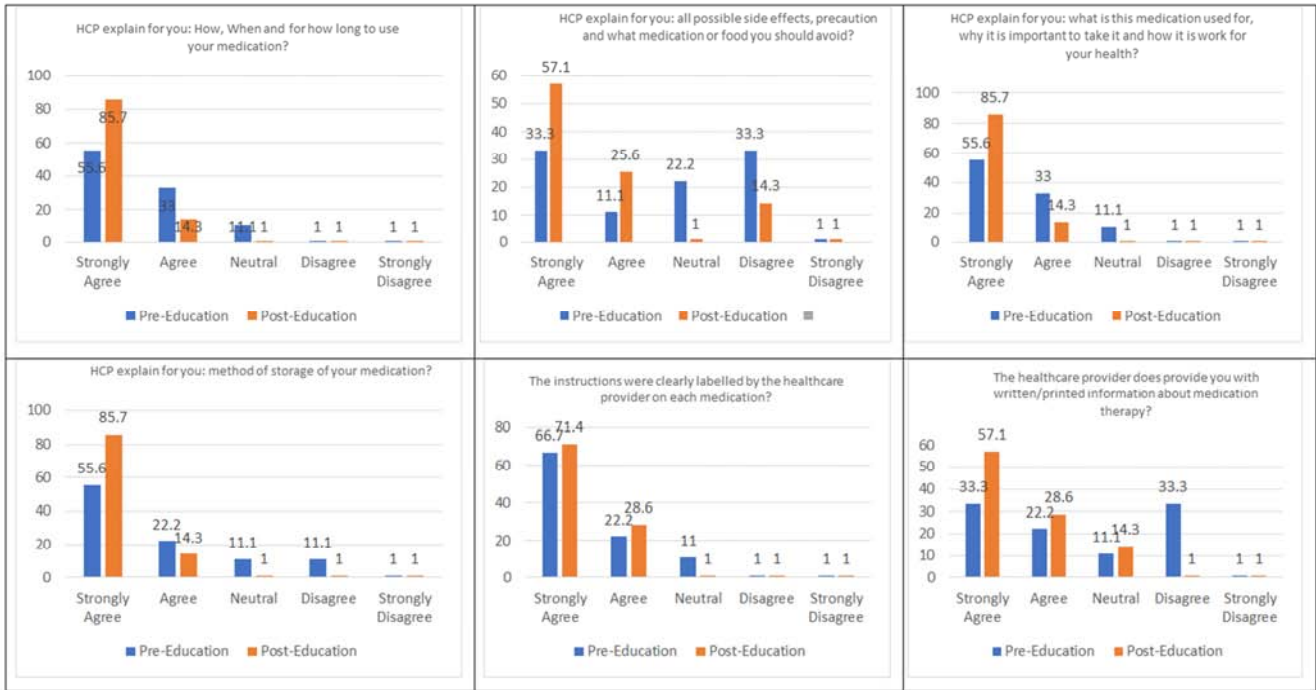


Figure 4. Patient's satisfaction pre- and post-education sessions.

4. Discussion Part

This study aimed to introduce an electronic documentation system for drug-related patient counselling using a standard tool for documentation and assess its effect on patient's satisfaction toward the implementation. Also, assess staff compliance after the education sessions. This study differs from other studies in the field due to the benchmark, experimental design by conducted education session. This is also the first study (to our knowledge) where a sample of UAE nurses were intervention and then tested for staff compliance.

The present study reveals staff compliance was the highest immediately after the education sessions in April (93%) then declined to 69% in both May and June then increased to 79% in July.

As well as that the patient's satisfaction significantly increased after the education sessions. The result show that there has been a drop in the compliance with documentation of drug related patient counselling. This drop can be explained by COVID-19 related unplanned changes and launch medication home delivery service. In addition, outpatient pharmacy, after working hours; patients discharged after working hours was not offered counselling. Also, staff human error which staff simply forget to do the documentation.

Hurst & Conway, 2018 conducted a study supported the previously mentioned conclusion, were the staff satisfied toward the use of technologies is improved with the use of a standard documentation tool [13]. The results are similar to

those reported by Fahmi Khudair and Asif Raza (2013), where a significant relationship between patient counselling and service user satisfaction has been recognised [14]. Therefore, integrating the documentation within the Hospital Information System intended to use this evidence as an indicator of patient counselling service improvement. Introducing electronic documentation of drug-related patient counselling was successful and has fulfilled its purpose. The result of the present study found that the patients were satisfied toward implementing the electronic documentation system for drug-related patient counselling. The same findings were found in a study conducted by Wilhelmsen & Eriksson, 2018 found that the pharmaceutical services increase of patient satisfaction [15].

Saranto, Moss & Jylhä (2010), suggest that the medication counselling and the use of its related documentation could improve patient satisfaction and medication safety [16]. In addition, improvement in medication adherence, in which patient feels comfortable discussing their medication, it's side effects and being involved in the interactive counselling sessions [17]. A number of patient safety and transition of care initiatives have highlighted the benefits of incorporating an electronic documentation system in the discharge medication process. Numerous studies have identified the prominent and consequential role of medication therapy errors occurring at hospital discharge [18].

A study conducted by Aniemeke et al. 2017 to evaluate the effects of a discharge medication counseling service on readmission rates, emergency department (ED) visits, and

days to first readmission or ED visit in patients deemed high risk for hospital readmission. The study found that integration of a clinical pharmacist as part of an interdisciplinary approach in the discharge medication process resulted in numerical improvements in outcomes [18]. Similarly, studies by Wilkinson et al and Warden et al found that implementing medication counselling can reduce numerical reductions in readmission rates and increased medication adherence in patients who received discharge medication counselling [17, 19]. The implementation of medication counselling has benefits to improve quality of care, but there are significant factors to consider associated with human factors, ergonomics, workflows and environmental conditions [20].

5. Conclusion

In summary, the present study found that staff compliance was the highest immediately after the education sessions and dropped as resulted of COVID-19 pandemic. In the same time the staff was satisfied about the education sessions. As well as that the patient's satisfaction significantly increased after the education sessions. Counselling is an important part of pharmaceutical care to influence patient behaviour and adherence. More than assuring expected medication outcomes, adequate counselling requires communication and relational abilities as tools to provide the best patient care possible. Counseling aims to set a permanent cooperation with patients, thus favouring patient empowerment, self-caring abilities, medication adherence and improved health-related behaviours.

6. Limitation

The emerging of the COVID-19 pandemic was a challenge of engaging the team to be on track. Many of participants were unable to attend to the education sessions due to their engagement in other tasks of higher priorities. Unfortunately, time limitations resulted in study timeline overdue. Therefore, some areas were overlooked to adjust to the new change of COVID-19 pandemic.

Statements

Disclosure Statement

The authors declare that they do not have conflict of interest. All the authors, read and approved the submitted version. All authors confirm that the manuscript is our own original work

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