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Review Article

Effectiveness of COVID-19 Communication in Primary Care Settings in Dubai at the Time of Consultation: Lesson Learned From COVID-19

Sajitha Prasad [1*], Nazneen Hussain [2], Sangeet Sharma [3], Amal Mahgoub [4], Mohammed Moutaz Nakhal [4]

[1] Family Medicine Department, PHCS, Al Mizhar Health Center, Dubai Health Authority, Dubai,

United Arab Emirates

[2] Family Medicine Department, PHCS, Al Khwaneej Health Center, Dubai Health Authority,

Dubai, United Arab Emirates

[3] Family Medicine Department, PHCS, Al Lusaily Health Centre, Dubai Health Authority, Dubai,

United Arab Emirates

[4] Department of Biochemistry, College of Medicine and Health Sciences, Al-Ain P.O. Box 15551, United Arab Emirates

*Corresponding Author: Sajitha Prasad, Family Medicine Department, PHCS, Al Mizhar Health Center, Dubai Health Authority, Dubai, United Arab Emirates.

Abstract

Aim: This study aimed to investigate the effectiveness of Covid related communication during the pandemic between the healthcare providers and suspected COVID-19 patients at the time of consultation in primary health care clinics.

Methods: A descriptive cross-sectional study was conducted at 4 different primary care clinics (Al-Khawaneej, Al-Badaa, Al-Mamzar, Nad-AlHammar, and AlMizher clinics) of Dubai Health Authority from March 2021 to June 2021. Multiple Primary Care Physicians (PCPs) utilized a system through which suspected COVID-19 patients were approached by a questionnaire regarding COVID-19 care communication or counselling services they have received, in addition to their perception about these services, by a phone call. The questionnaire items were adopted from multiple validated sources including The Health Care Climate Questionnaire (HCCQ), and World Health Organization (WHO).

Results: Out of 200 subjects approached, 99 participants completed the survey. They almost equally distributed between females (49.5%, n = 49) and males (50.5%, n = 50) aged between 20 and 70. females had less perceived awareness of symptoms management (75.5%) in comparison with males (92%), p-value: 0.02584574 Age was a factor in perceived awareness of COVID-19 as elder patients (>40) had better perceived awareness (100%) and better perceived awareness of informing contacts to test (84.4%) compared to younger patients (20-40) (83.3%, 66.7%; 0.0040752, 0.04263445) respectively. The proportion of males and females who understood the concept of hand hygiene, proper use of face mask (82%, 81.6%), the concept of social distancing (84%, 85.7%) were evenly similarly as respectively. Respondents of all age groups had low understanding of proper disposal of used face mask and gloves (20-40yrs) (53.7%), (>40yrs) (51.1%) and disinfection of home and surroundings (20-40yrs), 50%, and (>40yrs) 55.6% after consultation. Majority of the participants were comfortable with the consultation service (80.8%), and trusted the information provided by the primary care clinics (96%).

Conclusion: This study revealed that covid related communication during consultation is an effective method to optimize the appropriate perception of pandemics and to improve the relationship between healthcare providers (HCPs) and the patients.

Kew Words: covid-19; consultation; perceive awareness; counseling; perception; healthcare providers; communication

1.Introduction

In January 2020, the World Health Organization (WHO) announced the novel coronavirus disease (COVID-19) outbreak as a public health crisis [1]. At the time of writing this paper, 662,976,533 cases have been infected by COVID-19 [2], the WHO declared COVID-19 as a pandemic in March 2020, which is the fifth pandemic since the Spanish flu in 1918 [3], because of the fast spread and the significant increase of the admitted patients' numbers to healthcare facilities. The latter introduced new challenges to healthcare providers [4], which were not limited to clinical management of the disease, but also to the effective communication between healthcare providers (HCPs) and the clients [5]. Primary care physicians (PCPs) and nurses are the front liners who are receiving, triaging, and managing suspected COVID-19 infected patients and their families straight from the community [6].Therefore, COVID-19 has presented novel adversities for global primary care, in general, and particularly for Dubai Health Authority (DHA) primary health centers (PHCs) [7]. One of the significant challenges that could deteriorate healthcare workers (HCWs) communication is their mental health. It has been reported that more than 20% of HCWs suffered from insomnia, anxiety, and depression, which could hinder their ability to provide effective communication and counseling [8]. This warrants a need to study the approach of the PCPs and nurses in effectively communicating COVID-19 information with the clients despite the absence of a national or international framework of pandemic communication [9]. This study aimed to investigate the effectiveness of communication between the healthcare providers and patients towards pandemic response initiatives. Other variables during the management of suspected COVID-19 cases in PHCs were also evaluated through a telephone questionnaire.

Thereby, results from this study can guide the development of a standardized communication tool in primary care as a pandemic response measure related to communications to develop a therapeutic relationship. This will be done by analyzing the communication content, methods of communication, and the reaction of the clients to the delivery technique in terms of fear,

distrust, resistance and their perception through a telephone questionnaire. Mobile phone surveys are recently emerging as an effective technique of obtaining results regarding HCWs- patient communication and particularly nurse-patient communication, also are estimated to grow in utilization and employment in the near future [10]. There has been an increase in the development of health advancement scheme which use text messages or voice responses of mobile phones for service evaluation in combination with other technologies [11,12]. Phone call questionnaires to evaluate relationship between HCWs and patients has been validated in many different areas of health promotion, including dietary intervention [13], asthma intervention [14], diabetes management [15], COVID-19 intervention [16]. Moreover, phone surveys to evaluate HCWs' services quality and patients' perception also have been used abundantly [17–19].

Materials and Methods

1.1Study Design and Setting

This was a descriptive cross-sectional design study which was conducted on adult COVID-19 patients attending outpatient care by the PHCs of DHA to assess the service provided by the PCPs and nurses to the clients during a period from 1 March 2021 to 1 June 2021. Multiple PCPs utilized a plan whereby the perceived COVID awareness was evaluated by using a telephonic questionnaire on COVID-19 care communication or counselling services received and their perception about these services. The questionnaire was collaboratively designed by primary care physicians of

DHA. Questions were adopted from multiple validated sources including The Health Care Climate Questionnaire (HCCQ), and WHO Europe along with previously published studies [23] but adjusted by HCWs to fit into the study objectives [20–22]. This customized questionnaire was further internally validated by physicians and nurses before being used for this study.

2.1Study Participants

The total number of patients attending PCPS, were eligible to be included in this study were 200 patients based on being COVID-19 positive and within the age of 20-70 years old, however, only 99 patients (10% of suspected COVID-19 patients attending 4 different DHA's PHCs in 2 months) have agreed to participate in the questionnaire. All participants were provided with an informed consent before completing the survey.

2.2Study Outcomes

The questionnaire was administered by the HCWs and distributed to an adequate sample of patients. In the first section of the questionnaire, patient history information and socio- demographic features were collected, including age, gender, nationality, and other social data. In the second section, COVID-19 patient' perceived awareness was assessed by asking 10 general closed-ended questions associated with testing, quarantine, isolation, symptom management, and investigation results. The study also investigated infection control measures perceived awareness as well as their evaluation to the counseling service done by the HCWs and asking if there are any recommended suggestions to improve the provided service.

2.2Questionnaire Administration

Participants were questioned via mobile phones, employed similarly to a strategy used by Blake [24]. Respondents were directed to review the questionnaire after completing it, which contained suggestions to improve the communication method.

2.3Statistical analysis and sample size calculations

This research focuses on the descriptive analysis of the effectiveness of COVID-19 related perception, so each item was described as frequency and percentages. Chi-square test was used to compare perceived awareness between males and females, and amongst different age groups, where p-value was considered significant at <0.05. Microsoft Excel 2013 was used to analyze data.

3.Results

Participants' Demographics

Table 1 displays the sociodemographic of the participants. More than 90% of participants were less than 60-year-old, the participants' age (years) ranged from 20 to 70, with an average of 39.99 (SD = 10.58) were categorized into two groups (>40 and 20-40). Males represented 50.5% and females represented 49.5% of the study's sample. All participants had confirmed COVID-19 infection (100%), among which 59.6% were vaccinated. Most respondents were non-local (79.8%) and only 20.2% were locals from the UAE. Respondents were residents of the UAE (100%), that had received their counselling at the clinic and participated in the questionnaire by a phone call

COVID-19 patients' general perceived awareness after consultation

COVID-19 patient' perceived awareness of issues related testing, quarantine, isolation, symptom's identification, and results investigation **(table 2)** was relatively similar between males and females, however, there was a noticeable difference in symptoms management perception between genders, as females had less perception (75.5%) in comparison with males (92%), p value= 0.02584574. Elder patients (>40) were significantly more experienced in recognizing COVID-19 testing venues and appointments (100%), in contrast, younger patients (20-40) were less experienced (83.3%), P value= 0.0040752. There was a significant association between age and the responsibility of informing contacts to test after consultation as elder patients (>40) had better perceived awareness (84.4%) in comparison with younger patients (20-40) (66.7%), p value 0.04263445.

Variables	Frequency (%)
Gender Males Females	50 (50.5%) 49 (49.5%)
Age 20-40 40-60 > 60	53 (53.5%) 42 (42.4%) 4 (4.10%)
Nationality Local Non local	20 (20.2%) 79 (79.8%)
Covid Infection status Positive Negative	99 (100%)

Table 1. Participants' sociodemographic data (n=99)

Questions	Total yes percentage	Females (yes)	Males (yes)	Gender p Value	20-40 years (yes)	>40 years (yes)	Age p value
Q1. Are you aware of details like venue, appointments about COVID testing?	90 (90.9%)	45 (91.8%)	45 (90%)	0.75	45 (83.3%)	45 (100%)	0.004*
Q2. Are you aware how often the test must be done and when others must do it?	76 (76.8%)	40 (81.6%)	36 (72%)	0.26	41 (82%)	35 (77.8%)	0.82
Q3. Did the counselor inform you about common covid symptoms like cough, colds, fever, diarrhea, body pains?	92 (92.9%)	48 (98%)	44 (88%)	0.053	48 (88.9%)	44 (97.8%)	0.09
Q4. Were you told how to manage the symptoms like cough, fever and shortness of breath at home?	83 (83.3%)	37 (75.5%)	46 (92%)	0.026*	46 (85.2%)	37 (82.2%)	0.7
Q5. Were you told about the red flag symptoms like shortness of breath, dizziness, high grade fever needing medical help?	76 (76.8%)	35 (71.4%)	41 (82%)	0.21	40 (74.1%)	36 (80%)	0.49
Q6. Were you informed about the details of how to self- isolate?	88 (88.9%)	44 (89.8%)	44 (88%)	0.78	48 (88.9%)	40 (88.9%)	1
Q7. Were you told how long you must quarantine?	90 (90.9%)	45 (91.8%)	45 (90%)	0.75	51 (94.4%)	39 (86.7%)	0.2
Q8. Were the Investigation results explained in detail?	81 (81.8%)	38 (77.6%)	43 (86%)	0.28	43 (79.6%)	38 (84.4%)	0.54
Q9. Were you asked to inform your contacts to test?	74 (74.7%)	39 (79.6%)	35 (70%)	0.27	36 (66.7%)	38 (84.4%)	0.043*
Q10. Was the follow up appointment explained?	66 (66.7%)	35 (71.4%)	31 (62%)	0.32	33 (73.3%)	33 (61.1%)	0.2

Table 2

Participant's perception of COVID-19 related issues

3.1COVID-19 patients' perceived awareness of infection control measures after consultation

The proportion of females and males who understood the concept of hand hygiene, properuse of face mask was evenly similar (81%), as well as the concept of social distancing (84%). Whereby, elder patients (>40) had better perceived awareness of hand hygiene and proper use of face mask (86%) than younger patients (20-40) (78%), but statistically it was insignificant with a p value of 0.253537806. Both genders and all age groups had low understanding of proper disposal of used face mask and gloves (47.5%) and disinfection of home and surroundings (47.5%) after consultation (table 3).

3.1Patients' reaction to COVID Counselling service

Overall, most participants were comfortable with the consultation service (80.8%), but males were more comfortable (86%) than females (77.6%), but statistically insignificant (p value=

0.275824102). Nearly half of Respondents (51.5%) felt the need for more support in managing symptoms and information on red flag symptom. Moreover, almost all participants trusted healthcare providers information (96%) (table 4).

Questions	Total yes percentage	Females (yes)	Males (yes)	Gender p Value	20-40 years (yes)	>40 years (yes)	Age p value
Q11. Was the concept of hand hygiene and proper use offace mask explained?	81 (81.8%)	40 (81.6%)	41 (82%)	0.96	42 (77.8%)	39 (86.7%)	0.25
Q12. Was the conceptof social distancing explained?	84 (84.5%)	42 (85.7%)	42 (84%)	0.81	46 (85.2%)	38 (84.4%)	0.8
Q13. Was the properdisposal of used face mask and gloves explained?	52 (52.5%)	26 (53.1%)	26 (52%)	0.92	29 (53.7%)	23 (51.1%)	0.8
Q14. Was the Disinfection of home and surroundings explained?	52 (52.5%)	28 (57.1%)	24 (48%)	0.036	27 (50%)	25 (55.6%)	0.58

Participant's perception of infection control measures

Table 3.

Questions	Total yes percentage	Females (yes)	Males (yes)	Gender p Value	20-40 years (yes)	>40 years (yes)	Age p value
Q15. Were you comfortable with the counselling you received?	80 (80.8%)	38 (77.6%)	43 (86%)	0.28	43 (79.6%)	38 (84.4%)	0.54
Q16. Do you need more support in managing symptoms?	51 (51.5%)	30 (61.2%)	21 (42%)	0.06	26 (48.1%)	24 (53.3%)	0.61
Q17. Do you need information on red flag symptoms?	55 (55.6%)	28 (57.1%)	27 (54%)	0.75	28 (51.9%)	27 (60%)	0.42
Q18. Do you trust the information given to you by your healthcare provider?	95 (96%)	47 (95.9%)	48 (96%)	0.98	51 (94%)	44 (97.8%)	0.4
Q19. Are you confused on how to handle the COVID infection?	22 (22.2%)	13 (26.5%)	9 (18%)	0.31	14 (25.9%)	8 (17.8%)	0.33

Patients' reaction to counseling

Table 4.

Suggestion.1: The patient suggested HCWs to follow up at day 10 via phone calling
Suggestion.2: The patient suggested HCWs to follow up by using specific online programs such as Zoom or Microsoft teams
Suggestion.3: The Patient suggested to add a new language other than Arabic and English for Hindi speakers
Suggestion.4: The patient requested for psychological counseling and support for COVID-19 patients
Suggestion.5 & 6: The patient requested to increase the time of counseling
Suggestion.7: The patient requested mental support for COVID-19 patients

Participants' suggestions to improve the counselling provided by healthcare providers

Table 5.

4.Discussion

Initially, the first COVID-19 case in the UAE was declared in January 2020. As the virus spread increased noticeably over the world, the UAE has implemented prompt strategies to involve its healthcare system in response to this global crisis. The present cross-sectional study provides a descriptive analysis of the counselling service among COVID-19 patients attending 3 PHCs in Dubai. To the best of our knowledge, this is the first study in the UAE to investigate the efficacy of communication at the time of consultation via the assessment of COVID-19 patient' perception (including testing, quarantine, isolation, symptom management, infection control measures awareness, evaluation to the counseling service) managed by the HCW's while facing COVID-19 pandemic.

According to the present findings, (92.9%, n=92) respondents perceived awareness of common COVID-19 symptoms. A recent study in the UAE had consistent results with our findings (95.6% n= 1296) (25). Moreover, a considerable proportion of patients had proper perception of self-isolation (88.9% n=88) and quarantine (90.9%, n=99) which supports the findings of the Saudi Arabia study, as most patients had (87%, n=1738) overall perception of COVID-19 quarantine and isolation (26). Additionally, a study in China, Wuhan reported poor perception of hand hygiene (58.26%, n= 4151) and mask wearing (46.52%, n= 1330) among females and males adult civilians (27), in contrast, our study revealed only (18.2%, n=18) poor perception of hand hygiene and face mask usage. The present study emphasizes (84.5%, n=84) understood the concept of social distancing and the measures, in contrast, according to a study in the UAE only (63.7%, n=864) of UAE residents without COVID-19, knew the measures and the concept of social distance when going outside (25). More than third of US residents said that they trusted the US medical system before the pandemic which increased to 51% after the pandemic in July of 2020, 17 (28). Interestingly, our data revealed that (80.8%, n=80) participants felt comfortable with the present service, and (96.0% n=95)

trusted the information given by the HCP's which indicates a better relationship. The reasons for this trust, is seeing clinicians and health care systems making great efforts to provide care for their patients regardless of personal risk (29).

This study has several strengths that it is the first study in the UAE, to display the effectiveness of COVID-19 related communication at the time of consultation particularly and compare the perception of communication between genders and age groups. Also, the study was multicenter as it was conducted in four primary health care centers in the UAE. Additionally, the presented study was cost-effective as no budget was established for delivering this service to the patients.

On the other hand, there were few limitations, including the inadequate sample size of 99 patients according to raosoft.com, the minimum adequate size should've been 384. this is due to several reasons such as patient's unresponsiveness to the survey call and not all COVID-19 patients were approached with tele-consultation. There was no assessment tool used to evaluate the service provided, as the questionnaire used was adopted from multiple resources and some additions were applied to fit the purpose of this study.

6.Conclusion

To concludede, this study elucidated that COVID-19 patients during the outbreak needed consultation to increase their perception of COVID-19 related services including education about testing, quarantine, isolation, symptom management, and infection control measures. Moreover, it showed that covid related communication at the time of consultation could improve the relationship between HCPs and the patients, as they have trusted the information given and were satisfied with the consultation service, which indicates that tele-consultation could be a standardized communication tool in primary care, that can be extrapolated to other health issues and/or chronic conditions.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Statement of Ethics

Dubai Scientific Research Ethics Committee approved the project (Ref: DSREC- 09/2019_11).

Author Contributions

Research lead, questionnaire for survey preparation, data collection and analysis; S.P. Data collection, analysis and interpretation; N.H, S.S, A.M. Statistical analysis, manuscript writing and editing; M.M.N

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