PalliativeCareKnowledgeAmongPhysicians inKingAbdullahMedicalCity,Makkah,Saudi Arabia:ACrossSectionStudy

ABSTRACT

Aims: To estimate the level of understanding of non-palliative physicians regarding thepalliative approach and to identify areas of weakness in their management of advancedterminal symptoms.
Study Design: An observational study was conducted among physicians at a singlecenterusingacross-sectionaldesign.
LocationandDurationofStudy: KingAbdullahMedicalCity,Makkah,Kingdomof SaudiArabia.
Methodology: The sample size was determined using ROA software based on thenumberofphysicians.Avalidatedsurveywasusedfromacomparablestudyconductedin Vietnam.Thedatawastransmittedviaan electroniciterationoftheauthorizedsurvey. Statisticalsignificancewillbeassessedusingasignificancelevelof P<0.05andaconfidenc erangeof95%.
Results: The study included a sample size of 80 individuals, with the highest proportion(37.5%) belonging to the age group of 31-40 years. The findings revealed that 57.5% ofthe participants have knowledge about comprehensive and appropriate palliative care.The study found significant positive correlations between healthcare provider practicesandeducation(r:0.360,P<0.001),aswellascomprehensivePalliativeCarePractices(r:0.476, P <0.001). A negative correlation was seen between knowledge and belief of end-of-life (r = -0.358, P <0.001). Statistically significant correlations were observed betweenknowledge of palliative care and age (p =0.028), degree (P <0.001), and clinical practicearea (P =0.004). The pain management category showed a significant positive correlationwithhealthcareprovidersandpractices (r:0.316,P=0.004).
Conclusion: The findings revealed that physicians possessed insufficient knowledge inthe areas of pain management and palliative care. Knowledge levels are associated withage, educational attainment, and beliefs about end-of-life care. The study recommendedthe implementation of additional specialized facilities and the establishment of moreefficientpalliativecareeducationprograms.

*Keywords:knowledge, painmanagement,palliativecare,physicians,*Palliativecare,clinicalexperiences

1.INTRODUCTION

Palliativecareisconsideredaspecialtywithaholisticapproach.AsdefinedbytheWorld HealthOrganization(WHO),palliativecareisthespecialty thatalleviatespatientsuffering, includingphysicalsymptoms,suchasPain,aswellaspsychosocialandspiritualsuffering. However,accesstopalliativecareislimitedinlowandmiddle-incomecountriescompared to high-income countries[1].

ThegoalofPalliativeMedicineisnotjusttoalleviatesuffering,buttosignificantlyenhancethe qualityof lifeforpatientsandtheirfamilieswhoaredealingwithlife-threateningdiseases,notjustat theendoflife.Severalchallengesareassociatedwithpalliativecare,suchasthelackofspecialized training fordoctorsand theavailabilityofsomemedicationssuch asopioids[2].

Accordingtocurrentdata,it isexpected thatasignificantportionoftheglobalpopulationwillrequirepalliativecareduetovariouslong--term conditionsapproachtowardstheend-of-lifephase [3].

Inmanyinstances,theterminalphaseisnotasingulareventleadingtodeathbutbecomes anextendedprocessthatcanlastmonthsorevenyearsdependingontheillness.38 [4].

Improvingthequalityoflifethroughpropercarecurrentlyiscriticalforhumanrights, publichealth,andthequest forequitableend-of-lifecare.

Globally, access to palliative care prioritized citizens as a human right aim [5].

Toensurecomprehensivecareforpatientsintheirfinalstagesoflife,itiscrucialto attainan appropriatelevelofknowledge.Additionally,exposuretopalliativecarewithinclinicaltraining yearsisimportant attheundergraduateorpostgraduatelevel.Thisincludesaddressing topicsrelatedtodeathandcaregiving whileraisingawarenessamongthegeneralpopulation aboutpalliativecare[6].

Ensuringagoodqualityoflifeforpatientsattheterminalstageleadstoabigchallengefor residentdoctorsthatevolvedbeyondacurativeapproach,nowencompassingamoreholistic andhumanized perspectivewithafocusonthebiopsychosocialaspectsofcare[7].

Drawingfromexistingstudiesonpalliativecarepracticesworldwide,thisresearchaimsto estimateknowledgeofpalliativecareamongnon-palliativephysicians[8,9].

Theresearcher'srationaleisbasedononesimilarstudyconductedinVietnamin2019.They selectedthistopicbasedonrealclinicalexperiences thathavehighlightedalackof understandinginmanagingpalliativesymptoms,providingend-of-lifecare,andstabilizing palliativecases.

2.LITERATUREREVIEW

In2019,LuluTsaoandcolleaguesconductedastudyontheknowledge,attitudes,andself-assessmentofphysiciansinVietnamregardingpalliativecare[6].Thestudywasconductedviaa validsurveycomposedof3categoriestoassesspalliativecare.Thesurveyassessespain, opioidprescription,physicalsymptoms,psychological,social,spiritual,ethics,communications, andprinciplesofpalliativecare.TheCronbachhasbeenusedtomeasureinternalconsistency withanexcellentinternalconsistency result.Thesamplesizeofthisstudy was392,witha reducedp-valueof 0.0014,whichisconsideredstatisticallysignificant. Speakingaboutsamplesize,

aboutone-third workin cancercenters,one-thirdingeneralmedicineunits,and15%workat HIV units.74

Mostparticipantsdidnot receiveapreviouseducationinpalliativespecialty.90%ofthem have beenprescribednarcoticspreviouslyforpainmainlyandlessforshortnessofbreath. Theresultsshowthat75%haveappropriatemedicalattitudes,buttheyansweronly44%of knowledgequestionscorrectly.8%believedtheyhad adequatelearning,andonly11 %feel they havesufficient pain training[10]

LuluTsaoconducted afurtherstudybasedonhissurveyofpalliativecareknowledgeamong physicians,inthisstudy,heinvolved392physicianspostcomprehensivecoursesthatlast from6to18months.InthisperiodTsaouseddifferentmodelsoflearning eithertheoreticalor bedsideclinical.Post-trainingtheresultshowsasignificantincreaseinknowledge,self-assessment,andattitudewithpp-valueof0.001whichisconsideredsignificant[11].

Dr.PohlfromtheMedicalUniversityatViennaconductedasurveytocomparetheoldvsnew curriculumwithestablishingpalliativecareteachinginthenewone.This studywasconducted between 2groups;thefirstwasa149internsgroup,and thesecondwas4thyear medicalstudents.Bothgroupsshowsignificantwillingnesstolearnmoreaboutpalliativecare andfromhereanewsuggestion wasraisedtointroducepalliativecareatmedicalcollege grades to improve future medicalphysicians' knowledge [12].

In2021,JaimiMartinpublished across-sectionalstudythatwasconductedon600healthcare professionals,226nurses,and335physicians;atotalof34.4%ofnursesand67.4%of physiciansshowgoodtoexcellentknowledge.Physicians'scoresforpain,dyspnea,and psychiatricdisorderswereregreaterthanthoseofthenurses.Nursesscoredsignificantlybetter inphilosophy.Consideringfactorsaffectingknowledge,theageandworkexperienceof physiciansandundergraduatetraininginnurseshadsignificantweightinknowledge.This resultsuggestthatdevelopingcontinuoustrainingandenhancingundergraduate traininginpalliativecarewill improve patientcareattheendoflife[13].Theobjective ofthisstudyistoestimatetheknowledgeofapalliativeapproachtonon-palliativephysicians and identifyweakpointsregardingmanagingadvancedterminalsymptomsinnon-palliative physicians.

3.MATERIALANDMETHODS

3.1StudyDesignandPopulation

Thisisacross-sectional,single-center, observationalstudyamongphysiciansworkinginKing AbdullahMedicalCity,Makkah,KSA,2024.Includedinthesurveyarephysiciansofboth genders,fromanyageatoncology,hematology,andemergencydepartmentphysicians.The physicianswhoarecurrentlyworkinginthepalliativedepartment,Physicianswhorefusedto participate,andUndergraduatephysiciansareexcludedfromthisstudy.80samplesize calculatedviaROAsoftbasedonthephysicians'numberattheER,hematology,andoncology departments in King Abdullah MedicalCity,Makkah,KSA.

3.2DataCollectionandManagement

Avalidsurveyfromasimilarstudyconductedin Vietnamwasused;surveysareastandard quantitativemethodforuncoveringmisconceptionsormisunderstandingsinaspecificpopulation aboutaspecifictopic.

Thedatawasdeliveredthroughanelectronicversionofthevalidsurveyandthisdatadoesnot showanynominativeinformation,afterverification,datawastransferredtoa securedstatistical database.

3.2StatisticalAnalysis

Datawereanalyzedusingstatisticalproductandservicesolution(SPSS),software version23 (IBMCorp.,Armonk,NewYork).Fordataanalysis,descriptivestatisticswasappliedtoall variables.Proportion andfrequencyforqualitativevariablesmeanand standarddeviationfor quantitativevariablesifnormallydistributive,andbymedianandinterquartilerangeifnot normallydistributed.Analyticstatisticswasappliedintheformofa Chi-Squaretestfor qualitativevariables,andt-testforquantitativevariables.Statisticalsignificancewas consideredatPvalue<0.05andaConfidenceintervalof(95%).

4.RESULTS

Thiscross-sectionalstudyincludedatotalof80participants,withthegreatestpercentage (37.5%)fallingwithintheagerangeof31-40years.Themajorityofparticipantsweremale (70%)whohadaMasterofSciencedegreewiththejobtitleofAssistantConsultant.The participants'areaofexpertiseinclinicalworkwasspecificallyinEmergencyMedicine,as indicatedinTable1.1

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Table1.Demographiccharacteristicsof80studysamples.

Demographics		**N**	**Min**	**Max**	**Mean**	**SD**
Age		80	26	56	36.91	7.8
				Count		**%**
Total				80		100.0
Age	<=30			24		30.0
	31-40			30		37.5
	>40			26		32.5
Gender	MaleFe			56		70.0
	male			24		30.0
Degree	Consultant			17		21.3
	M.Sc(Assistant Consultant)			32		40.0
	Board(Resident)			20		25.0
	Fellow			8		10.0
	MBBS (Generalpractitioner)			3		3.8
Areaofclinicalwork	EmergencyMedicine			37		46.3
	Hematology			16		20.0
	Oncology			27		33.8

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Table2presents theparticipants'knowledgeofpalliativecare.Astudyrevealedthat52.5% oftheparticipantswereawarethatnon-opioidanalgesics,suchasparacetamoloribuprofen, arethepreferredinitialtreatmentforcancerpain. 87.5%of theparticipantswereawarethat thepresenceofprolongedpain,evenafterreceivingtreatmentwithcodeineandparacetamol, wasaclearindicatortoinitiatetheuseofmorphine.However,theindi itisconcerningthat amere53.8%of viduals accurately recognizedthenegativeconsequenceofmorphine,namely angioedema.154

156 **Table2.AssessmentofPhysiciansknowledgeofpalliativecare.**
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Variables		Count	%	Incorrect	Correct
Total		80	100.0		
Whattypeofpainisoften difficulttocontrol,even withmorphine?	**Neuropathicpain**	39	48.8	41(51.3)	39(48.8)
	Bonepain	15	18.8		
		11	13.8		
		15	18.8		
Apatientwithpainor dyspnea who has nottaken any opioids in thepastshouldbestarted on whatoraldose?	10-20mgevery8hours asneeded	10	12.7	47(59.5)	32(40.5)
	10-20mgevery4hours asneeded	4	5.1		
	5-10mgevery4 hours asneeded	32	40.5		
	1-2mgevery4hoursas needed	33	41.8		
	Missing	1			
AccordingtotheWHO analgesicladder, what shouldbethefirst treatmentforcancerpain?	Amildopioidsuchasc odeine	14	17.5	38(47.5)	42(52.5)
	Nonopioidanalgesics suchasparacetamolor ibuprofen	42	52.5		
	Morphine	14	17.5		
	Reassurance	10	12.5		
Whatisatypicalindicationfo rstartingmorphine?	Painwithswallowingin patientswithAIDS.	2	2.5	10(12.5)	70(87.5)
	Persistentpaindespite treatmentwithcodeine andparacetamolin patientswithcancer.	70	87.5		
	Mildchroniclowerback paininpatientswhodo nothavecancer.	2	2.5		
	Apatientwithcancer andbonymetastases butwithoutpain.	6	7.5		
Which of the following isnotacommonside-effectofmorphine?	Nausea	6	7.5	37(46.3)	43(53.8)
	Sedation	13	16.3		
	Constipation	18	22.5		
	Angioedema	43	53.8		
Whatdoesitmeanifa painisphysically dependentonmorphine?	They may start takingextradosesofmor phine compulsively,even whentheydonothave pain.	30	37.5	62(77.5)	18(22.5)
	cancerpatientwhohas Apatientmaybeginto thinkaboutmorphineall thetime.	17	21.3		
	Ifmorphineuse suddenlystops, patientswillexp eriencewithdra walsymptoms.	18	22.5		

	Iftheirpaingoesaway,the patient will want tokeeptakingthemorphine	15	18.8		
Whatdoespseudo-addictionmean?	**Thepatienthasaddictive behaviorbut haswell-controlledpain**	33	41.3	47(58.8)	33(41.3)
	Thepatienthasaddictivebehaviorthat isnotimprovedwhenadditionaldosesof morphinearegiven.	13	16.3		
	Thepatienthas addictivebehaviorbutiswilling to admit hisaddiction.	19	23.8		
	The patient hasaddictivebehaviorbutalso has uncontrolledpain.	15	18.8		
All of the followingmedicationscanbeusedtocontrolnauseaexcept:	Haloperidol	20	25.0	46(57.5)	34(42.5)
	Metoclopramide	9	11.3		
	Dexamethasone	17	21.3		
	Amitriptyline	34	42.5		
Whatisanappropriate morphinedosefor breakthroughpain?	5mgofmorphine	39	49.4	60(75.9)	19(24.1)
	10mgofmorphine	8	10.1		
	5-15%ofthedailydose	19	24.1		
	15-25%ofthedailydose	13	16.5		
	Missing	1			
Whichofthefollowingisnotincludedinanideal, completepalliativecareassessment?	Diseasehistoryand physical symptoms	9	11.3	34(42.5)	46(57.5)
	Psychological symptoms	5	6.3		
	Decision-making capacity	9	11.3		
	Spiritualneeds	5	6.3		
	Practicalneedsand anticipatoryplanningfordeath	6	7.5		
	Alloftheabovearei ncluded.	46	57.5		
Whichofthefollowingisa conventionaldoses?	**Bisacodyl**	38	47.5	42(52.5)	38(47.5)
	Sodiumdocusate	22			
	Mineraloil	9	11.3		
	Oralnaloxone	11	13.8		
Whenadyingpatientis treated withmorphinefor breathlessness,thedrugistitratedbasedon:	Respiratoryrate	40	50.0	52(65.0)	28(35.0)
	Pulseoximetry	6			
	Patient'scomfort	28	35.0		
	Bloodpressure	6	7.5		
	Scopolamine	16		38(47.5)	42(52.5)
	Metoclopramide	42	52.5		

Whichofthefollowing antiemeticsactsprimarily atdopaminereceptors?	Haloperidol	14	17.5		
	Diphenhydramine	8	10.0		
Indiscussinganuncertain prognosis,itisbestto:	Reassurethepatient andfamilythatall willbe well	16	20.3	42(53.2)	37(46.8)
	Warnthefamilythatthe outcomeislikelytobe poor	17	21.5		
	Discusspossible outcomes,including likelihood	37	46.8		
	Saythatnooneknows whatwillhappen	9	11.4		
	Missing	1			
Whenshouldpalliativec arebeinitiated?	Whenapatientisa ctivelydying	11	13.8	49(61.3)	31(38.8)
	Whenapatienthasalotof symptoms such aspain or shortness ofbreath.	38	47.5		
	Whenapatientisfirstdi agnosedwith metastaticcancer.	31	38.8		
Objectivesofpalliative Include	Maintain lifebyanymeans	2	2.5	44(55.0)	36(45.0)
	Promoteadherenceto ARVorcancertherapy.	3	3.8		
	Improvequalityoflife	16	20.0		
	Alloftheabove	23	28.8		
	BandC	36	45.0		
Palliativecarecanbe provided	Inanoutpatientsetting.	2	2.5	28(35.0)	52(65.0)
	Inthehospital.	15	18.8		
	bandconly.	11	13.8		
	Alloftheabove.	52	65.0		
Ethicalissuesinpalliative careinclude	Socialjustice.	4	5.1	17(21.5)	62(78.5)
	Autonomy.	3	3.8		
	Beneficence.	1	1.3		
	Non-maleficence.	1	1.3		
	Assuringthatpatientsdon otdieinpain.	8	10.1		
	Alloftheabove.	62	78.5		
	Missing	1			
Breakingbadnewswellisi mportantbecause	Itsavestime.	1	1.3	45(57.0)	34(43.0)
	Thepatientcanbe harmedemotionallyif badnewsisgiveninan inappropriateway.	9	11.4		
	Whenitisgivenwell, thepatient/doctorr elationshipisstren gthened.	11	13.9		

	Alloftheabove.	34	43.0		
	bandconly.	24	30.4		
	Missing	1			
Important parts of thepsycho-social assessmentinclude:	Livingsituation.	3	3.8	17(21.8)	61(78.2)
	Financialstatus.	4	5.1		
	Familycaregiver.	7	9.0		
	Communitysupport.	3	3.8		
	Alloftheabove.	61	78.2		
	Missing	2			
Whichofthemedicinesbelow does not causeconstipation?	Ironsulfate	4	5.1	30(38.0)	49(62.0)
	Anticholinergic	20	25.3		
	Anti-viral.	49	62.0		
	Opioids.	6	7.6		
	Missing	1			

Theresultsadditionallyindicatedthat57.5%oftheparticipantspossessknowledgeabout comprehensiveand optimalpalliativecare,includingtheunderstandingofdiseasehistoryand physicalsymptoms,psychologicalsymptoms,decision-makingability,spiritualrequirements, practicalneeds,andpreparationfordeath.Over50%oftheparticipantswereawarethat metoclopramidepredominantlytargetsdopaminereceptors.164 Regardingthelocationofpalliativecareprovision(65%)ofethicalproblemsrelatedto palliativecare(78.5%),aswellassignificantaspectsofpsycho-socialassessment(78.2%) andnon-constipatingmedicines(62%),wereansweredcorrectlybyoverhalfofthe participants.

Table3displaysthereliabilitydataforthepalliativecarescales.TheCronbach'sAlphavalues forHealthcareProviderPracticesandEducationinPalliativeCare,CompetenceandTraining inPalliativeCare,PainManagementandKnowledgeofPalliativeCare,andHealthcare ProviderConcernsare0.767,0.596,0.620,and 0.694,respectively.Thevaluessuggestthat the scalesdemonstrategoodinternalconsistency,indicatingamoderatelevelofreliability. TheCronbach'sAlphaforComprehensivePalliativeCarePracticesis0.847.Thisscale exhibitsstronginternalconsistency,indicating ahighlevelofreliabilityinassessingcomplete palliativecaremethods.TheHealthcareProviderConcernssurveyyieldedaCronbach's Alphacoefficientof0.711.Thescalehasstronginternalconsistency,indicatinghighreliability inassessinghealthcareproviderconcernsaboutpalliativecare.However,theBeliefs AboutEnd-of-LifeCarescaleandthePositivePalliativeApproachscalehadCronbach'sAlpha valuesof0.306and0.22,respectively.Thescalesdemonstrateaneedformoresubstantial internalconsistency, indicatingalowlevelofreliability.183

Table3.ReliabilitystatisticsoftheStudydomainsusingCronbach'salpha.

ReliabilityStatistics	Cronbach'sAlpha	NofItems
HealthcareProviderPracticesandEducationinPalliativeCare	0.767	10
ComprehensivePalliativeCarePractices	0.847	9
CompetenceandTraininginPalliativeCare	0.596	4
BeliefsAboutEnd-of-LifeCare	0.306	3
PositivePalliative Approaches	0.277	3
PainManagement	0.620	7
HealthcareProviderConcerns	0.711	7
KnowledgeonPalliativeCare	0.694	21

Table4presentsthecorrelationanalysisbetweenhealthcareproviderpracticesand educationandotherdomains.Thestudyrevealedasignificantandpositiverelationship betweenHealthcareProviderPracticesandEducationinPalliativeCare,Comprehensive PalliativeCarePractices(r:0.638,p<0.001),andCompetenceandTraining inPalliativeCare (r:0.645,p<0.001).Thisimpliesthatincreasedinvolvementinpalliativecarepracticesand educationleadstomoreextensivepalliativecarepracticesandtraining.Thepain managementcategoryexhibitedasignificantpositiveassociationwithhealthcareproviders andpractices,suggestingthatincreasedinvolvementinpalliativecarepractices andeducation leadstoimprovedpainmanagementpractices(r:0.316,p=0.004).ThePositivePalliative Approachesexhibitedamodestpositiveassociation,indicatingthat agreaterlevelof involvementinpalliativecarepracticesand educationisassociated withahigherprevalence ofpositivepalliativeapproaches(r:0.207,p=0.066).Thestudydidnotfindany statistically significantcorrelationsbetweenbeliefsregardingend-of-lifecare(r:-0.082,p=0.468)and Healthcareproviderworries(r:0.153,p=0.174).20

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Table4.Correlationofeachdomaintootherpalliativecaredomains.

Correlations		Comprehensive PalliativeCarePractices	Competence andTrainingin PalliativeCare	Beliefs AboutEnd-of-LifeCare	PositivePalliative Approaches	Pain Management	Healthcare Provider Concerns
HealthcareProviderPracticesandEducationinPalliativeCare	r	0.638**	0.645**	-0.082	0.207	0.316**	0.153
	p-value	<0.001	<0.001	0.468	0.066	0.004	0.174
	N	80	80	80	80	80	80
Comprehensive PalliativeCarePractices	r		0.610**	-0.179	0.202	0.422**	0.202
	p-value		<0.001	0.112	0.073	<0.001	0.072
	N		80	80	80	80	80
Competence andTrainingin PalliativeCare	r			-0.134	0.324**	0.443**	-0.079
	p-value			0.237	0.003	<0.001	0.485
	N			80	80	80	80
Beliefs AboutEnd-of-LifeCare	r				-0.089	-0.016	-0.018
	p-value				0.435	0.890	0.873
	N				80	80	80
PositivePalliativeApproaches	r					0.206	-0.291**
	p-value					0.067	0.009
	N					80	80
PainManagement	r						-0.064
	p-value						0.571
	N						80

***.Correlationissignificantatthe0.01level(2-tailed).*

Strongfavorablerelationshipswereseenbetweenhealthcareproviderpracticesandeducation (r:0.360,p=0.001)aswellascompletePalliativeCarePractices(r:0.476,p<0.001). Thesefindingssuggestthatastrongerunderstandingofpalliativecareislinkedtoimproved behaviors,morethoroughcare,andenhancedcompetenceandtraining. Thesenotablepositivecorrelationsindicatethatknowing palliativecareislinkedtoenhancedpractices,comprehensivecare,andcompetence. Thissupportsthevalidityofthescalesinmeasuringtheseconstructs.Conversely,anotable negativeassociationwasseenbetweenknowledgeandthoughtsregardingend-of-life (r:-0.358,p=0.001).Higherproficiencyinpalliativecareislinkedtoreducednegative attitudestowardsend-of-lifecare.Thestudyfoundnostatisticallysignificantconnections betweenPositivePalliativeApproaches(r:0.098,p=0.388)andHealthcareProviderConcerns (r:0.221,p=0.049).Consequently,thereisnocorrelationbetweenknowledgeofpalliativecare and the implementation ofeffective palliative approachesor the concerns ofhealthcare providers.217

5.DISCUSSION

Theknowledgeofpalliativecareamongphysiciansin King AbdullahMedicalCity, Makkah, SaudiArabia,wasdeterminedandevaluatedinthisstudy.Palliativecareknowledgeis particularlyimportantforphysicians,as theyaretheprimaryprovidersofpatientcare.Training andexposurearefactorsthatinfluencepalliativecareknowledge. Although somephysicians havecomprehensiveknowledge,othersmayneedmoreawareness,whichcanaffectthe qualityofpatientcare.2

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Theresearchfindingsindicatedthatthephysicians'understandingofpalliativecarewas limited.Theoptimalandcomprehensivepalliativecarewascorrectlydeterminedbyonly 57.5%oftheparticipants.Tengetal[2]conducted across-sectionalstudyinShanghai,China, whichyieldedasimilaroutcome.Themeancorrectnessoftheresponsesrelatedtoknowledge was59.30%.TheKAPHCscalewasemployedintheirinvestigationtoevaluatethe knowledge,attitude,andpracticeofhealthcareproviders.The resultsindicatedthathigher KAPHCscores werecorrelatedwithexperienceandwillingness,andthattheyvariedbased on professionalspecializations.Thepalliativecareknowledgeofthenursesandphysicians wasassessedusingthePalliativeCareKnowledgeTest(PCKT)inthestudyconductedby Martín-Martínetal.[1].Atotalof34.41%ofthenursesand67.40%ofthephysiciansexhibited adequateorexcellentknowledgeofpalliativecare.25

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Thepresentstudyyieldedasignificantlyhigherresult thantheclinicians whoparticipatedin thesurveyconductedbyAbdelGawadetal.[4]inprimary clinicsinKuwait.Palliativecare services wereunfamiliarto62.7%ofthephysicians,whileonly6.7% possessedahighlevel ofknowledge.ThestudyconductedbySwedetal.[7]alsodemonstratedthatonly14outof 602participants,includingstudents,nurses,andphysicians,areconsideredtopossess

knowledgeofpalliativecare.ThestudyconductedbyTsaoetal.[6]inVietnamalsorevealed alack ofknowledgeregardingpalliativecare.Only8%oftheparticipantsfeltthatthey were adequatelytrained inpalliativecare,andthemean knowledgeassessmentscorewas44%. Theobserveddiscrepancy intheresultscouldbeattributedtoavarietyoffactors,suchas variationsinthestudypopulation'scharacteristics,includingoccupation,educational attainment,workward,andtheoutcomeofapalliativecaretrainingprogram.

Effectivepainmanagementforindividualswithterminalillnessesisoneoftheprimarygoals ofpalliativecare. Opioids areessentialforpaintreatment,astheyareareliableindicatorof theavailabilityofprimarycareandtheefficacyofpainmanagement[12].TheWHOthree-step ladderstrategyforcancerpaintreatmentinadultshasdemonstratedthatthesuccessful treatmentofcancerpaininadultsiscost-effectiveandobtainsasuccessrateof80-90%when theappropriatemedicationisadministeredat thecorrectdosageandtiming[11].Theinitial treatmentfor cancerpain,whichismorphine,wascorrectlyidentifiedbyonlyover halfofthe physiciansinthisstudy.Additionally,physiciansdemonstratedinadequatecomprehension regardingthe managementof morphine's adverseeffects.

Scaleswereimplementedinthepresentinvestigationtoassessphysicians'proficiency.The findingssuggesta robustcorrelationbetweenknowledgeandtwofactors:Comprehensive PalliativeCarePracticesandHealthCareProviderPracticesandEducation(r:0.476,p< 0.001).Onecandevelopahigherlevelofproficiencyinpalliativecarebyutilizingappropriate methodsandobtainingsufficienteducation.Ashrafizadehetal.[13]establishapositive correlationbetween increasedknowledgeandattitudetoward palliativecareandhigherlevels ofeducation.Theknowledgeandattitudeofcareprofessionalstowardpalliativecarealso increaseasthedegreeofeducationalattainmentincreases.Itisevidentthatan increase in educationalattainmentwillleadtoaproportionaterise inprofessionalexpertiseand knowledge.Itseemsthatcareprofessionalswhohavecompletedmoreextensiveeducation programsobtainmorecomprehensiveknowledgeregardingpalliativecare.Theresultsofthe experimentsconductedbyBalicas[8]andYamamotoetal.[10]wereconsistent.

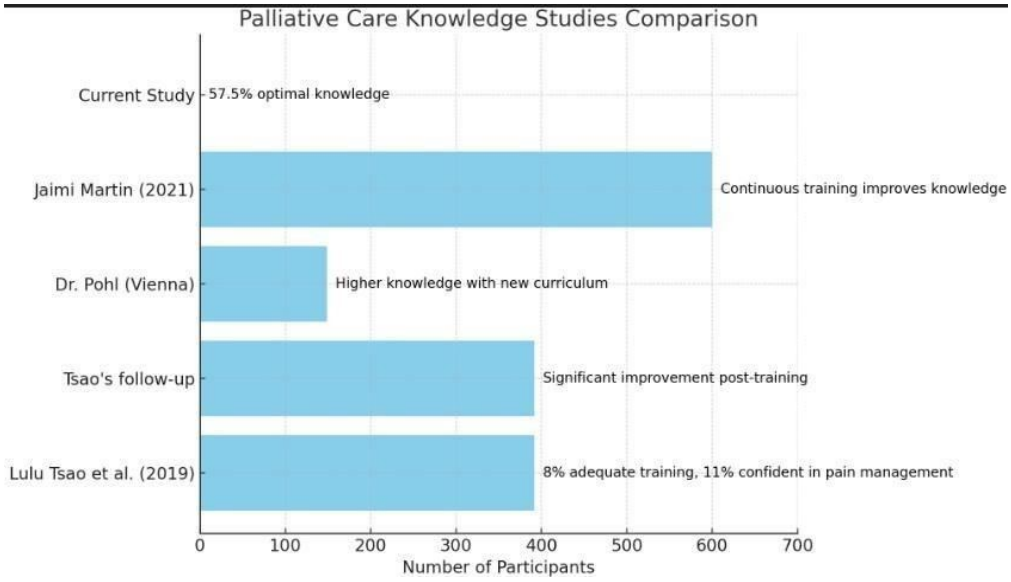
Thestudy's resultsindicatedthatageisafactorintheacquisitionof knowledgeinPalliative Care.ThecorrelationbetweenageandknowledgeofPChasbeenthesubjectofvarying resultsinpreviousstudies.Therewerenosignificantassociationsbetweenageand knowledgeofPC inthestudyconductedbyAnsarietal.[5].Conversely,Ashrafizadehetal. [13]andNairetal.[14]reporteda substantialcorrelation.Whilesome studiessuggestthat youngerphysiciansmaypossessmoreup-to-datetheoreticalknowledge,olderphysicians maypossessamoreprofound,experience-basedcomprehension.Generally,itcanbe assertedthatanindividual'sageimpactstheirabilitytoabsorbinformation.The capacitytoreceiveandanalyzeinformationincreasesasanindividualmatures,whichis associatedwiththedevelopmentofphysicalandcognitivefunctions.

Thelevelofeducationandtheknowledgeofpalliativecarearecorrelatedinthisstudy. IndividualswhopossessMasterofSciencedegreesdemonstratesuperiorknowledgein comparisontotheirpeers,accordingtothisinvestigation.Thelevelofexpertiseinpalliative careispositivelycorrelatedwiththelevelofeducationandtrainingofindividuals[3]. Continuingeducation,whetheracquiredthroughstructuredinstructionorautonomousstudy, isessentialforthepreservationandenhancementofaphysician'sknowledgeandskillin palliativecarethroughouttheirprofessionalcareer.30 5

Thepresentinvestigationidentifiesacorrelationbetweenthecomprehensionofpalliativecare andthebeliefintheend-of-life.Theresearchdemonstrated thatindividualswhoholdbeliefs regardingtheendoflifeexhibitedareducedlevelofcomprehension.Itisimperativeto investigatethecorrelationbetween attitudestoward end-of-lifetreatment and an

understandingofpalliativecare,asthesevariablessignificantlyinfluencepatientoutcomes. Morstad Boldt [5]hasdemonstratedthatphysicianswhopossessinadequateknowledgeor misconceptionsregardingpalliativecareareinclinedtoassumethatpalliativecareis exclusivelyadministeredduringtheterminalphaseoflife.Thesenegativebeliefscanbe addressedandimproved patient outcomescanbeachieved byincreasingphysicianeducation andawarenessofpalliativecare.TheresultsofastudyconductedbyBudkaewand Chumworathayi[15]suggestthattheintegrationofpalliativecareintothecurriculumof medicalinstitutionscanenhancetheknowledgeand favorableattitudesofphysicianstoward theprovisionofend-of-lifecaretocancerpatients.This is accomplishedthroughthe dissemination ofpertinentconceptsandinformationregardingpalliativecare.320 A comprehensiveapproachtopalliativecareisrequired,whichincludesthemanagement of symptoms, thedevelopment ofcommunicationskillsforchallengingconversations,andthe considerationofpatients'emotionalandspiritualrequirements.Enhancededucationand ongoingprofessionaldevelopment areessentialforbridgingknowledgegaps,ensuringthat allphysicianscaneffectivelycollaborate withinmultidisciplinaryteamstooptimizethequality oflifeforpatientsandtheirfamiliesandadvocateforpatient-centeredcare.327

Fig 1: Palliative care knowledge studied comparison



6.LIMITATIONSOFTHEINVESTIGATION

Therearepotentiallimitationstothestudy.Thegeneralizationofthefindingsmaybeimpacted bythesmallsamplesize.However,theresult'sinternalconsistencywasassessedusing Cronbach'salpha,whichindicatedmoderatetoexcellentreliability.Thissmallsample sizeasstudyappliedinasinglecenterandthiswillbecompensatedinthefuturetoinvolvemany centersinfuturestudies.Lastly,thepotentialforresponsebiasmayhavebeenincreasedbythe overestimationor underestimationofthequestionsthatmayhaveresultedfromusinga self-reportedquestionnaire.337

7.CONCLUSION

Thepresentstudy'sfindingsonpalliativecareknowledgephysiciansatKingAbdullahMedicalCity areconsistentwithpreviousresearch.Theyunderscorethecriticalneedforenhancededucation andtrainingtobridgeknowledgegapsandimprovepalliativecarepractices. Bylinkingthese findingstotheliteraturereview, itisevident thatcomprehensiveeducationalprograms,Continuous professionaldevelopment,andstructured trainingareessentialforequippingphysicianswiththe necessary knowledge and skills to provide optimal palliative care.345

CONSENT

Informedwritten consentwasobtainedfromtheparticipantspriortotheirparticipation.

ETHICALAPPROVAL

EthicalapprovalwasobtainedfromtheResearchEthicsCommitteeofKingAbdullahMedical City(ApprovalNo.24-1236;dateofapproval26/3/2024).Additionally,thisstudywascarried outinaccordance withthedeclarationsofHelsinki.

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