The Challenges to Advanced Diabetic Care Practice in the UAE Community Settings

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Abstract: *over the past few decades remarkable growth of pharmacy practice and the managed care system have been noticed. The concept of The Pharmaceutical Care Practice evolved to help maximize the contributions of pharmacists in improving Diabetic patients' outcomes and decrease health care costs. Despite of the fact that pharmaceutical literatures will continue to provide evidence references to identify the unique contribution that pharmacists can make to Diabetic Management and health improvement, many pharmacists are not routinely engaging in Pharmaceutical Care activities because of the variety of obstacles. Hence, pharmacists' perception about the new emerging philosophy of the Advance Diabetic Care Practice and its challenges are at vital concern. Thus, this study considered as the first of its kind to be held in the UAE aims to assess the extent of obstacles to the application of pharmaceutical care to diabetic patients and to provide an inclusive picture of the practicality to develop such practice. Methods: Descriptive qualitative survey was carried out on randomly selected pharmacies from all over the UAE seven emirates. The respondents asked to indicate the degree of the agreement to (37) challenges to the pharmaceutical care application to diabetic patients. Results showed that lack of counseling guidelines for effective patient counseling, lack of education in communication skill, inadequate private counseling area and lack of teamwork concept were represented main challenging barriers. There were significant differences in practice setting characteristics in the estimate of the barriers. In conclusion: this study is only one step to move on professional practice from actual mission into Active Diabetic Care Process.*

Keywords *–Advance Diabetic Care, challenges, community settings, growth of pharmacy practice*

I. INTRODUCTION

The concept of advanced pharmaceutical care evolved to help maximize the contributions of pharmacists in reducing and combating the drug-related morbidity and mortality to improve outcomes and decrease health care costs [1]. Pharmacists significantly can optimize patient outcomes through pharmaceutical care services by identifying, detecting, resolving and most important preventing drug related problems [2]. Studies conducted over the past decades indicated that drug related problems are widespread and cause significant injury and death. A landmark study by Johnson and Bootman [3] used a pharmaco-economic model to identify that USA expenditure on treating drug related morbidity and mortality is the same as the expenditure on the medicines themselves and this was the second most costly disease after cardiovascular disease. Johnson and Bootman noted that pharmacist intervention could reduce drug related morbidity and mortality and could reduce health care costs. Several studies have been conducted to evaluate the effectiveness of advanced care with regard to clinical, humanistic and economic outcomes in diabetic patients [4-6]. Advanced pharmaceutical care sets out to maximize the benefits and minimize the risk of medicines and improve health by working in collaboration with diabetes patient and other health care providers. The results found that pharmacists can be a cost-effective alternative to physicians in management of patient's outcomes and patient satisfaction [7-10].

II. MATERIAL AND METHODS

A descriptive qualitative survey was carried out over the seven emirates of the UAE community pharmacies which involved exploring and collecting data from randomly selected pharmacists. The initial pool of items was recognized by earlier studies [11-16]. Adjustments were done to make it convenient with the UAE practice setting. The questionnaire compromised of 3 parts: section one contained questions related to the demographic characteristics and other practice shapes in community pharmacy settings, section two explored the respondent's perception with regards to the challenges and the final part was open-ended part in which the respondents provided suggestions to the advance practice. By the use of Raosoft sample size calculator the

minimum sample size was calculated to be 270 and the final chosen sample size was 500 to overcome non response and to avoid decreased sample size than minimum. The survey tool was reviewed by doctors of pharmacy department at Ajman University to establish content validity of the questionnaire. The purpose was to assess general acceptance of the survey instrument, comprehension, questions organization and sequencing. Based on the feedback, the survey questions were adjusted before primary distribution to the participant to assured the Content Validity of the Study.

By using Cronbach's Alpha coefficient, the reliability test for questionnaire items were measured and reported to be 0.95 (Values above 0.7 are acceptable, and those above 0.8 are preferable). To perform proper analysis all questions were coded and then they were imported for Statistical Package for the Social Sciences (SPSS) Version (20) for windows. To analyze direct questions and demographic data obtained from the research (i.e. frequency distribution, percentile, mean, and standard deviation) descriptive statistics were used. Mann Whitney Test and Kruskal-Wallis Test were used to measure possible association between demographic data and studied challenges.

III. RESULTS

Results of general classification to practice constraints showed that:

Among Pharmacists Attitude Related Obstacles; lack of motivation represented the highest hurdle to Advance Diabetic Care in this group (61.1%). Regarding Advanced Skill Related Hurdles; lack of counseling program or guideline for effective patient counseling represented (54.3%). Concerning Education Related Barriers; lack of education in communication skills represented the highest barrier to ADC in this group (57.4%). Among Patient Related Challenges, language barrier represented the highest obstacle to such advanced care practice (59.9%). On the subject of Physical Related Barriers; inadequate private counseling area represented the highest barrier to ADC in this group (57.1%). Among System Related Challenges; lack of teamwork concept represented the biggest challenge to Advance Diabetic Care in this group (55.2%). Regarding Resource Related Issues; lack of time was hindering the implementation of the Advance Diabetic Care by strength of (64.7%) compare to other related factors.

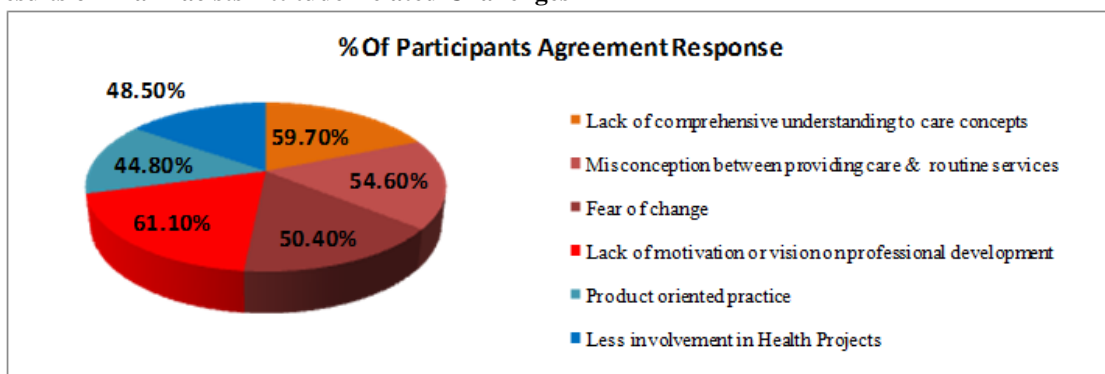1. **Results of Pharmacists Attitude Related Challenges**

Figure (1) Lack of motivation or vision on professional development represents the highest challenge to ADC in this group (61.1%)

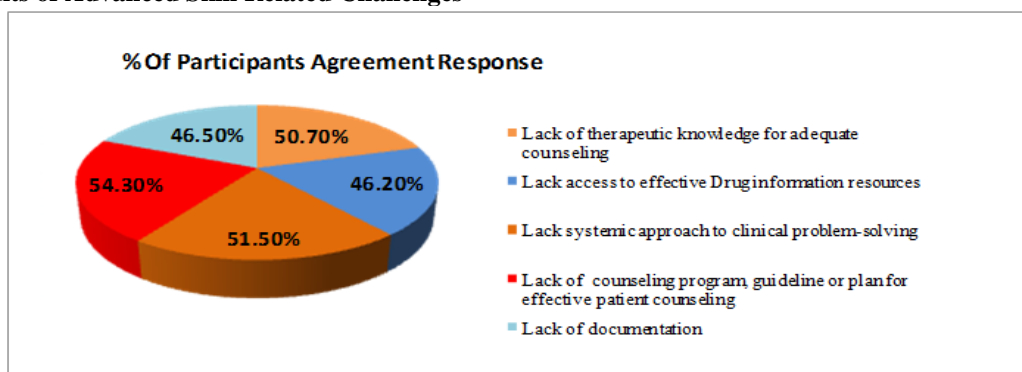2. **Results of Advanced Skill Related Challenges**

figure (2) Lack of counseling program, guideline or plan for effective patient counseling represents the highest challenge to ADC in this group (54.3%)

3. Results of Education Related Challenges

% Of Participants Agreement Response

53.50% 50.10%
57.40% 53.80%

■ Lack care courses in undergraduate curriculum

■ Lack continuity of quality improvement

■ Lack of education in communication skill

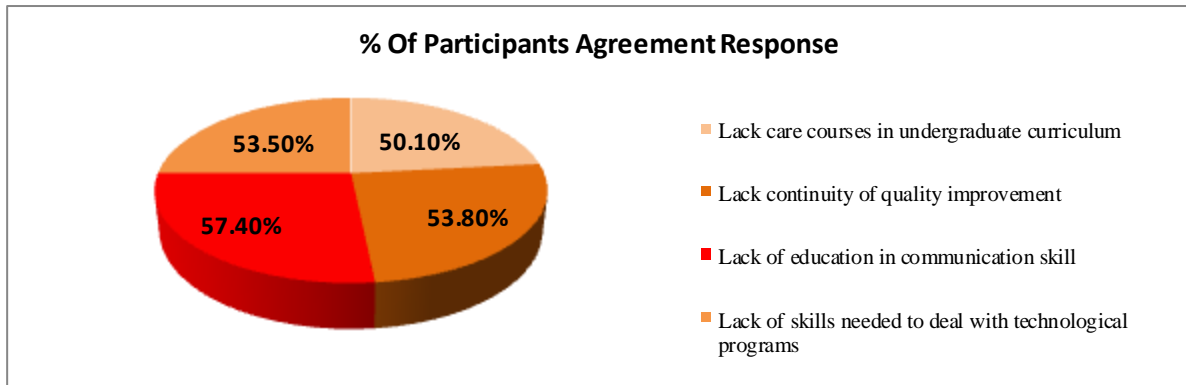■ Lack of skills needed to deal with technological programs

Figure (3) Lack of education in communication skill represents the highest challenge to ADC in this group (57.4%)

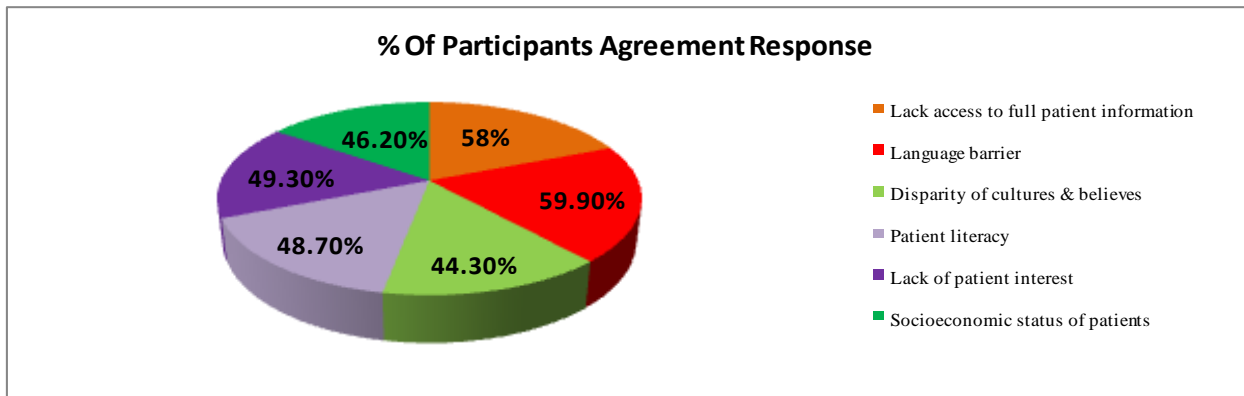### 4. Results of Patient Related Challenges

% Of Participants Agreement Response

46.20% 58%
49.30% 59.90%
48.70% 44.30%

■ Lack access to full patient information

■ Language barrier

■ Disparity of cultures & believes

■ Patient literacy

■ Lack of patient interest

■ Socioeconomic status of patients

Figure (4) Language barrier represents the highest challenge to ADC in this group (59.9%)

5. Results of Physical Related Barriers

% Of Participants Agreement Response

43.40% 55.50%
57.10% 47.10%

■ Nature of pharmacy location

■ Space and layout within the pharmacy

■ Inadequate private counseling area

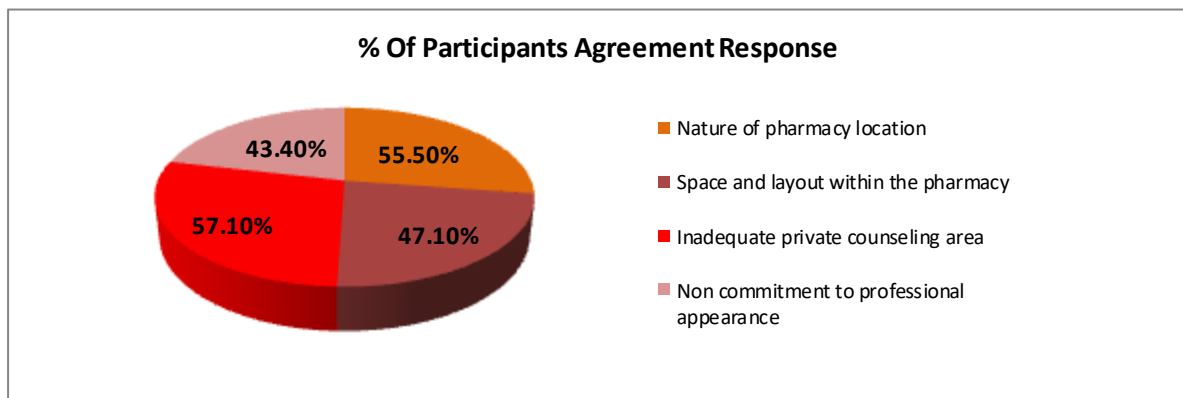■ Non commitment to professional appearance

Figure (5) inadequate private counseling area represents the highest challenge to ADC in this group (57.1%)
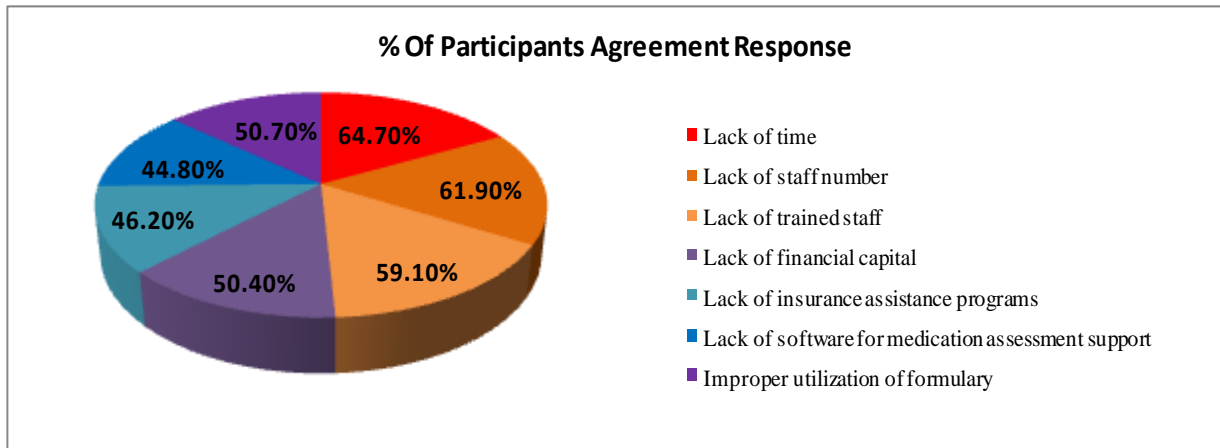
6. Results of Resource Related Challenges

% Of Participants Agreement Response

- 64.70% — Lack of time
- 61.90% — Lack of staff number
- 59.10% — Lack of trained staff
- 50.40% — Lack of financial capital
- 46.20% — Lack of insurance assistance programs
- 44.80% — Lack of software for medication assessment support
- 50.70% — Improper utilization of formulary

Figure (6) Lack of time represents the highest challenge to ADC in this group (64.7%)

7. Results of System Related Challenges

% Of Participants Agreement Response

- 44.30% — Legislation barriers
- 44% — Non-supportive pharmacy management regulations
- 48.50% — Other Health Care Professionals resistance to interactions
- 55.20% — Lack of teamwork concept
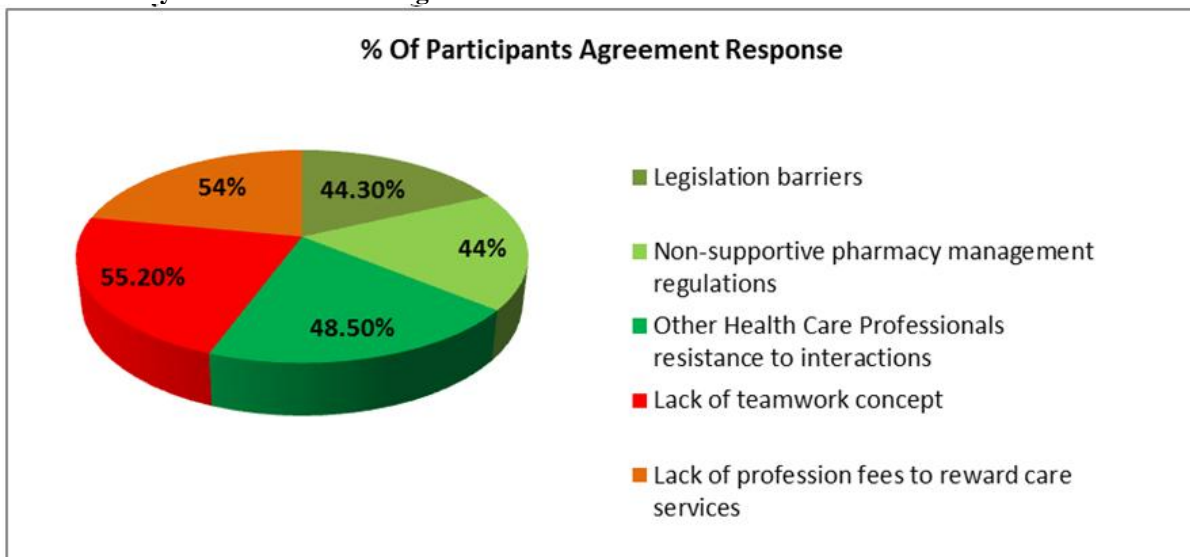- 54% — Lack of profession fees to reward care services

Figure (7) Lack of teamwork concept represents the highest challenge to ADC in this group (55.2%)

IV. DISCOUSION & CONCLUSION

Regarding Pharmacists Attitude Related Challenges, our finding was contradicted European study [17] as they reported "Opinion to other staff" as being a pertinent factor. Whereas Scott et al., study [18] indicated that "Limited comprehension of ADC" was the main barrier in this group. Regarding Advanced Skill Related Challenges, our finding was compatible with Mil et al. study [17]. In the other hand, Nebraska study [18] and Nigeria study [19] contradicted our findings as their studies showed that "Documentation" and "Monitoring of drug therapy" were the main obstacles in this group. Concerning Education Related Challenges, our finding was compatible with Mil et al., study [17]. However, Scott et al., [18] and Brown et al., [20] studies contradicted our finding as their studies showed that "Lack of mentors and role models", "Education in Computer system/software skill" is the main challenges in this group. Among Patient Related Challenges, our finding was consistent with the American study that was conducted at community health centers [20] and contradicted with Nigeria study [19] as they acknowledged "Unenhanced relationships with patients" as a robust challenge in this group. On the subject of Physical Related Barriers, our finding was compatible with Brown et al., study [20]. Regarding Resource Related Challenge, our finding was compatible with Scott et al., [18]. However, Mil et al., [17], Brown et al., [20] studies were contradicted our findings as they reported "lack of money", "Inadequate staffing" as major challenges. Among System Related Challenges, our finding was contradicted with Scott et al., [18] , Mil et al., [17] studies as they reported "Lack of reimbursement", "Legal barrier" as the main challenges to Advanced Diabetic Care in this group.

V. RECOMMENDATIONS

As a conclusion the advancement of the function of pharmacists in the quality and efficiency of medicines use will require:

Health care professionals to work on well-studied plans to ensure that their patients' health needs are being met.

Pharmacists mainly rely upon only a prescription from which to begin their dialogue with their patients. There is an essential need to know more about the patient and have open lines of communication with other providers.

Pharmacists need to spend enough time with the patients in order to full understand to their needs. However this will require reducing workloads.

Enact regulations to authorize pharmacists to expanded services in new practice.

Develop a regulatory framework that adjusts responsibilities of pharmacists and pharmacist assistants.

If university academic staff link with hospital and community pharmacists, this will end in a wider health services link.

Adjust the coordination mechanism between the insurance companies and pharmacies toward better supporting to such implementation.

Develop strategies that address financial requirements to operationalize implementation of Advanced Diabetic Care.

Limitations and restrictions of the study:

The study did not target assistants' pharmacists. However they may play a part in overall assessing challenges to the practice.

Significance of the study:

This is a study that considered as the first of its kind to be held in UAE community pharmacies, looking for to assessing challenges to Advanced Diabetic Care implementation. The study results may test the practicality to develop such practice.

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