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Management of Non-communicable Diseases (NCD) in the COVID Era: Impact of Medical Education on Physician Concepts.

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Abstract

Purpose: To evaluate the impacts of educational program on a group of physicians from PHC regarding knowledge and management decision making for NCDs during the COVID-19 pandemic.

Methodology: An instructional curriculum for the management of many common NCDs was designed and made available. Pre- and post-test were provided before and after the program.

Findings: Average score for Pretest was 11.2 +/- 3.014 while the average score for posttest was 14.0 +/- 2.891 ($P < 0.001$). Eight questions showed a significant difference between pre and post-test results. Eleven questions showed no significant difference between pre and post-test. A satisfaction questionnaire showed that 39 attendees highly satisfied and 10 were moderately satisfied.

Recommendations: Educating physicians on the management of NCDs during the COVID is beneficial in changing general management concepts. Further enhancements to the education program are required in certain areas, notably diabetes management.

Keywords: *COVID; NCDs; Diabetes; Hypertension.*

Introduction

Primary care services may become overwhelmed during catastrophes and pandemics, jeopardizing routine care and long-term management of NCDs¹. With the number of COVID-19 cases rising by the thousands every day in some countries, people with NCDs are not only more likely to become seriously ill if infected with the SARs-CoV-2 virus, but they may also be unable to access management facilities due to the pandemic's increased burden on health resources²⁻³. Ministries of health claimed that the COVID-19 pandemic had significantly impacted NCD prevention and treatment services, according to a recent study performed by the World Health Organization (WHO)⁴.

Physician education on the best care delivery for NCDs during the COVID-19 pandemic is critical for dramatically enhancing clinicians' thoughts and approaches for managing their patients. Accordingly, an accredited education program was planned to provide primary healthcare (PHC) physicians with essential and fundamentals on managing NCDs during the COVID era.

Methods

Design

An instructional curriculum for the management of many common NCDs was designed and made available. Pre- and post-test were provided before and after the program. The survey comprised of 19 case-based multiple-choice questions about the management of NCDs based on the pre-designed program. A satisfaction questionnaire was provided at the end of the program on a scale from 0 to 10; 0-5 will be considered unsatisfied, 6-7 will be considered moderately satisfied and 8-10 highly satisfied.

Study Population

Forty nine physicians who attended the educational program. Physician were mainly from Primary health care sector of the ministry of health in Egypt.

Statistical Analysis

Pre and post-test results were collected, and the researchers compared results by paired-sample t-test, using χ^2 tests to assess statistical significance ($P \leq .05$).

Results

A total of 19 questions were answered by each respondent. All the attending physicians completed the pre and posttests. A point was given for each correct answer. Pretest questions were coded as Q1-Q19. Post-test questions were coded as P1-P19. A successful answer was considered when at least 70% of all answers were correct. Failed answers were considered when correct answers were less than 70%.

Average score for Pretest was 11.2 +/- 3.014 and the average score for posttest was 14.0 +/- 2.891 ($P < 0.001$). Eight questions showed a significant difference between pre and post-test results. Eleven questions showed no significant difference between pre and post-test. A satisfaction questionnaire showed that 39 attendees highly satisfied and 10 were moderately satisfied. Results on total points distribution for pretest and posttest is presented in figure 1 and figure 2. Table 1 shows the paired samples t-test for pretest and posttest scores.

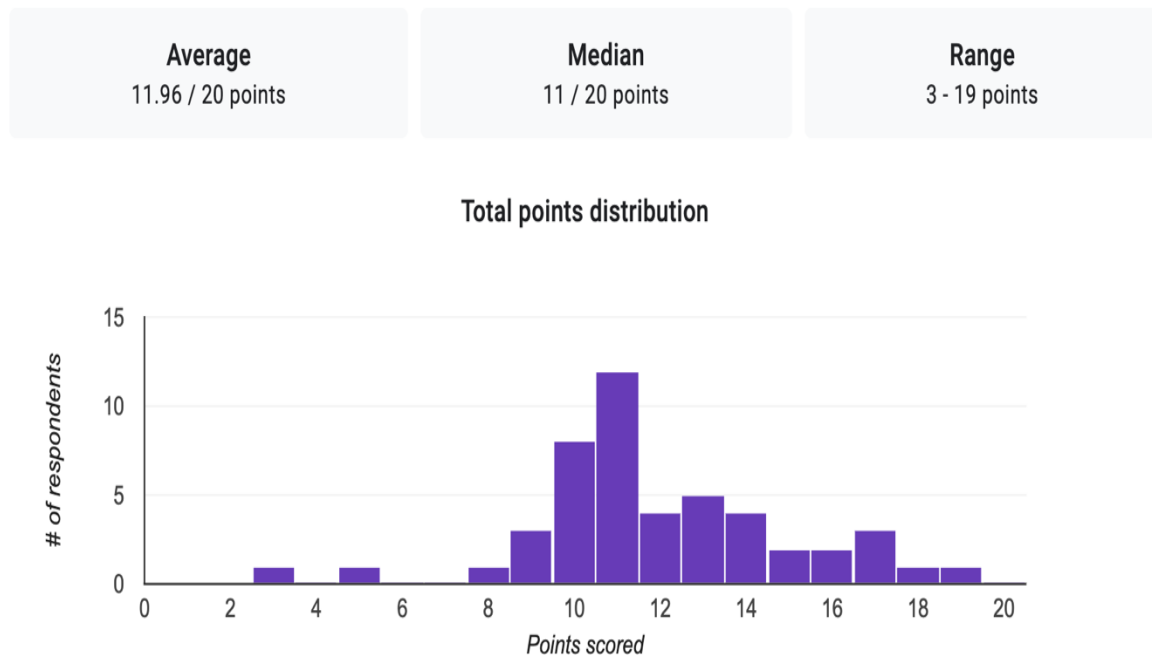


Figure 1: Pretest results

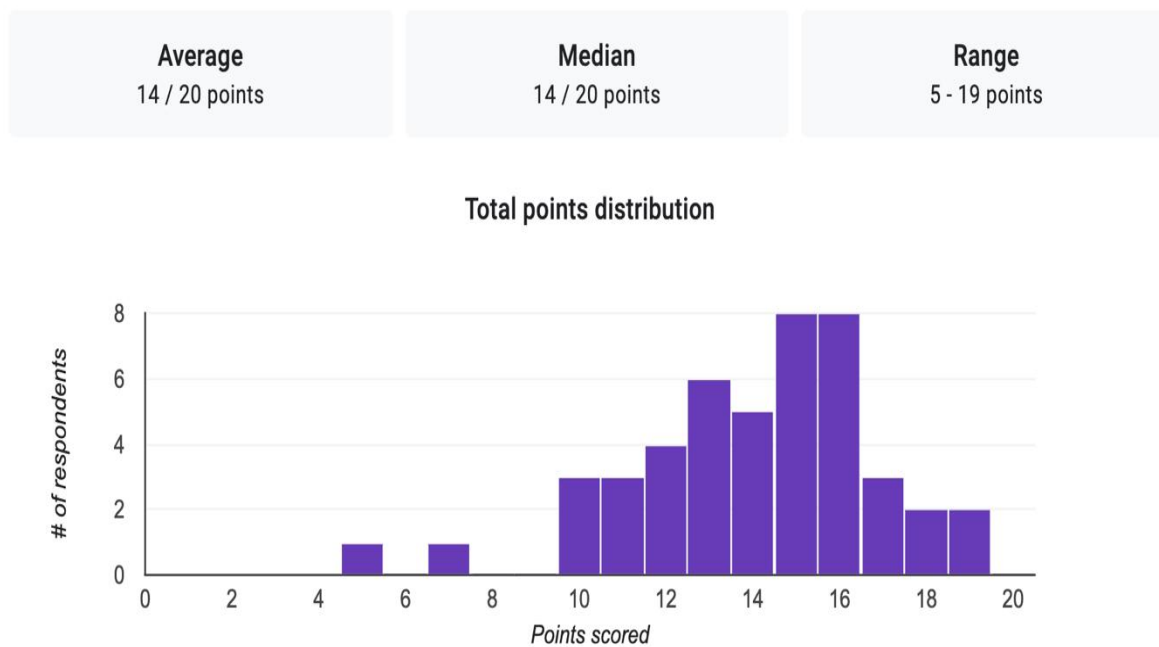


Figure 2: Post-test

Table 1: Paired Samples T-Test

Measure 1	Measure 2	t	df	p
Score pre -	Score post	-4.028	45	< .001
Q1: -	p1 post	-1.478	45	0.146
Q2 -	p2 post	7.649	45	< .001
Q3 -	p3	-1.633	44	0.110
Q4 -	p4	-2.870	45	0.006
Q5 -	p5	-1.093	45	0.280
Q6 -	p6	-5.438	45	< .001
Q7 -	p7	-0.467	45	0.642
Q8 -	p8	0.000	45	1.000
Q9 -	p9	-0.423	45	0.675
Q10 -	p10	1.664	45	0.103
Q11 -	p11	0.330	45	0.743
Q12 -	p12	0.443	45	0.660
Q13 -	p13	-6.034	45	< .001
Q14 -	p14	-3.288	45	0.002
Q15 -	p15	-2.555	45	0.014
Q16 -	p16	-2.486	45	0.017
Q17 -	p17	3.308	45	0.002
Q18 -	p18	-1.000	45	0.323
Q19 -	p19	-1.071	45	0.290

Discussion

The survey composed of 19 multiple choice questions covering different areas of managing NCDs during the COVID era; Distancing in health care (3 questions), Assessment of suspected or infected case (screening, diagnostic test, monitoring of complications: 6 questions), management of hypertension (one question), management of diabetes (3 questions), indications and precaution of use of Steroids usage (3 questions), use of Supplements to maintain health and immunity (two questions) and safety of Vaccine (one question)

A failed pretest - a successful post-test was noticed in 3 areas represented by 6 questions. These areas are; use of supplements (2 questions), vaccine safety (one question), and steroid use, safety and precautions (3 questions). A pretest success-posttest success was noted in 3 areas. These areas are; distancing in health care (3 questions), assessment of COVID case (4 questions), and HTN management (one question). Worsened or failed to improve post-test results were noted in one area which is diabetes management (3 questions). Eighty percent of all the attendees was highly satisfied and 20% were moderately satisfied, and no attendant was unsatisfied.

Recommendations

The study recommend initiatives focusing on educating physicians on the management of NCDs during the COVID. Educating physicians is beneficial in changing general management concepts. Also, the study recommend further enhancements to the education program in certain areas, notably diabetes management.

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¹ Ochi, S, Hodgson, S, Landeg, O, Mayner, L, Murray, V. Disaster-driven evacuation and medication loss: a systematicliteraturereview.PLoSCurr.2014;6:ecurrents.dis.fa417630b417566a417630c417637dfdbf945910edd417696. doi: 10.1371/currents.dis.fa417630b566a0c7dfdbf945910edd96

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