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Pharmaco-epidemiological studies using who prescribing patient care and facility indicators in diabetic patients in southern Punjab region, Pakistan

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Abstract

A careful prospective pharmaco-epidemiological study on diabetic patients using WHO prescribing, patient care and facility indicator was carried out in southern Punjab, Multan, Pakistan. The prescribing, patient care and facility indicators were evaluated using WHO indicator form. The results showed that average drug prescribed per patient has maximum value of 9 which indicates the trend of poly-pharmacy. The percentage of generic prescribing was very low which indicates that there is lot of trend of doctors to be influenced by the companies and prefer to prescribe the brand names, which cause health burden on poor peoples. The percentage of antibiotic prescribed was very high in most of the health care facilities and antibiotic was prescribed in 100% patients in Nishter hospital. The percentage of injection prescribed was also very high and close to 100% at most of the facilities except for PSSHMC hospital Muzafargarh, where trend was 76.7%. Injections are costly dosage form and cause health burden to the patients. The trend of prescribing from Essential drug list of Pakistan was checked and it was observed that none of the hospital has 100% prescribing from NEDL. The consultation time varies at different hospital and it was 1.6 min at Tehsil level hospitals which shows that physician spend very little time in counseling the patients. The average dispensing time varies from 50 seconds to 238 seconds it shows that the health care facilities do not follow similar trend there is need to establish similar protocol and standard operating procedure for dispensaries. The percentage of drug dispensed was 100% at only two facilities, which indicate that remaining 18 facilities need to rationalize their system of dispensing and availability of stock. The adequate knowledge of patient was very poor and there is need of proper counseling to the patients.

In summary, prescribing trend do not follow the international standards and there is a grave need to incorporate the role of pharmacist to monitor and check the trend of poly-pharmacy and drug interactions.

Introduction

Diabetes is a public health problem and its incidence is increasing day by day. It is important to evaluate the prescribing trend of health facilities regarding diabetic patients [1,2]. The study was conducted among diabetic patients who met the patient's inclusion criteria devised for the study. The main study objective was to assess and evaluate the pattern and practice of physicians among diabetic patients by using standard WHO prescribing indicator forms [3], and to judge the patient's behavior by using WHO patients care indicator forms and to judge the quality of health care facility by using WHO facility indicator forms. The trend of prescribing from Essential drug list of Pakistan was checked and it was observed that none of the hospital has 100% prescribing from NEDL. As NEDL of Pakistan was published in 2003 and many useful safe salts and therapeutic goods are being readily used, need is felt the revising of NEDL. The adequate knowledge of patient was very poor and there is need of proper counseling to the patients. There was not only a single facility where proper labeling of medicine was carried out [4,5]. The facility indicators were evaluated by using WHO facility indicator form. The availability of EDL was almost at 70% of the hospitals [6]. The availability of key drugs was 100% only at one facility. As diabetes is a major health problem so, key drugs should be available at most of the health center at all the times.

Methods

Sample size

A prospective study was carried out among diabetic patients to assess the prescribing, patient care and facility indicators in southern Punjab Pakistan. Sample size taken from each health facility was thirty hence data of total 600 patients was collected from twenty different health care centers of Southern Punjab.

Survey methodology

The study was conducted using WHO prescribing, patient care and facility indicator forms. Patients were enrolled in the study after taking informed consent.

Prescribing indictor form was filled by checking the prescriptions of diabetic patients from twenty different health care facilities. At least

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30 patients were considered from each facility. Forms were designed according to WHO standards and were approved by the research committee. Prescriptions were carefully noted on the forms including generic as well as brand names and dosage used.

Patient care indicators were checked by interviewing the patients. Consultation time of each patient was noted carefully and dispensing time at the pharmacy was noted for the outpatients and inpatients. Numbers of drugs prescribed by the physician were noted by viewing the prescriptions and numbers of drugs actually dispensed were noted by visiting the pharmacy at the time of dispensing for outpatient and by visiting patients' charts for indoor patients.

Facility indicator form was developed by using standard WHO criteria. Full name of facility and its location was noted in the form. Availability of copy of EDL and key drugs were checked for each facility. A list of major key drugs for the diabetic patients was made and was approved by the research committee and then this list was checked at each facility.

Inclusion criteria

- People suffering from Diabetes Mellitus.
- Patient of age above 18 years
- Patient who was visiting at least the secondary care hospital
- Patient who willingly provided data
- Patients of southern Punjab

Exclusion criteria

- Patients of age less than eighteen years
- Patients suffering from life threatening co-morbidity
- Patients who were not willing to provide the data

Experimental data source

The data for the research was collected from Tehsil Head Quarter Hospitals and District Head Quarter Hospitals in the southern Punjab, Pakistan. Data was also taken from social security hospital, Tayyeb Erdgan Hospital Muzafargarh and Nishter hospital Multan. Data was collected after taking permission from the research committees of the hospitals under study. 20 different health care centers were included in the study. Data was directly taken from the patients.

Period of data collection

The study period was six months from April 2014 to September 2014. In these six months' data was collected from twenty different health centers of southern Punjab, Pakistan.

Statistical analysis

Software SPSS 16 was used to analyze the results statistically. Non -parametric test was applied for general parameters and chi square test and descriptive statistics was applied at 0.05 significant level. Data collected from different centers was also graphically analyzed and compared to evaluate the WHO core indicators of prescribing, patient care and health facility [7].

Results and Discussion

Prescribing indicators

The data was collected from twenty different health care facilities from southern Punjab and prescribing indicators were evaluated for each facility and results are described as:

The average drugs per encounter were calculated for all the health care facility to find out the occurrence of poly-pharmacy. Poly-pharmacy is a major issue in our health care system that leads to a number of different drug interactions and prolong stay of patients in the hospital. The results show that the maximum poly pharmacy trend was in Nishter hospital Multan and least was in DHQ hospital Bhakkar and average encounter /patients in all health care facilities was 6.89, which shows that there is a trend of poly-pharmacy in southern Punjab hospital and there should be a role of pharmacist in monitoring the drug interaction and minimizing the trend of poly-pharmacy [8-10].

The data in the Figure 1 (Table 1) reveals that the number of drugs prescribed in thirty patients at different health care facilities is the highest in Nishtar Hospital Multan which is a teaching hospital and the patients from different areas of southern Punjab which already has been exposed to the drugs, patients of critical nature are referred to this facility [11,12].

The numbers of drugs prescribed by their generic names were checked at different health care facilities included in the study. The results indicate that there is very low trend of generic prescribing in the hospital, except for social security hospital Muzafargarh where there is 100% trend of generic prescribing. At DHQ hospital muzafargarh only 4.4% of drugs were prescribed by their generic names (Figure 2, Table 2).

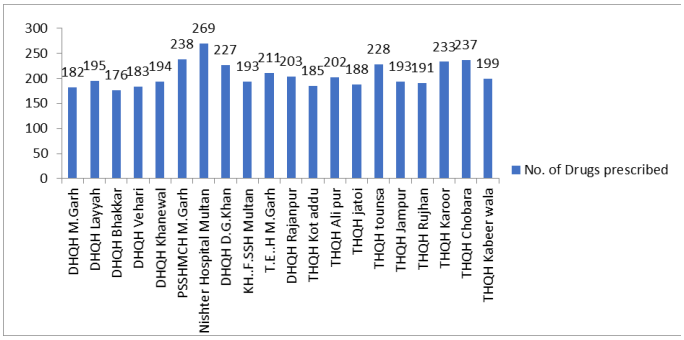

Figure 1. Number of drugs prescribed in different facilities

Table 1. Number of drugs prescribed /patient in facilities under study

Name of facility	No. of Drugs prescribed	Avg. drugs/encounter
DHQH M.Garh	182	6.1
DHQH Layyah	195	6.5
DHQH Bhakkar	176	5.9
DHQH Vehari	183	6.1
DHQH Khanewal	194	6.5
PSSHMCH M.Garh	238	7.9
Nishter Hospital Multan	269	9.0
DHQH D.G.Khan	227	7.6
KH..F.SSH Multan	193	6.4
T.E..H M.Garh	211	7.0
DHQH Rajanpur	203	6.8
THQH Kot addu	185	6.2
THQH Ali pur	202	6.7
THQH jatoi	188	6.3
THQH tounsa	228	7.6
THQH Jampur	193	6.4
THQH Rujhan	191	6.4
THQH Karoor	233	7.8
THQH Chobara	237	7.9
THQH Kabeer wala	199	6.6

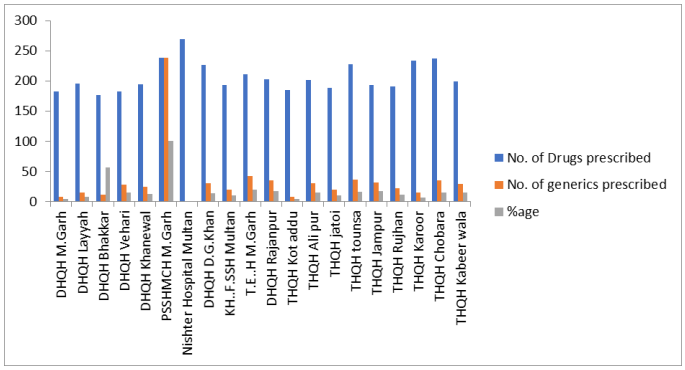

Figure 2. Comparison of drugs prescribed and generic prescribed

Table 2. Number of generics prescribed in different facility

Name of facility	No. of Drugs prescribed	No. of generics prescribed	Percentage
DHQH M.Garh	182	8	4.4
DHQH Layyah	195	15	7.69
DHQH Bhakkar	176	11	56.3
DHQH Vehari	183	28	15.3
DHQH Khanewal	194	24	12.4
PSSHMCH M.Garh	238	238	100
Nishter Hospital Multan	269	0	0
DHQH D.G.Khan	227	30	13.2
KH.F.SSH Multan	193	20	10.4
T.E..H M.Garh	211	42	19.9
DHQH Rajanpur	203	35	17.2
THQH Kot addu	185	8	4.3
THQH Ali pur	202	30	14.9
THQH jatoi	188	19	10.1
THQH tounsa	228	36	15.8
THQH Jampur	193	32	16.6
THQH Rujhan	191	22	11.5
THQH Karoor	233	15	6.4
THQH Chobara	237	35	14.8
THQH Kabeer wala	199	29	14.6

The numbers of drugs prescribed by their generic names were checked at different health care facilities included in the study [13,14] (Figure 3, Table 3). The results indicate that there is very low trend of generic prescribing in the hospital, except for social security hospital Muzafargarh where there is 100% trend of generic prescribing.

The numbers of antibiotics prescribed to the patients at twenty different health care facilities were checked by the prescriptions of patients. The results indicate that the maximum trend of antibiotic prescription was at Nishter hospital Multan and almost all the prescriptions contained the antibiotics. The least trend of antibiotic prescribing was at DHQ Vehari where nearly 63.3% patients were prescribed by the antibiotics (Figure 4, Table 4).

The numbers of patients prescribed with injections were calculated at different health care facilities and it was found that the trend of injection prescribed was 100% at most of the health centers. It shows the excessive use of injectable dosage form which is a costly dosage form and lead to the health burden to the patient as well as on the hospital (Figure 5, Table 5).

Essential drug list of Pakistan is formulated after a through feedback and taking into consideration the health care needs of the patients. The trend of prescribing from EDL was checked to assess that how much the prescriber takes the EDL into consideration. The results show that maximum trend of drugs prescribed from EDL was at DHQ Layyah that is 92% and minimum prescribing from EDL was at Nishter hospital Multan (Figure 6, Tables 6 and 12).

Patient care indicators

The consultation time of patients was recorded at different health care centers in the southern Punjab. The results indicate that the average consultation time of physicians vary greatly at different health care centers. The consultation time was maximum at Tayyab Erdagen hospital Muzafargarh which is Turkish based hospital. The minimum average consultation time was at THQ chobara, which means that doctors spend very little time with patients at tehsil headquarters (Figure 7, Table 7).

The dispensing time at different health care facilities was calculated and it was concluded that maximum dispensing time was 238sec at social security hospital and minimum was at THQH chobara (Figure 8, Table 8).

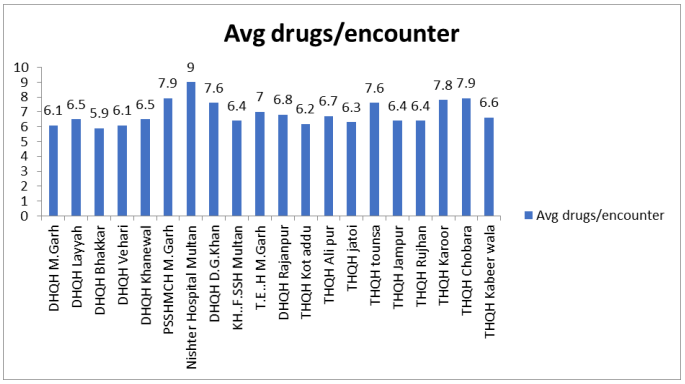

Figure 3. Number of drug/encounters in different facilities

The figure depicts the average number of drugs per encounter at different health care facilities. The average drugs per encounter are maximum 9 at Nishter hospital Multan.

Table 3. Percentage of patients receiving antibiotics in different facilities

Name of facility	Number of patients receiving antibiotics	Percentage of total cases
DHQH M.Garh	23	76.7
DHQH Layyah	24	80
DHQH Bhakkar	22	73.3
DHQH Vehari	19	63.3
DHQH Khanewal	22	73.3
PSSHMCH M.Garh	3	10
Nishter Hospital Multan	30	100
DHQH D.G.Khan	24	80
KH..F.SSH Multan	22	73.3
T.E..H M.Garh	23	76.7
DHQH Rajanpur	23	76.7
THQH Kot addu	25	83.3
THQH Ali pur	24	80
THQH jatoi	24	80
THQH tounsa	26	86.7
THQH Jampur	26	86.7
THQH Rujhan	23	76.7
THQH Karoor	21	70
THQH Chobara	25	83.3
THQH Kabeer wala	22	73.3

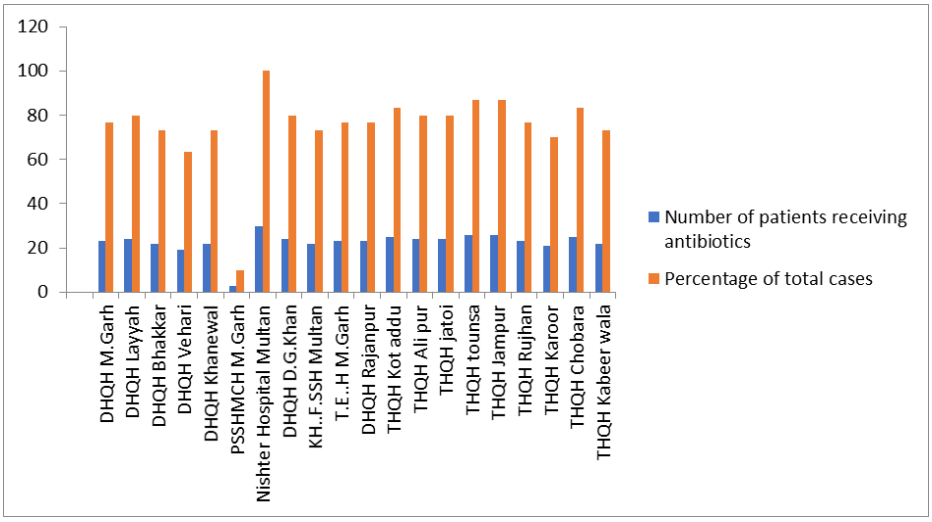

Figure 4. Patients receiving antibiotics

Table 4. Percentage of patients receiving injectable in different facilities

Name of facility	Number of patients receiving injectable	Percentage of total cases
DHQH M.Garh	30	100
DHQH Layyah	29	96
DHQH Bhakkar	30	100
DHQH Vehari	30	100
DHQH Khanewal	30	100
PSSHMCH M.Garh	23	76.7
Nishter Hospital Multan	30	100
DHQH D.G.Khan	30	100
KH.F.SSH Multan	30	100
T.E..H M.Garh	30	100
DHQH Rajanpur	26	86.7
THQH Kot addu	30	100
THQH Ali pur	30	100
THQH jatoi	30	100
THQH tounsa	30	100
THQH Jampur	30	100
THQH Rujhan	30	100
THQH Karoor	25	83.3
THQH Chobara	30	100
THQH Kabeer wala	30	100

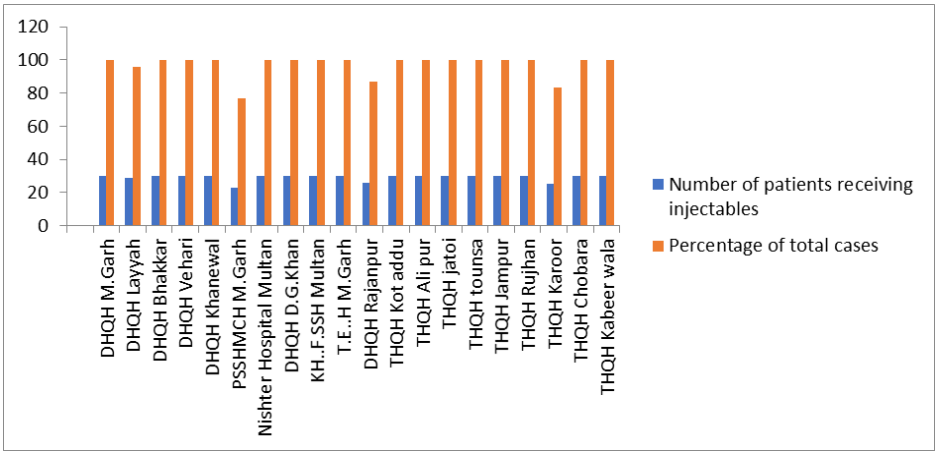

Figure 5. Patients receiving injectable

Table 5. Percentage of patients receiving injectable in different facilities

Name of facility	Number of patients receiving injectable	Percentage of total cases
DHQH M.Garh	30	100
DHQH Layyah	29	96
DHQH Bhakkar	30	100
DHQH Vehari	30	100
DHQH Khanewal	30	100
PSSHMCH M.Garh	23	76.7
Nishter Hospital Multan	30	100
DHQH D.G.Khan	30	100
KH.F.SSH Multan	30	100
T.E..H M.Garh	30	100
DHQH Rajanpur	26	86.7
THQH Kot addu	30	100
THQH Ali pur	30	100
THQH jatoi	30	100
THQH tounsa	30	100
THQH Jampur	30	100
THQH Rujhan	30	100
THQH Karoor	25	83.3
THQH Chobara	30	100
THQH Kabeer wala	30	100

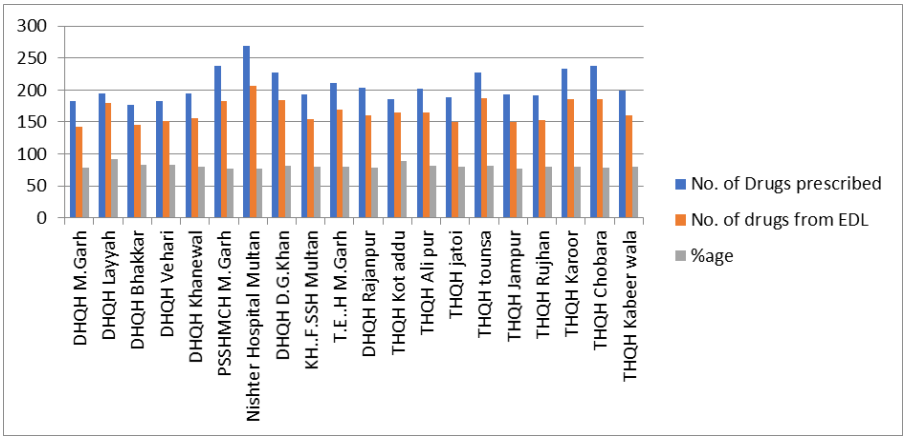

Figure 6. Number of drugs prescribed from EDL

Table 6. Number of drugs prescribed from EDL at different health care facilities

Name of facility	Number of Drugs prescribed	Number of drugs from EDL	Percentage
DHQH M.Garh	182	142	78
DHQH Layyah	195	180	92
DHQH Bhakkar	176	146	83
DHQH Vehari	183	151	82.5
DHQH Khanewal	194	156	80.4
PSSHMCH M.Garh	238	182	76.5
Nishter Hospital Multan	269	206	76.6
DHQH D.G.Khan	227	184	81.1
KH.F.SSH Multan	193	155	80.3
T.E..H M.Garh	211	169	80.1
DHQH Rajanpur	203	160	78.8
THQH Kot addu	185	165	89.2
THQH Ali pur	202	165	81.7
THQH jatoi	188	150	79.8
THQH tounsa	228	187	82
THQH Jampur	193	150	77.7
THQH Rujhan	191	153	80.1
THQH Karoor	233	185	79.4
THQH Chobara	237	185	78.1
THQH Kabeer wala	199	160	80.4

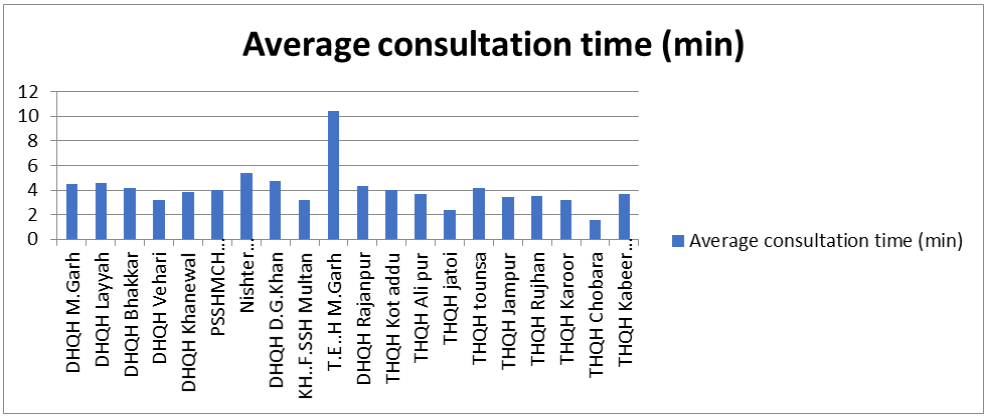

Figure 7. Average consultation time at different facilities

Table 7. Average consultation time of different facilities

Name of facility	Total consultation time (min)	Average consultation time (min)
DHQH M.Garh	135	4.5
DHQH Layyah	136	4.53
DHQH Bhakkar	130	4.2
DHQH Vehari	95	3.2
DHQH Khanewal	113	3.8
PSSHMCH M.Garh	121	4
Nishter Hospital Multan	162	5.4
DHQH D.G.Khan	140	4.7
KH.F.SSH Multan	96	3.2
T.E..H M.Garh	313	10.4
DHQH Rajanpur	130	4.3
THQH Kot addu	119	4
THQH Ali pur	11	3.7
THQH jatoi	72	2.4
THQH tounsa	127	4.2
THQH Jampur	101	3.4
THQH Rujhan	105	3.5
THQH Karoor	97	3.2
THQH Chobara	47	1.6
THQH Kabeer wala	112	3.7

The number of drugs dispensed out of total drugs prescribed was calculated at different health care facilities. It was concluded in the study that maximum % age of dispensed drugs was at Tayyab erdagan hospital muzafargarh and PSSHMCH Muzaffargarh where the rate was 100% which show the good stock position at these two hospitals and efficiency of dispensing staff at these hospitals (Figure 9, Table 9).

The number of drugs adequately labeled was almost zero at all the health care centers in southern Punjab which results in poor compliance of patients. It is due to absence of adequate pharmacist at health care centers which leads to poor compliance (Figure 10, Table 10).

The knowledge of patients about correct doses was checked at different health care centers and it was concluded that the patient's knowledge was very poor because of poor literacy rate in these areas. Poor knowledge leads to poor compliance of medication regimen [15,16] (Figures 11 and 12) (Table 11).

Facility indicators

The number of key drugs available at different health care facilities was checked after making a list of key drugs with reference to diabetic patients and the results shows that only one facility has 100% availability of all the key drugs. As the diabetes is more prevalent in Pakistan and its incidence is increasing so it is recommended that the key drugs should be available at the health care center [17,18] (Figure 13, Table 13).

The pharmaco-epidemiological study of diabetic patients was carried our using WHO prescribing, patient care and facility indicators [19-22]. The study was carried out in twenty different health care facilities of southern Punjab in different districts. The results of prescribing indicators show that overall there is trend of poly-pharmacy (Table 14). It was concluded that the trend of poly-pharmacy prevails in majority of health care facilities. The results of generic prescribing shows that there is very least trend of generic prescribing except of social security hospital Muzafargarh. The percentage of antibiotics prescribed was evaluated and results indicate that there is excessive trend of antibiotic prescribing in all the health care facilities. The results concluded that in Nishter hospital Multan there is 100% trend of antibiotic prescribing. Similarly, there is excessive trend of injection prescribing in all the health care facilities. The results of patient care prescribing indicate that consultation time varies from 1.6 minutes to 10.4 minutes in the hospitals under study. The dispending time varies from 50 seconds to 238 seconds which is very low and may lead to error in dispensing causing serious threat to the e health of patient. The percentage of drugs dispensed varies from 75.4% to 100% at different hospitals which

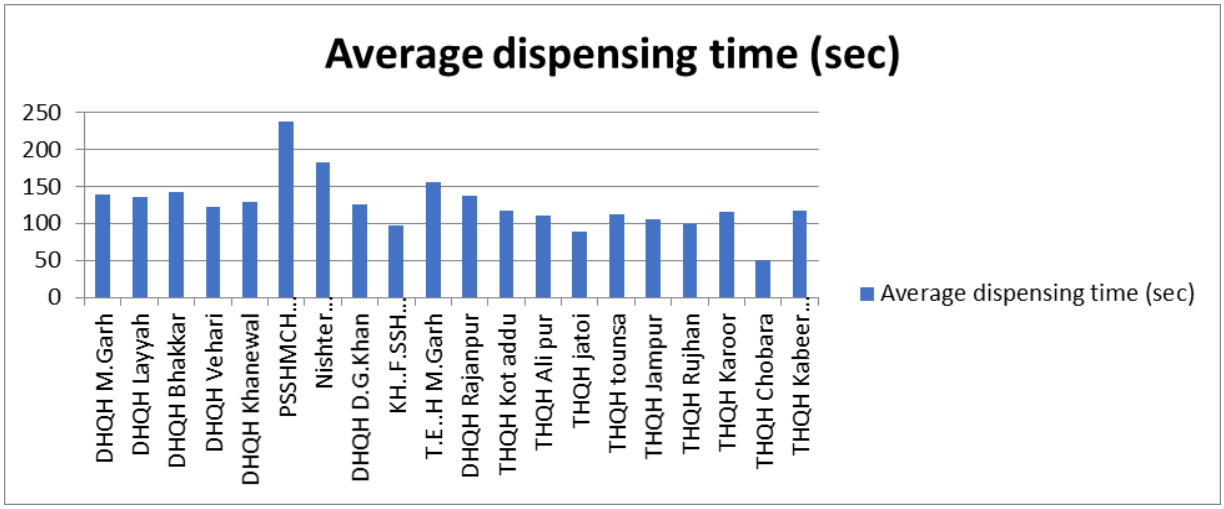

Figure 8. Average dispensing time at different facilities

Table 8. Average dispensing time of different facilities

Name of facility	Total dispensing time (sec)	Average dispensing time (sec)
DHQH M.Garh	4170	139
DHQH Layyah	4060	135.3
DHQH Bhakkar	4260	142
DHQH Vehari	3680	122.7
DHQH Khanewal	3870	129
PSSHMCH M.Garh	2745	238
Nishter Hospital Multan	5460	182
DHQH D.G.Khan	3780	126
KH.F.SSH Multan	2940	98
T.E..H M.Garh	4660	155.3
DHQH Rajanpur	4140	138
THQH Kot addu	3540	118
THQH Ali pur	3320	110.7
THQH jatoi	2670	89
THQH tounsa	3390	113
THQH Jampur	3150	105
THQH Rujhan	2970	99
THQH Karoor	3450	115
THQH Chobara	1500	50
THQH Kabeer wala	3510	117

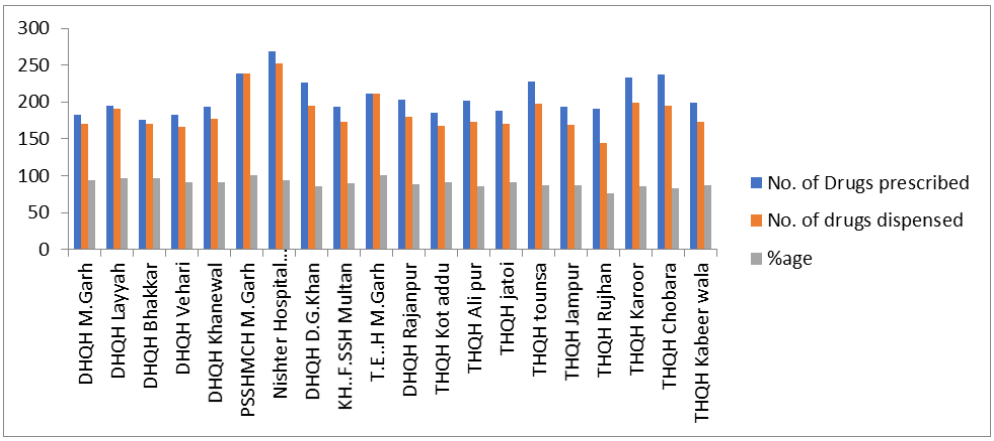

Figure 9. Number of drugs dispensed

Table 9. Number of drugs dispensed at different facilities

Name of facility	No. of Drugs prescribed	No. of drugs dispensed	Percentage
DHQH M.Garh	182	170	93.4
DHQH Layyah	195	191	97
DHQH Bhakkar	176	170	96.6
DHQH Vehari	183	166	90.7
DHQH Khanewal	194	177	91.2
PSSHMCH M.Garh	238	238	100
Nishter Hospital Multan	269	252	93.7
DHQH D.G.Khan	227	195	85.9
KH..F.SSH Multan	193	173	89.6
T.E..H M.Garh	211	211	100
DHQH Rajanpur	203	180	88.7
THQH Kot addu	185	168	90.8
THQH Ali pur	202	173	85.6
THQH jatoi	188	170	90.4
THQH tounsa	228	198	86.8
THQH Jampur	193	169	87.6
THQH Rujhan	191	144	75.4
THQH Karoor	233	199	85.4
THQH Chobara	237	195	82.3
THQH Kabeer wala	199	173	86.9

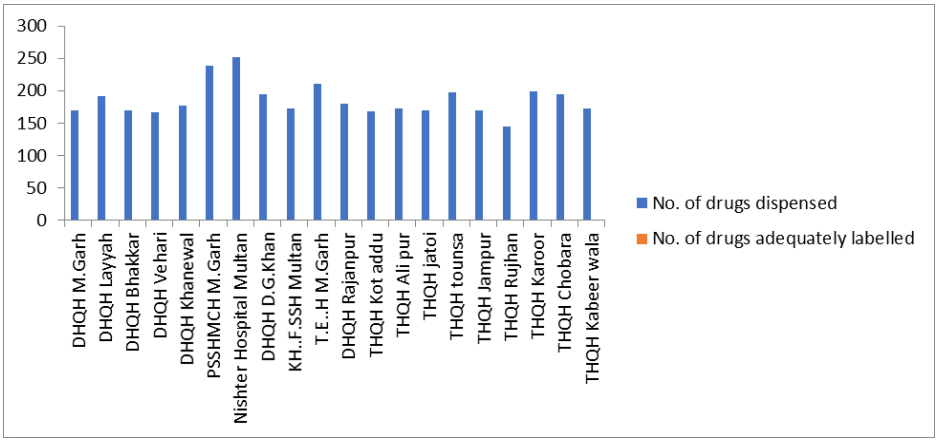

Figure 10. Number of drugs adequately labelled

Table 10. Number of drugs adequately labeled

Name of facility	No. of drugs dispensed	No. of drugs adequately labelled
DHQH M.Garh	170	0
DHQH Layyah	191	0
DHQH Bhakkar	170	0
DHQH Vehari	166	0
DHQH Khanewal	177	0
PSSHMCH M.Garh	238	0
Nishter Hospital Multan	252	0
DHQH D.G.Khan	195	0
KH.F.SSH Multan	173	0
T.E..H M.Garh	211	0
DHQH Rajanpur	180	0
THQH Kot addu	168	0
THQH Ali pur	173	0
THQH jatoi	170	0
THQH tounsa	198	0
THQH Jampur	169	0
THQH Rujhan	144	0
THQH Karoor	199	0
THQH Chobara	195	0
THQH Kabeer wala	173	0

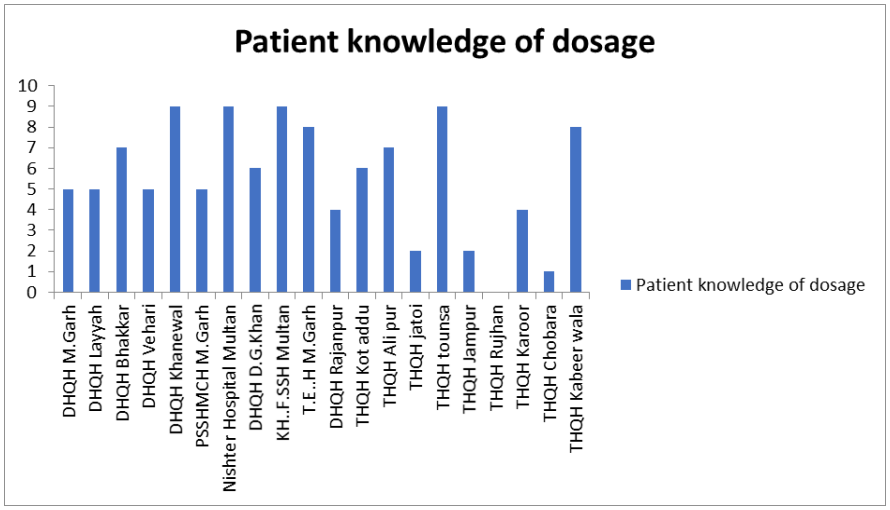

Figure 11. Patients knowledge of doses at different facilities

Table 11. Patients knowledge of dosage at different facilities

Name of facility	Patient knowledge of dosage	Percentage of patients
DHQH M.Garh	5	16.7
DHQH Layyah	5	16.7
DHQH Bhakkar	7	23.3
DHQH Vehari	5	16.7
DHQH Khanewal	9	30
PSSHMCH M.Garh	5	16.7
Nishter Hospital Multan	9	30
DHQH D.G.Khan	6	20
KH..F.SSH Multan	9	30
T.E..H M.Garh	8	26.7
DHQH Rajanpur	4	13.3
THQH Kot addu	6	20
THQH Ali pur	7	23.3
THQH jatoi	2	6.7
THQH tounsa	9	30
THQH Jampur	2	6.7
THQH Rujhan	0	0
THQH Karoor	4	13.3
THQH Chobara	1	3.3
THQH Kabeer wala	8	26.7

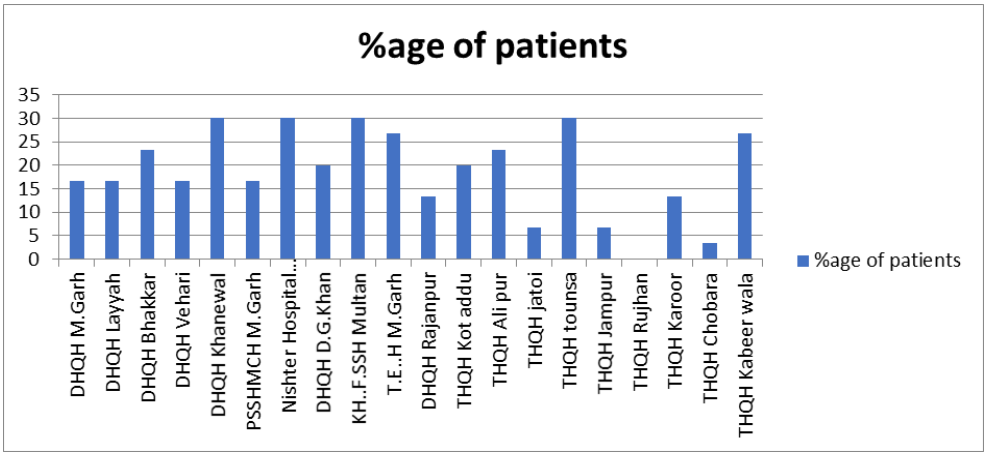

Figure 12. Percentage of patients having adequate knowledge about doses

Table 12. Availability of copy of EDL at different facilities

Name of facility	Availability of copy of EDL
DHQH M.Garh	Yes
DHQH Layyah	Yes
DHQH Bhakkar	Yes
DHQH Vehari	Yes
DHQH Khanewal	Yes
PSSHMCH M.Garh	NO
Nishter Hospital Multan	Yes
DHQH D.G.Khan	Yes
KH..F.SSH Multan	No
T.E..H M.Garh	Yes
DHQH Rajanpur	Yes
THQH Kot addu	Yes
THQH Ali pur	NO
THQH jatoi	NO
THQH tounsa	NO
THQH Jampur	Yes
THQH Rujhan	NO
THQH Karoor	Yes
THQH Chobara	No
THQH Kabeer wala	Yes
Total	Yes=23 No=7

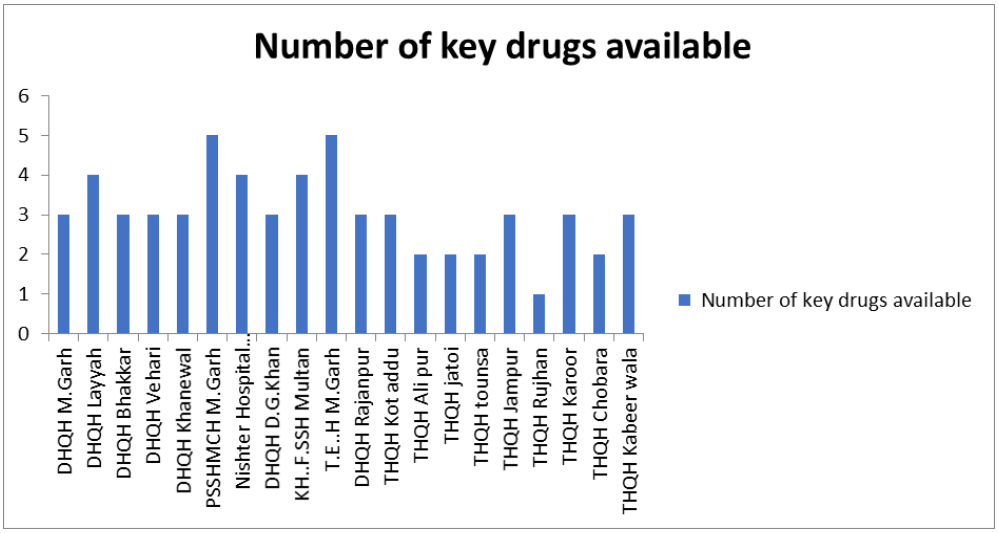

Figure 13. Number of key drugs available at different facilities

Table 13. Availability of key drugs at hospital

Name of facilitty	Number of key drugs available
DHQH M.Garh	3
DHQH Layyah	4
DHQH Bhakkar	3
DHQH Vehari	3

Table 14. Consolidated data of drug use indicators at different facilities

Facility	Avg. drugs prescribed	Percentage Generic drugs	Percentage of Antibiotics	Percentage of Injections	Percentage on EDL	Avg. Consult time (min)	Avg. Dispense Time (sec)	Percentage of drugs dispensed
DHQH M.Garh	6.1	4.4	76.7	100	78	4.5	139	93.4
DHQH Layyah	6.5	7.69	80	96	92	4.53	135.3	97
DHQH Bhakkar	5.9	56.3	73.3	100	83	4.2	142	96.6
DHQH Vehari	6.1	15.3	63.3	100	82.5	3.2	122.7	90.7
DHQH Khanewal	6.5	12.4	73.3	100	80.4	3.8	129	91.2
PSSHMCH M.Garh	7.9	100	10	76.7	76.5	4	238	100
NH Multan	9.0	0	100	100	76.6	5.4	182	93.7
DHQH D.G.Khan	7.6	13.2	80	100	81.1	4.7	126	85.9
KH..F.SSH Multan	6.4	10.4	73.3	100	80.3	3.2	98	89.6
T.E..H M.Garh	7.0	19.9	76.7	100	80.1	10.4	155.3	100
DHQH Rajanpur	6.8	17.2	76.7	86.7	78.8	4.3	138	88.7
THQH Kot addu	6.2	4.3	83.3	100	89.2	4	118	90.8
THQH Ali pur	6.7	14.9	80	100	81.7	3.7	110.7	85.6
THQH jatoi	6.3	10.1	80	100	79.8	2.4	89	90.4
THQH tounsa	7.6	15.8	86.7	100	82	4.2	113	86.8
THQH Jampur	6.4	16.6	86.7	100	77.7	3.4	105	87.6
THQH Rujhan	6.4	11.5	76.7	100	80.1	3.5	99	75.4
THQH Karoor	7.8	6.4	70	83.3	79.4	3.2	115	85.4
THQH Chobara	7.9	14.8	83.3	100	78.1	1.6	50	82.3
THQH Kaber wala	6.6	14.6	73.3	100	80.4	3.7	117	86.9
Mean	6.89	18.29	75.17	97.14	80.89	4.1	126.1	89.9
Minimum	5.9	0	10	76.7	76.5	1.6	50	75.4
Maximum	9.0	100	100	100	92	10.4	238	100

need to be improved where it was not maximum. The study of facility indicator shows that almost 70% facilities have availability of EDL and only one facility had 100% availability of key Drugs.

Conclusion

It was concluded from the current study that prescribing trend do not follow the international standards and there is a grave need to incorporate the role of pharmacist to monitor and check the trend of poly-pharmacy and drug interactions. There should be the availability of pharmacist per 50 beds to properly counsel the patient regarding drug usage. Proper labeling of the medicines according to the WHO Standards should be ensured to avoid any mishap and to achieve the goal of effective patient care.

Conflict of interest

Author declared no conflict of interest

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Informed Consent

The authors declared that they have do this survey under the permission of hospital and letter issued by university 1203/PEC/18.

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