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Knowledge of Primary Healthcare PhysiciansofAdolescent Health

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Background: Many adolescents and health professionals feel that communication between young people and medical professionals is often highly problematic.

Objective: The aim of the study is to evaluate the current knowledge of primary healthcare physicians towards adolescents' health.

Design: Cross-sectional study.

Setting: Primary health care.

Method:A self-filled questionnaire was sent October 2008to 201participants and collected after one week by the researchers.

Result: Hundred twenty-one (60.2%) of the primary health care physicians completed and returned the questionnaire. Thirty-four (28.3%) knew the correct age range of adolescent (10-19 years) and49 (40.5%) knew the meaning of HEADSSS.One hundred fifteen (95%) identified correctly suicidal thoughts and101(83.5%) substance abuseas reasons for breaking confidentiality.One hundred eighteen (97.5%) primary care physicians recognized RTA as a leading cause of death among adolescent.

Conclusion:The study reveals lack of enough knowledge of basic adolescent health facts. Most of the physician do not know the meaning of important tools used in adolescent heath (e.g. HEADSSS), which affect their ability to deal efficiently with adolescents matters.

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Adolescence has been determined by the WHO as the age group between 10 and 19 years and youth between 15 and 24 years[1]. Adolescence is a period of rapid growth in weight and height, the appearance of sexual characteristics and the ability to reproduce; it is the period of transition from childhood to adulthood. Adolescents are vulnerable mixed group; they can be in the school or out of the school, married, single, employed or unemployed[1].

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The population of Bahrain is estimated to be 1,106,509 in 2008, of which 537,719 (46.6%)are Bahrainis. Among Bahrainis, the age group 10-19 constitutes 21%, while the age group 20-24 years constitutes 9.6%.Both groups (adolescents and youths) constitutes around one-third of the Bahraini population[2].

Adolescents have a sense of being invulnerable, invincible and immortal, which may explain the risk taking behavior among them. This in turn can explain the high rate of death (44.7%) among the age group of 10-29years in road traffic accident (RTA) in Bahrain[3]. It wasreported that 60% of drivers at fault.Seriously injured drivers of cars and motorcyclists were 45.6%; forty-eight of seriously injured passengers are in the same age group[4].

Many adolescents still lack the environments that support their physical, social and psychological development. This may be due to the lack of knowledge and training of parents, health service providers andschoolteachers responsible for adolescent's health. Heath care professional are rarely trained in understanding adolescent sexuality and interpersonal communication with the young[5].

Adolescent go throughmajor changes, physically, psychosocially and sexually. At this critical period of life cycle, adolescents require information and services designed to meet their health needs, which are often ignored. Health care services are not designed for young people.Furthermore, the recommendations and the guidelines for screening and prevention of health problems in adolescents are not clear for physicians and other health professionals. Communication between young people and medical professionals is often highly problematic, which might lead the doctor to give inadequate attention to adolescents[6].

Although family physician usually have knowledge in the health care of various group of people and have an excellent position to promote adolescent health, studies shows that they lack the required knowledge and skills to do so[7]. In astudy,physicians admitted that they have deficiencies in dealing with high-risk health behaviors: eating disorders, drugs and alcohol abuse, homosexuality and delinquency among adolescents[7].

Adolescents need support from families, health service providers, friends, schools, jobs and community. Primary care physicians can play a major role in helping adolescent make healthy decisions through their lives.

The aim of the study is to evaluate the current knowledge of primary healthcare physicianstowards adolescents' health.

METHOD

Primary healthcare physicians who were on leave during the study period, refused to participate or participated in the pilot study were excluded from the study.Therefore, the total sample was 201 primary healthcare physicians.

A structured,self administered, anonymous questionnaire was used to perform the study. An instruction to fill the questionnaire was provided.

The following items were collected for each participant:

- Personal characteristic (age, sex, nationality, marital status, children and experience).
- Work factors (qualification, years of experience andtraining in adolescence health).
- Knowledge(definition and phases of adolescent, vaccination required for adolescent, meaning of HEADSSS, reasons for breaking confidentiality and leading causes of death among adolescents).

Pilot study wasperformed to evaluate the data collection tool. Minor changes in the phrasing and the order of the questions were made accordingly.

The data were entered in SPSS version 16. Frequency tables with percentage were produced for each item.

RESULT

Two hundred one questionnaires were sent to participants; only 121 completed them, a response rate of 60.2%. Eighty-one(67%) were females. Eighty-nine (73.6%) were Bahrainis and 114 (95%) were married. Fifty-three(42.2%)do not have teenage children, seetable 1.

Table 1: Personal Characteristics of Primary Healthcare Physicians

Parameter	Number (%)
Gender	
Male	40 (33.1)
Female	81 (66.9)
Total	**121**
Nationality	
Bahraini	89 (73.6)
Non-Bahraini	32 (26.4)
Total	**121**
Marital Status	
Married	114 (95)
Single/divorced	6 (5)
Total	**120***
Having Teenage Children	
Yes	53 (44.2)
No	67 (55.8)
Total	**120***
Years Practicing in Primary Care	
1-5	34 (28.6)
6-10	24 (20.2)
11-15	26 (21.8)
16-20	16 (13.4)
21 or more	19 (16)
Total	**119***
Residency Program Graduate	
Yes	92 (76.7)
No	28 (23.3)
Total	**120***
Place of Adolescent Health Training	
FPRP	47 (39.5)
CME	8 (6.7)
Others	2 (1.7)
No training received	62 (52.1)
Total	**119***

*Missing data

Sixty-one (51.2%) had 11 years or more experience in primary healthcare service. Ninety-two (76.7%) were Family Physician Residency Program (FPRP) graduate. Sixty-two (52.1%) had no training in adolescent health, while forty-seven (39.5%) received training in FPRP, see table 1.

Thirty-four (28.3%) primary healthcare physicians knew the correct age range of adolescent (10-19 years), according to World Health Organization (WHO) definition.Seventy-one(59.2%) thought that 12-18 years is the correct age range of adolescent. Sixty (49.6%) knew the right number of phases of adolescence (three), seetable 2.

Table 2: Knowledge of Age Range and Phases of Adolescent

Parameter	Number (%)

Age Range of Adolescent	
9-12	3 (2.5)
12-18	71 (59.2)
15-18	12 (10)
10-19 (correct)	34 (28.3)
Total	**120***
Phases of Development	
One	2 (1.7)
Two	30 (24.8)
Three (correct)	60 (49.6)
Four	10 (8.3)
Five	5 (4.1)
Don't know	14 (11.6)
Total	**121**

*Missing data

Tetanus-diphtheria was correctly chosen by 79.4% of physicians, Hepatitis B by 71.1% and MMR by 57.9%, while Rubella was chosen correctly by 44%.Although Influenza vaccine and hepatitis 'A' vaccine are not routinely recommended for adolescent; 56.2% and 49.6% of primary care physiciansindicated that they are part of the routine vaccination, see table 3.

Table 3: Knowledge of Vaccination/Prophylaxis Measure and Requirement of Adolescent

Vaccination	The Ideal Answer	Participants Response			Total
		Yes	No	Did Not Know	
		Number (%)			
Rubella	YES	52 (43)	24 (19.8)	45 (37.2)	121
Td	YES	84 (69.4)	7 (5.8)	30 (24.8)	121
Hepatitis B	YES	86 (71.1)	7 (5.8)	28 (23.1)	121
MMR	YES	70 (57.9)	17 (14)	34 (28.1)	121
TT	NO	46 (38)	26 (21.5)	49 (40.5)	121
Influenza	NO	68 (56.2)	12 (9.9)	41 (33.9)	121
Measles	NO	19 (15.7)	31 (25.6)	71 (58.7)	121
Varicella	NO	15 (12.4)	31 (25.6)	75 (62)	121
PPD test	NO	22 (18.2)	33 (27.3)	66 (54.5)	121
Hepatitis A	NO	60 (49.6)	20 (16.5)	41 (33.9)	121

Forty-nine (40.5%) primary healthcare physiciansknew the meaning of HEADSSS. Nevertheless,sixty-four(52.9%) did not know the correct meaning of each letter, see table 4.One hundred fifteen (95%) primary healthcare physicians identified suicidal thoughts, substance abuse, 101 (83.5%), domestic violence and abuse, 107 (88.4%) and HIV/AIDS, 101 (83.5%) as reasons for breaking confidentiality of the adolescent. Although it is not recommended, 79 (65.3%) chose depression and 69 (57%) chose growth problems as reasons for breaking confidentiality of the adolescent, see table 5.

Table 4: Knowledge of HEADSSS

Parameter (Correct Meaning)	Participant Response			Total
	Right	Wrong	Did Not Know	
	Number (%)			
Do you know the meaning of HEADSSS	49 (40.5)	67 (55.4)	5 (4.1)	121

Meaning of H (Home, Habits)	42 (34.7)	13 (10.74)	66 (54.54)	121
Meaning of E (Employment, Education, Exercise)	50 (41.3)	6 (5)	65 (53.7)	121
Meaning of A (Activities)	27 (22.3)	28 (23.1)	66 (54.5)	121
Meaning of D (Drugs, Smoking)	49 (40.5)	8 (6.6)	64 (52.9)	121
Meaning of S1 (Sexual Activities)	45 (37.2)	11 (9.1)	65 (53.7)	121
Meaning of S2 (Suicidal, Depression)	46 (38)	10 (8.3)	65 (53.7)	121
Meaning of S3 (Safety)	33 (27.3)	15 (12.4)	73 (60.3)	121

Table 5: Reasons for Breaking Confidentiality of Adolescents Health Problems

Parameter	The Ideal Answer	Participant Response			Total
		Yes	No	Did Not Know	
		Number (%)			
HIV/AIDS	YES	101 (83.5)	11 (9.1)	9 (7.4)	121
Suicidal thoughts	YES	115 (95)	3 (2.5)	3 (2.5)	121
Substance abuse	YES	101 (83.5)	13 (10.7)	7 (5.8)	121
Domestic violence or abuse	YES	107 (88.4)	7 (5.8)	7 (5.8)	121
Growth problems	NO	69 (57)	29 (24)	23 (19)	121
Depression	NO	79 (65.3)	25 (20.7)	17 (14)	121
Nutritional problems	NO	51 (42.1)	43 (35.5)	27 (22.3)	121
Lack of physical activity	NO	30 (24.8)	64 (52.9)	27 (22.3)	121

One hundred eighteen(97.5%) primary care physicians recognized RTA as a leading cause of death among adolescent. Suicide, 54 (44.6%) and homicide,24 (19.8%), were chosen as leading causes of death.Twenty-two (18.2%)primary care physiciansthought that Sickle Cell Disease (SCD) is a leading cause of death among adolescent in Bahrain, see table 6.

Table 6: Leading Causes of Death of Adolescents

Parameter	The Ideal Answer	Participant Response			Total
		Yes	No	Did Not Know	
		Number (%)			
RTA	YES	118 (97.5)	1 (0.8)	2 (1.7)	121
Suicide	YES	54 (44.6)	31 (25.6)	36 (29.8)	121
Homicides	YES	24 (19.8)	49 (40.5)	48 (39.7)	121
SCD	NO	22 (18.2)	46 (38)	53 (43.8)	121
Cardiac attack	NO	1 (0.8)	60 (49.6)	60 (49.6)	121
DM	NO	1 (0.8)	61 (50.4)	59 (48.8)	121

DISCUSSION

In this study,small percentages of physicians know the correct WHO definition of adolescent age range.Centers for Disease Control (CDC) define adolescence from age 12 to 18, While the Maternal Child Health Bureau (MCHB) of the USA defines adolescence from age 13 to age 19[8,9]. Seventy-one(59.2%) chose 12-18 years, which might reflect that some health authorities identify this age group as the adolescent age range[8].

Despite the fact that most of the literature stated that there are three phases for adolescent, only half of the participant knew the right answer, thisreflect the insufficient knowledge of basic adolescent health information[10].

In general, there is a good knowledge of the required vaccination for adolescent among participants. This may be because of the well-organized and widely known program of immunization in primary healthcare setting in Bahrain.

Although the HEADSSS assessment is now used widely throughout the world by healthcare workers dealing with adolescents, only small proportion knew the meaning of each letter (40.5%)[11]. This indicates that most of the physicianswere not aware about the available tools that they could use in dealing with adolescent in the primary care setting.

A survey of general practices in Oxfordshire showed that only about 30% of practices had tackled the issue of confidentiality and user friendly services for adolescent[12]. Confidentiality will be broken if the teen has done or is doing, something very hazardous or life threatening, someone in danger, evidence of abuse or diagnosis of certain communicable diseases must be reported to the proper authorities; these includes: suicidal thoughts, substance abuse, domestic violence and HIV/AIDS[13]. In this study, most of the participants identified correctly the life threatening situations or problems that allow them to break the confidentiality.

In this study, primary care physicians identified correctly that RTA as the most important cause of death among adolescent, age 15-19 years[9].A good proportion of participants indicated thatsickle cell diseaseis a leading cause of death among adolescent in Bahrain (18.2%).Though sicklecell disease is a common disease in Bahrain, it should be stressed that it is not a common cause of death among adolescent[2].

CONCLUSION

This study revealedthat primary healthcare physicians lack enough knowledge of the basic facts of adolescent health. Most physiciansdo not know the meaning of important tools used in adolescent heath (e.g. HEADSSS), which affect their ability to deal efficiently with adolescents matters.

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