Development of outcome indicators to assess the impact of integrating youth sexual reproductive health information programs into higher education curriculum in Jordan

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Background

According to the United Nations, youth are defined as those people aged between15–24 years, who make up 25% of the world's population¹. The world's youth are at higher risk of sexual and reproductive morbidity and mortality form early marriage and pregnancy, unsafe abortion, sexually transmitted infections, and sexual violence and coercion². Additionally, youth are more likely to experience difficulties in obtaining specific and timely SRH services and education due to sociocultural taboos in several societies worldwide. About ninety percent world's youth are living in less developed countries, where obstacles to fulfill their transition to adulthood are the highest¹. During these years, sexual maturation and the ability to reproduce occur, though most of youth go through this period with only vague information on RH^{3, 4}.

In Jordan, youth currently constitute 20.4% of the population⁵. As in many parts of the world, Jordan's youth face considerable challenges in addressing RH needs^{3, 4,6}. Previous literature indicates that Jordanian youths need support, services and information about RH. It was found that 29% of women and 44% of men aged 15-24 did not know the meaning of RH; healthcare providers and media were the preferred sources of RH information compared to peers or parents⁶. Ten years later, youth aged 12-18 years also expressed needs for information and quality, youth-friendly RH services⁴.

Jordanian society is a conservative one, where, discussing sex-related issues openly is unacceptable, and in some families, a taboo⁷. The "culture of silence" renders the assessment of some significant SRH issues such as family violence⁸ and definitely risky RHS practices as well. Youth in Jordan exhibited limited knowledge about RH issues such as early unintended pregnancy⁶, Safe sex and STI's⁹, early marriage^{10, 11} family planning^{12, 13} and experiencing sexual coercion and violence⁸. The unanswered question is how young people will manage and thrive, as adults, preparing the way for their own children and grandchildren, deserve attention.

Universities are strategic partners in promoting youths' SRH information needs. Among the most promising strategies for spurring national development and improving the prospects of youth are energetic and well timed investments in education and health, including SRH. These investments are essential to enable young people to enjoy their reproductive rights and will help them realize their full potential. Integrating concepts of SRH into HE curriculum is believed to establish a national network of Jordanian youth who are competent and capable to expand SRH awareness of their peers. Besides, partnership between youth and adults via voluntary participation in educational programs increases access to credible SRH information and services.

Aim, objectives, problems statement justification

A new curriculum was developed and soon will be implemented at the University of Jordan (UJ), as a collaborative initiative between UJ and the Royal Health Awareness Society (RAHS). The new course aims at integrating SRH along other health promotion topics into higher education curriculum. The education program was implemented first as an extracurricular activity over two weeks targeting both genders of the University of Jordan students. The program utilized innovative teaching techniques and approaches such as blended interactive learning with small groups (15-20 students). However, starting next academic semester the official course named "health promotion " will be launched and be available for all university students as an elective course. The course content focuses on SRH issues along other health promotion behaviors such as smoking and preventing Non Communicable diseases. Those who taught the classes received the necessary training to enhance their capacities in carrying out these new teaching activities.

Aim

Develop outcome indicators for baseline assessment and future evaluation of the effectiveness of integrating youth SRH information programs into higher education (HE) curriculum in Jordan.

The specific objectives are:

- a. Identify robust outcome indicators to assess the effectiveness of integrating youth SRH information programs into HE curriculum.
- b. Establish baseline assessment of students' KAP towards SRH.
- c. Describe students' experience with interactive teaching strategies while learning about sensitive SRH topics.

Knowledge and evidence generated from this research will be used to leverage the development of national outcome indicators to assess the success of innovative programs to address SRH information needs of youth in Jordan. Implementing the proposed methodology will create an evidence-based programmatic environment and will also produce recommendations that are translatable into programmatic decisions. This process will result in improving the quality of youth SRHR programs in Jordan by fostering better use of data and evidence.

Methodology

We carried out varied approaches to address each specific objective of the research project. Table 1 summarizes all the research activities that were implemented to achieve research objectives.

	Time line						
Activities	1	2	3	4	5	6	7 No. 1
	May	June	July	Aug	Sept	Oct	Nov
Partners meetings							
Round table discussion							*Shifted to
							3/12/2017
Tools development							
Research training and data collection							
Data cleaning and analysis							
Report drafted							
Final report submitted							

Table 1: Research activities implemented to carry out research objectives

* The second round table will be implemented in December 3rd 2017. Approval for shifting this activity was approved by funding agency.

Results:

Objective 1:

Identify robust outcome indicators to assess the effectiveness of integrating youth SRH information programs into HE curriculum.

To ensure consensus on program outcome indicators, roundtable discussions with relevant professional and academic leader was implemented on July 5th 2017. We invited a list of significant contributing educational and practice organizations that are interested and currently working on RH issues in the country, table 2a shows the list of attendees to the workshop.

Invited agency	Attendance
Hashemite University	\checkmark
Jordan University of Science and Technology	✓
Al Al Bait university	✓
Al Zaytouna University	✓
United Nation Population Fund	✓
Royal Health Awareness Society	✓
UNECIF	✓
World Health Organization	✓
JCAP (USAID program).	\checkmark
High Health Council	\checkmark
IRD	\checkmark

Table 2a: list of invited institutions for kick off workshop

Results showed that the following outcome indicators were agreed upon to be used as outcome indicators for future program monitoring.

- a. Knowledge and attitudes related to taught RH issues
- b. Access rates to related health services if available
- c. Number of students registering in the health promotion class.
- d. Gender ration of students registering in the health promotion class.

In the second phase of round table, which was held on December 3rd 2017, the purpose was to transfer knowledge and create an evidence-based programmatic environment to produce recommendations that are translatable into programmatic decisions. Several professional and academic institutions were invited and attended; results of the SRH KAP survey were presented followed by open discussion of the results. Table 2b summarize the list of attendees.

Table 2b: list of invited institutions for end of project workshop

Invited agency	Attendance
Hashemite University	\checkmark
Jordan University of Science and	\checkmark
Technology	
Al Al Bait university	\checkmark
Al Zaytouna University	✓
United Nation Population Fund	\checkmark
Royal Health Awareness Society	✓
UNECIF	\checkmark
World Health Organization	\checkmark
JCAP (USAID program).	\checkmark
High Health Council	\checkmark
Philadelphia university	\checkmark
Zarqa private University	\checkmark

Recommendations from the second round able were:

- 1. Transfer this experience into other educational institutions.
- 2. Emphasize on some SRH that were exhibited in the results such as effectiveness of traditional family planning methods, in addition to perceptions related to family violence.
- 3. Finally, it was also indicated the importance of facilitating access to SRH services in addition to awareness activities.

Objective 2:

Establish baseline assessment of students' KAP towards SRH.

To establish baseline assessment of students' KAP towards SRH, we implemented a cross sectional survey with a future intent for quasi-experimental to compare between participating and non-participating universities.

Sample and Setting:

The sample for this study consisted of 966 undergraduate students from 5 universities in Jordan. The universities are four public universities: the University of Jordan, Jordan University of Science and Technology, Al Al Bait university, Hashemite University in addition to one private: AL Zaytouna University. Those universities are geographically spread to cover the middle and northern region in the country. Besides those universities are targeted for future collaboration to implement or integrate RH curriculum into their programs. Students who are the sample for this study were recruited from different specialty backgrounds or colleges and represent both genders. Further description of sample is detailed in the result section.

Tool Development:

The Principal Investigator developed the RH KAP scale; the tool was developed in Arabic language and reviewed by 2 faculty members who are experts in the field of RH. Few modifications were suggested and tool was revised in turn. Furthermore, the tool was translated and reviewed by our expert partner from the Harvard T.H. Chan School of Public Health. Few modifications were suggested and were considered. Items were developed in correspondence with the content taught in RH class. The knowledge tool consisted of 20 true or false items; scoring was calculated based on the number of correct items out of the total items. Score ranged from 0-20. The attitudes scale also consisted of 20 attitudinal items about same RH issues and was developed similarly. However response items were ranked on a 4point scale ranging from strongly disagree (1) to strongly agree (4); total score was calculated as a result of summing all items. Total score ranged from 20-80; higher score indicates more favorable attitudes towards RH issues under investigation. For some negative items (indicated by an *) scoring was revised and variable was recoded. Finally, the practices about RH were not questioned directly; it is culturally and methodologically inappropriate to ask personal and private questions in public surveys. However, our concern was to investigate students' practices toward RH needs and seeking RH services in specific. Therefore, questions were geared towards inquiring about whether university students encountered any need for RH information or services and how they managed to solve their RH concerns.

The tool was revised for proper use of language and proofreading then pilot testing was performed to assess face validity and practicality and other related issues. Pilot testing was carried out on a sample of 30 participants who were excluded from the final sample size. Feedback from pilot testing was related to length of survey and few language suggestions, which were considered.

Research Procedure:

After the tool was finalized, research started by sending formal letters to each targeted university requesting approval to access their campuses and recruit study sample. The research team was trained to recruit study sample and explain study procedure to them. Data collectors recruited study sample either by approaching them individually within each university or in groups by accessing large classes. The purpose, procedure and ethical rights were explained to study sample prior to filling the anonymous survey. Voluntary participation was emphasized, students were assured about their ethical right to participate, refuse to participate or withdraw from study at any point without any undue influence. Those who agreed to participate were handed the self-report survey and allowed to respond at their convenience. Data collectors were present at the time of filling the survey to provide clarifications and respond to participants'' inquiries. Filled questionnaires were returned to data collectors and coded to ensure anonymity.

Filled questioners were returned to the field manager and checked for completeness. Data entry occurred simultaneously and preliminary analysis was executed after completing 10% of the surveys to check for any patterns of missing

data or bias. Check on data entry was carried out periodically and randomly to ensure quality of the procedure.

Results:

A total of 966 undergraduate students participated in this study, of whom 49% were males (n = 478) and 51% were females (n = 488). The students' age ranged from 17 to 41 years. The mean age of the students was 20.9 years (SD = 2.1). Regarding marital status, the majority of the students were Single 89.4% (n = 864), while 3.5% (n = 34) of the students were married. Furthermore, 36.1% (n = 349) of the students were from The University of Jordan, while 16.1% (n= 156) of the students were from Jordan University of Science and Technology, 11.8% (n=114) were from Al Al Bait university, 20.5% (n = 198) from Hashemite University, and 15.4% (n = 874) of the students ive with their family, and 9.5% (n = 92) don't live with their family (See Table 3).

Table 3

Variable	n	%	
Gender			
Male	478	49	
Female	488	51	
Marital Status			
Single	864	89.4	
Married	34	3.5	
Others	68	7.1	
University			
The University of Jordan	349	36.1	
Jordan University of	156	16.1	
Science and Technology			
Al Al-Bait university	114	11.8	
Hashemite University	198	20.5	
AL-Zaytouna University	149	15.4	
Live with family			
Yes	874	90.5	
No	92	9.5	

Characteristics of the sample (n = 966)

Reproductive Health Knowledge:

Results indicated that students had fair knowledge about RH issues; the average knowledge score was 14.2 (2.2). Knowledge scores ranged from 7 to 20Furthermore, in order to better understand student needs; we analyzed each knowledge item individually. Table 4 details the individual knowledge items and corresponding percentage of those who answered each item correctly.

In general, it is noticed that students displayed excellent knowledge about some issues in specific such as premarital testing, family planning and STI's; more than 90% of the students answered the questions correctly (items 1,4,7,9 and 15). This might be related to long-term emphasis on those issues within the Jordanian context. On the other hand some misconceptions such as the efficiency of the traditional method of external ejaculation (item 6) and attributing violence to drugs and alcohol (item 14) in addition to weight gain during pregnancy (item 19) indicates the need to further expanding the scope of RH teaching and correct those misconceptions.

Finally, by investigating the differences on total knowledge score between the different universities, results showed no significant differences were present (F=37.3, p < .05). However, female students score slightly higher RH knowledge 14.7 (SD= 2.0) than male students 13.8 (SD= 2.2) (t= - 6.1, p = 0.01).

ITEM	YES (%)	NO (%)
1. Those who are preparing for marriage in Jordan should have a genetic testing for thalassemia.	98	
 In case of finding that one of the couple or both are carrying the genetic mutation for thalassemia, they are prohibited from getting married by law in Jordan 		75
3. Family planning is defined as having a maximum of three kids		73
4. Family planning minimize financial burden on families	92	
5. Family planning services are provided through public health care centers only		77
6. External ejaculation which is one of the traditional family planning methods is highly effective family planning method		36
7. Modern family planning methods are highly effective in preventing unwanted pregnancy	90	
 Encountering some of the STI increases the risk of having HIV 15-20 times 	83	
 Infection with HIV can be encountered through non sexua practices such as having blood transfusion with infected blood 	1 93	
10. One of the best ways to prevent infection with STI 's is practicing safe sex.	78	
11. Sign and symptoms of some STI'S include unusual secretions, ulcers or lesions on reproductive organs.	87	
12. Any facial or verbal sexual connotations are considered one type of sexual assault	75	
13. The only hazard from violence is related to physical harm		66
14. Using alcohol or drugs increases the risk of perpetrating domestic violence		15
15. Negligence, threatening and oppression are some types of domestic violence.	93	
16. Women and girls are highly vulnerable to domestic violence.	86	
17. Pregnant women are prohibited from travel all though pregnancy.		71

Table 4: RH knowledge individual item scores

18. Pregnant women can practice some sports such as swimming.	75	
19. During pregnancy women are expected to gain 15-20 kg.		20
20. High blood pressure is considered a risk factor during	88	
pregnancy.		

Attitudes towards Reproductive Health:

It was found that students had less favorable attitudes towards RH issues; in average students score 56.8 (6.4) on the RH attitudes scale. Furthermore, table 5 illustrates individual attitudinal items analysis. The response items were calculated based on merging the four categories (from SD to SA) into two; disagree (DA) and agree (A).

By investigating the differences on total Attitudes score between the different universities, results showed significant differences between universities (F=5.9, p < .001). The results showed that students' from The University of Jordan had more favorable attitudes towards discussed RH issues than those from other universities ((M=58.1, SD=6.0) from students' from AL-Zaytouna University students (M=55.1, SD=6.2). Furthermore, it was found that female students scored slightly higher 59.0 (SD= 5.8) than male students 54.2 (SD= 6.1) (t= - 11.0, p < .001) than male students.

Table 5:	RH attitudes	individual	item scores
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ITI	EM	DA %	A %
	e decision for having children and their number is inly the responsibility of the head of the family. *	13	87
	e family should try to have children until having a le child. *	17	83
	ving children is a shared decision between the rried couple only.	16	84
	ing family panning methods have benefits for the ther, family and society.	16	84
	e woman should start using family planning methods at and those related to the male should follow. *	60	40
	s preferable a husband to accompany his wife to a services.	20	80
	ving STI is a punishment from God. *	57	43
8. The phy	e wife should not disclose any information to her ysician about her husband's infection with STI to ep her marriage. *	19	81
9. Ab	stinence is the best way to prevent encountering I's.	21	79
cha act	the case of marital conflict dialogue must result in anging one of the couples or both of them beliefs or s. *	69	31
	ve is the only factor to survive marriage*	73	27
	s preferable to have the first baby in the first year of rriage to foster marital bonding. *	47	53

13. I am in favour of female marriage after the age of 18	25	75
and not before.		
14. A wife who cheats deserves to be beaten. *	57	43
15. The wife should avoid those acts that provoke her	75	25
husband anger. *		
16. It is acceptable sometimes for the husband to beat his	27	73
wife. *		
17. In case of domestic violence, it is usually the wife's	19	78
responsibility. *		
18. Those women who rebel traditions and traditional roles	43	57
as wife and mothers are main factor for domestic		
violence to occur*		
19. Domestic violence should have the attention of	25	75
governmental and nongovernmental institutions.		
20. Victims of domestic violence are evoking their	26	74
perpetrator in order to seek the attention and caring of		
others*		

Practices towards Reproductive Health Information and Services:

Inquiring about individuals RH practices in a university setting is questionable, therefore, and considering the aim of this study, we rather preferred to inquire about students' practice toward seeking information and services related to their RH concerns or health problems. When we asked university students whether they needed health information in relation their reproductive health over the past year, only 114 (12%) answered yes. Among them, 92 ones (80%) reported that they managed to have the required RH information. Furthermore, when we inquired about the sources of information, less than or equal to 10% reported that they received the information from parent, teachers or a colleague. Meanwhile, 22% and 25% reported that they received their information from a health facility and Internet respectively.

We also inquired about whether students had any health concern in relation their reproductive health over the past year. Results showed that only 50 (6%)students answered yes. Among them, results showed that around 60% referred to a health care facility to solve their reproductive health problems.

Objective 3:

Describe students' experience with interactive teaching strategies while learning about sensitive SRH topics.

In order to better understand students' experience with innovative interactive teaching strategies and content, focus group (FGD) were carried out.

Methods:

One purpose of this study is to understand students' impressions about the material content and the methods of teaching a course offered to university students titled: "Health Promotion". The researchers conducted four focus groups at the University of Jordan and Jordan University of Science and Technology. Consenting

students who attended this course were invited to focus groups sessions of five to 10 students. A new focus group was opened until we felt the point of saturation at the fourth focus group session as no new ideas emerged during that session, and thus no further sessions were organized. All focus groups were conducted by the researchers and a facilitator to make sure that all necessary arrangements such as seating, tape-recorder, soft drinks and consent forms were ready before the session start.

The aim of the focus group interviews was to explore University students' impressions of the learning experience they had as they voluntarily attended this course. Focus groups are useful when group dynamics offer insights because of the interactions between the members of the group. For the purpose of this study, we prepared a focus group interview guide that included two parts: (1) questions related to evaluating the subject content of the course (n=13); and (2) questions related to evaluating the method of teaching (pedagogy) (n=15). This guide was used with flexibility depending on the group dynamics and in no fixed order of the questions to give freedom for questions and answers during group members' interactions.

All participants were informed of the focus group purpose, procedures, and their rights to voluntary participation and withdrawal if they wanted so. They were reassured of their rights to confidentiality and anonymity and that their refusal to participate will not have any adverse consequences. They were informed that no direct benefit is expected, however their contribution to this session will help in enriching and improving teaching this course in the future. Students were offered a phone card as a token for their participation. Upon giving a consent for participation, interviews were conducted in a private room in the School of Nursing. Interviews were tape recorded after taking the permission of participants. Interviews were transcribed verbatim and content analysis was conducted in search for codes and themes.

Findings:

A preliminary analysis of the four focus group sessions provides answers to this study two open- ended questions: $\begin{bmatrix} I \\ SEP \end{bmatrix}$ What is the students' opinion in relation to the course content material taught? $\begin{bmatrix} I \\ SEP \end{bmatrix}$ What is the students' opinion in relation to the pedagogy of teaching this course? To answer these two questions, we present the following findings, with a note that these results are only preliminary and further richer analysis is still undergoing.

Demographics:

Students from two public universities participated in four focus groups. Twenty-seven students (20 females and 7 males), with an age range of 19 to 24 years old, represented eight study disciplines, that included: Agriculture (plant, gardening, & nutrition), Engineering, English language, Information technology, Sciences (Laboratory technology), Nursing, Pharmacy, and Physiotherapy. All students attended this course during either the fall or spring semesters, and as they were attending classes during their first year to fourth year of their educational program at the university.

Descriptive thematic content analysis:

Content analysis findings demonstrated students' perception of this course material and methods of teaching. A preliminary analysis demonstrated students' overall satisfaction with both sides (content and method). In terms of the content material, students expressed interest in topics such as reproductive health content. This included topics such as presenting material in relation to reproductive anatomy, pregnancy and birth. There were several positive feedback comments regarding material presented about birth in describing the process of birth. Students from nonhealth disciplines gave feedback that this was the first time they learned about how babies grow and develop until birth. Some students pointed to the importance of this knowledge for their future roles as fathers and mothers and that through this knowledge they are assured that this is the right source for them to get information from. They also expressed their satisfaction with this knowledge as they always had questions about reproductive matters and did not know whom to ask and did not trust the internet as a scientific source for knowledge.

In addition to reproductive health topics, students expressed satisfaction with learning about health topics such as diabetes mellitus and smoking. Several students commented that the way smoking and its harms were presented by using videos and hands-on- experimenting and searching for information made them more aware of smoking disadvantages and have considered quitting accordingly. Regarding diabetes, students' comments ranged between becoming aware of the seriousness of the disease, being a reference of knowledge to their family, and the understanding that diabetics can lead a normal life if they can control their glucose level correctly. More interesting topics were also brought up regarding students' awareness of the meaning of "gender" and women's rights to education and employment. This discussion raised debates between men and women and women were expressive of the importance or raising awareness among girls about their rights to social equity.

Teaching methods was the second part of the focus group sessions. In this section students pointed out that the most important aspect of these lectures was the interaction and involvement of students in their learning process. They expressed that the best part of it was because they were part of the learning, preparing the material as a group, and working together to find answers to their assignments. Students enjoyed the non-traditional setting of a classroom. One student commented that they had a session in an out-of-campus setting, a hotel hall, to work on an assignment that they *themselves* prepared for by purchasing the equipment they needed for the project. This kind of group work made them more enthusiastic about achieving the learning objectives of that topic. One student pointed out that this experience is a good learning experience to teach them to be decision makers and leaders in the future. Learning by example and real hands-on experience was an agreed upon best method of learning for all.

In another aspect of the focus group, students were asked whether they preferred separate classes for men and women for certain topics. Answers were variant and there was no agreement. In one group, girls were more in favor of having separate classes for subjects in relation to sexuality and reproduction. Their reason was because they would feel more comfortable asking their instructors personal questions without embarrassment. In another focus group session, both boys and girls did not think this was essential as this is scientific knowledge and they would not feel embarrassed when it is a scientific topic. These students were critical of how this topic was dealt with since high school days when this topic was always ignored by teachers and that is why they have no information about it up until today.

A question was asked to inquire about whether this learning experience would be beneficial to other groups. Most students suggested students at schools. They think that youths at schools need a tailored course that addresses their adolescence needs and age developmental stage. They also added that parents need this kind of information to be a reliable source of information to their children. Students suggested that they would like to volunteer as teachers to teach this material in the community to disseminate this knowledge.

At the end of each session, students were asked for suggestions for the addition of topics or omitting any. Answers were confirmatory that all topics were rich and beneficial. They asked for adding more topics such as First aid, Hypertension, and Presentation skills. They were also asked whether they would recommend this course to other university students to attend. This was an absolute "*yes*" recommendation to all university students to attend.

Ethical Considerations:

Ethical approval was obtained form UJ ethical review board and those of other relevant institutions. Informed consent to participate in FGD was secured prior to the conduction of the interview. For the KAP survey, completing and returning the anonymous KAP survey was considered an approval to participate in the study. Finally all participants were briefed about the study purpose, procedures and ethical rights to voluntary participation, withdrawal or refusal to participate at the time of recruitment. Those eligible to participate and agreed to complete the study procedures were included in the study.

Partners' roles and complementarity

A range of strong participatory partnership was engaged in developing the study protocol and its implementation, each of them with a clear scope. The School of Nursing at UJ lead the partnership by providing overall research infrastructure and management support to the project. The UJ was the point of contact with the Jordanian government and academic community to carry out the research and promote the translation of research results into practice.

Faculty from the Harvard T.H. Chan School of Public Health with extensive expertise in SRH and rights in diverse cultural settings provided technical support for the design and implementation of the project, and the translation of the new evidence into policies and programs. Staff from our practitioner partner, the RHAS, facilitated access to relevant data and was the liaison for recruitment of participants and data collection activities.

Building on previous work and/or prepare for future work

This project builds on previous experience of similar programs at another

sister university. That study found that implementing health promotion courses tapping on SRH issues while using interactive techniques with university students positively improved their KA towards SRH¹⁴. The current collaboration aims at institutionalizing similar programs in other HE institutions as a way to invest in youth and ensure that they are better informed and have freedom to make informed choices about their SRH.

Our study concludes with a positive outcome in relation to integrating RH topics into higher education curriculum. University students' demonstrated fair knowledge about RH issues in the country. Additionally, students attested to the importance of RH content and method used in teaching those sensitive issues. Suggestions offered by students are useful for further enrichment and continuity of the program. We believe that this is an essential course for all youths as it touches on very important health topics that can be prevented by promoting knowledge and awareness.

In our study, although we found that student are aware about significant RH issues, still we foresee the need for continued efforts to correct significant misconceptions about specific RH issues. Furthermore, our results suggest the need for more intense programs or courses that implement behavioral change approaches; positive attitudes are strong precursors that trigger desired behavioral change. Last, we cannot emphasize enough on the necessity of availing youth friendly RH services. Universities, who are hosting a vast majority of youth population in Jordan, are ethically obligated to avail RH promotion and counseling services along other health related services.

References

1. UNFPA. State of World Population. 2014

- 2. Blum RW, Bastos FI, Kabiru CW, Le LC. Adolescent health in the 21st century. *The Lancet* 2012; **379**(9826).
- 3. Almasarweh IS. Adolescent and youth reproductive health in Jordan: status issues policies and programs. 2003.
- 4. Khalaf I, Moghli FA, Froelicher ES. Youth□friendly reproductive health services in Jordan from the perspective of the youth: a descriptive qualitative study. *Scandinavian journal of caring sciences* 2010; **24**(2).
- 5. Department of Statistics [Jordan]. 2015 National Census Report. 2016.
- 6. Johns Hopkins University Center for Communication Programs. Jordanian Youth Survey: Knowledge, attitudes and practices on reproductive health and life planning. 2001.
- 7. Al-Shdayfat NM, Green G. Reflections on sex research among young Bedouin in Jordan: risks and limitations. *Culture, health & sexuality* 2012; **14**(1).
- 8. Okour AM, Badarneh R. Spousal violence against pregnant women from a Bedouin community in Jordan. *Journal of women's health* 2011; **20**(12).
- 9. Mahafzah AM, Al-Ramahi MQ, Asa'd AM, El-Khateeb MS. Prevalence of sexually transmitted infections among sexually active Jordanian females. *Sexually transmitted diseases* 2008; **35**(6).
- Kradsheh M. Female early marriage: its determinants and effects on demographic behavior in Jordan. *Jordan Journal of Social Sciences* 2012; 5(1).
- 11. UNICEF. A study on early marriage in Jordan. *Amman, Jordan: UNICEF* 2014.
- 12. Hijazi HH. Factors affecting contraceptive use among women of reproductive age in northern Jordan: a framework for health policy action; 2012.
- 13. Higher Population Council and Health Policy Project. Jordan National Reproductive Health/Family Planning Strategy: At a Glance. 2013.
- 14. Ali, R. Othman, A. et all. Interactive learning style effects on University Students' Knowledge and Attitude toward Reproductive Health: A quasi-experimental design. Unpublished Manuscript