



# Middle East Journal of Nursing



September 2012

VOLUME 6 ISSUE 5

ISSN 1834-8742

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## FROM THE EDITOR



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This is the fifth issue this year with a number of papers from the region. In two papers knowledge about AIDS was investigated and another two papers looked at the issue of Abortion.

A paper from Iran looked at Students' knowledge of a Problem Based Course Compared With the Same Course Utilizing Group Discussion. This study was performed on 38 students from the 6th semester who were randomly divided into two groups and trained by two methods, of PBL and group base learning. Overall both methods increased students' knowledge in the two groups but the mean score of learning from group based learning is higher than problem based learning. The authors recommend that using

a critical method inside common teaching can provide an effective learning environment for students and students' participation in learning as group based learning can increase effective learning.

A Descriptive cross sectional study from Saudi Arabia looked at assessment of knowledge and Attitude about AIDS among Secondary School Girls in Mohyeil Asser. Students having good knowledge were (35.8%) while nearly two thirds of the students had poor knowledge (64.2%). 42.1% of the students think the patients with AIDS are sometimes victims and sometimes have bad ethics and behavior. The authors concluded that in the light of the study findings, it might be concluded that: The studied student girls had lack of knowledge about AIDS and those students who had poor knowledge also had a negative attitude and think people with AIDS should be isolated. The study recommended that: Students' curriculum should contain a part about HIV/AIDS to increase their health awareness and there should be further studies to plan and implement health education programs to improve students' knowledge about HIV/AIDS.

A Cross - sectional study paper from Iran looked at the knowledge of truck drivers about AIDS prevention. A total of 190 truck drivers were surveyed. Findings showed the most (43.5%) of truck drivers' knowledge was in the average level with Mean value (5.1) and standard deviation (2.2 ). The authors concluded that drivers didn't have sufficient knowledge about transmission and prevention of AIDs. Therefore training is one of the ways which can be used for increasing drivers ' knowledge.

Two papers from Jordan looked at the issue of abortion among Jordanian incest pregnancies. The policy of abortion is considered as

a controversial issue and is under debate, but generally there are two limits of perspective, pro-choice and pro-life. The authors attempt to review abortion from different ways and discuss abortion from religious, social and legal perspectives as well as provide policy analysis for abortion in Jordan from individual perspectives to find the reasons behind why women need to do abortion. With concern for local and rights perspectives, they attempt to provide an alternative perspective of abortion in Jordan and provide an alternative policy recommendation for this issue by using a six-step policy analysis model which will verify and define the problem through implementing, monitoring and evaluating this policy.

A retrospective study analyzed fingertip injuries: age distribution and mechanisms of injury, with discussion about different surgical options and strategies of management obtain the best outcome. A total of 50 patients (56 fingers) who presented to the plastic surgery unit with fingertip injuries from April 2008 to May 2010 were included in this study. The most common mechanism of injury was crush injuries mainly by doors especially in pediatric age groups and falling of heavy objects account for 72% (36 patients). The authors concluded that fingertip injuries are common and can have a great impact. Immediate repair by hand surgeon is preferable, and some injuries can be managed in the emergency room but with a low threshold for moving to the operating room when necessary. Local and regional flaps along with composite grafts in children, yield the best outcome, so patients are advised to always bring the amputated part with them.

# ASSESSMENT OF KNOWLEDGE AND ATTITUDES ABOUT AIDS AMONG SECONDARY SCHOOL GIRLS IN MOHYEIL ASSER

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## Introduction

Acquired Immune Deficiency Syndrome (AIDS) is a disease of the human immune system caused by the human immunodeficiency virus (HIV).[1] The illness interferes with the immune system making people with AIDS more likely to get infections. The virus and disease are often referred to together as HIV/AIDS. The disease is a major health problem in many parts of the world, and is considered a pandemic, a disease outbreak that is not only present over a large area but is actively spreading.[2] In 2009, the World Health Organization (WHO) estimated that there are 33.4 million people worldwide living with HIV/AIDS, with 2.7 million new HIV infections per year and 2.0 million annual deaths due to AIDS.[3]. According to UNAIDS 2009 report, worldwide 60 million people have been infected since the start of the pandemic, with 25 million deaths, and 14 million orphaned children in southern Africa alone.[4] . For years Saudi Arabia kept its growing AIDS problem hidden. Statistics on the disease were sealed in envelopes and guarded like national secrets. But recently the Ministry of Health in 2009 announced that more than 10,000 people in Saudi Arabia were HIV positive or had AIDS, with 0.01 % prevalence including

nearly 600 children with 300 death cases annually, the numbers appear to show a significant increase in infection over 2004, when 7,800 cases were reported, and 2003, when 6,700 cases were reported. [5]

Symptoms of AIDS are primarily the result of conditions that do not normally develop in individuals with healthy immune systems. Most of these conditions are infections caused by bacteria, viruses, fungi and parasites that are normally controlled by the elements of the immune system that HIV damages. Opportunistic infections are common in people with AIDS.[6] These infections affect nearly every organ system.

People with AIDS also have an increased risk of developing various cancers such as Kaposi's sarcoma, cervical cancer and cancers of the immune system known as lymphomas. Additionally, people with AIDS often have systemic symptoms of infection like fevers, sweats (particularly at night), swollen glands, chills, weakness, and weight loss.[7][8] The specific opportunistic infections that AIDS patients develop depend in part on the prevalence of these infections in the geographic area in which the patient lives.

The three main transmission routes of HIV are sexual contact, exposure to infected body fluids or tissues, and from mother to fetus or child during the perinatal period. It is possible to find HIV in the saliva, tears, and urine of infected individuals, but there are no recorded cases of infection by these secretions, and the risk of infection is negligible.[9].

Prevention includes protective measures from the three main transmission routes: Firstly, Sexual contact: During a sexual act, only male or female condoms can reduce the risk of infection with HIV and other STDs. The benefit is likely to be higher if condoms are used correctly on every occasion.[10]

Secondly, Body fluid exposure: Health care workers can reduce exposure to HIV by employing precautions to reduce the risk of exposure to contaminated blood. These precautions include barriers such as gloves, masks, protective eye wear or shields, and gowns or aprons which prevent exposure of the skin or mucous membranes to blood borne pathogens. Frequent and thorough washing of the skin immediately after being contaminated with blood or other bodily fluids can reduce the

chance of infection. Thirdly, sharp objects like needles, scalpels and glass, are carefully disposed of to prevent needle stick injuries with contaminated items.[11] Since intravenous drug use is an important factor in HIV transmission in developed countries, harm reduction strategies such as needle-exchange programs are used in attempts to reduce the infections caused by drug abuse.[12][13]

Mother-to-child: Current recommendations state that when replacement feeding is acceptable, feasible, affordable, sustainable and safe, HIV-infected mothers should avoid breast-feeding their infant. However, if this is not the case, exclusive breast-feeding is recommended during the first months of life and discontinued as soon as possible.[14] Another way to change risky behavior is health education for public.[15]

Although treatments for HIV/AIDS can slow the course of the disease, there is no known cure or vaccine. Antiretroviral treatment reduces both the deaths and new infections from HIV/AIDS, but these drugs are expensive and the medications are not available in all countries.[16]. An antiretroviral treatment is given directly after a highly significant exposure, called post-exposure prophylaxis (PEP).[17] PEP has a very demanding four week schedule of dosage. It also has very unpleasant side effects including diarrhea, malaise, nausea and fatigue.[18].

Current treatment for HIV infection consists of highly active antiretroviral therapy, or HAART.[19] Without treatment, the net median survival time after infection with HIV is estimated to be 9 to 11 years, depending on the HIV subtype. [20] In areas where it is widely available, the development of HAART as effective therapy for HIV infection and AIDS reduced the death rate from this disease by 80%, and raised the life expectancy for a newly diagnosed HIV-infected person

to about 20 years.[21]. Without antiretroviral therapy, death normally occurs within a year after the individual progresses to AIDS.[22] Most patients die from opportunistic infections or malignancies associated with the progressive failure of the immune system.[22].

## Research Problem

Lack of knowledge about AIDS among secondary students girls.

## Objectives:

1. Assess secondary school girls' knowledge about AIDS
2. Assess secondary school girls' attitude about AIDS
3. Detect if there is a relation between students' knowledge and attitude

## Subjects and Methods

### Research design:

Descriptive (Cross-sectional study).

### Setting:

This study was conducted at a general secondary school girls at Mohyeil Asser, data collection took one month.

### Sample:

The study was composed of students from secondary girls school in Mohyeil Asser (four schools were present 2; of them were selected randomly using folded paper method). One was The first school secondary school girls, and another one was The third secondary school girls.?

### Sample size:

Sample size was calculated to identify any of the attributes that occurs in a frequency of 30% or higher, with an alpha error of 5% and a standard error of 33%. Using the following equation for estimation of a single proportion:

$$N = \frac{z^2 P(1-p)}{D^2}$$

Where: n = sample size

p= 0.30

D=0.30x33%=0.099

The estimated sample size was 82 subjects. After adjustment for a dropout rate of 15% the sample size was 95. This sample is large enough for fulfillment of the objectives.

## Operational design:

After random selection of the schools, each school was classified according to classes which were written in a list and the first class was selected randomly then a systematically random sample was selected to appropriate required size. Each student was asked to fill in a questionnaire sheet under the guidance of the researcher providing complete clarification. Confidentiality was confirmed by the use of coded identification number and omission of all names from questionnaire.

## Tools:

Tools of this study consisted of 2 sheets:

The first sheet: consisted of questions covering students' socio-demographic data, (age, school year, parents education, job, family income, media, and source of information).

The second sheet: consisted of 13 questions constructed by the researchers depending on literature review, 11 questions addressed knowledge about AIDS, and 2 of them addressed students' attitude about AIDS (Q number 8 and 9).

The maximum knowledge score was 11; the knowledge was classified into good knowledge if the score was more than 60% and poor knowledge if the score was less than 60% from total score.



Elements	Frequency Total number=95	Percentage 100%
<b>Age:</b>		
15-17	69	72.5%
18-20	26	27.5%
<b>School year:</b>		
First year	33	34.7%
Second year	39	41.1%
Third year	23	24.2%
<b>Nationality:</b>		
Saudi Arabia	87	91.6%
Other	8	8.4%
<b>Marital status:</b>		
Single	79	83.2%
Married	11	11.5%
Other	5	5.3%
<b>Family income:</b>		
sufficient with store	59	62.1%
sufficient only	36	37.9%
not sufficient	0	0.0%
<b>Father education:</b>		
High	38	40.0%
Middle	43	45.3%
Illiterate	14	14.7%
<b>Mother education:</b>		
High	23	24.2%
Middle	41	43.2%
Illiterate	31	32.6%
<b>Father job:</b>		
Professional	42	44.2%
Skilled	5	5.3%
Other	48	50.5%
<b>Mother working:</b>		
Working	24	25.3%
Not working	71	74.7%

Table 1: Socio-Demographic Data of the Secondary School Girls

#### Administrative design:

Official permission was obtained from the schools' directors to facilitate the data collection pertinent to the study.

#### Research ethics:

Oral Agreement of participation was taken from the students after explanation of study objectives to them. Students were given an opportunity to refuse participation; also they were assured that the information would remain confidential and would be used for research purposes only.

#### Statistical analysis:

All data were coded, and analyzed by using SPSS, software program version 17, which was applied for frequencies and percentage tables and chi-square to detect relations between variables. The test of significance was chi-square, statistically significance was considered at ( $p \leq 0.05$ ).

Table 1 shows that, the majority of the students girls were from Saudi Arabia (91.6%), and most of them aged from 15-17 years (72.5%). As well most of students were single (83.2%) and had sufficient family income; (62.1%).

Figure 1 (next page) illustrates that (64.2%) of the students obtain their information from the internet.

Figure 2 (next page) illustrates that more than half (56.8%) of the students had TV and computer with internet at their homes.

Table 2 (page 7) shows that more than half of the students had incorrect answers regarding definition of disease, cause, availability of treatment; and cause of death, while most of them had incorrect answers regarding the prevalence of disease, and the

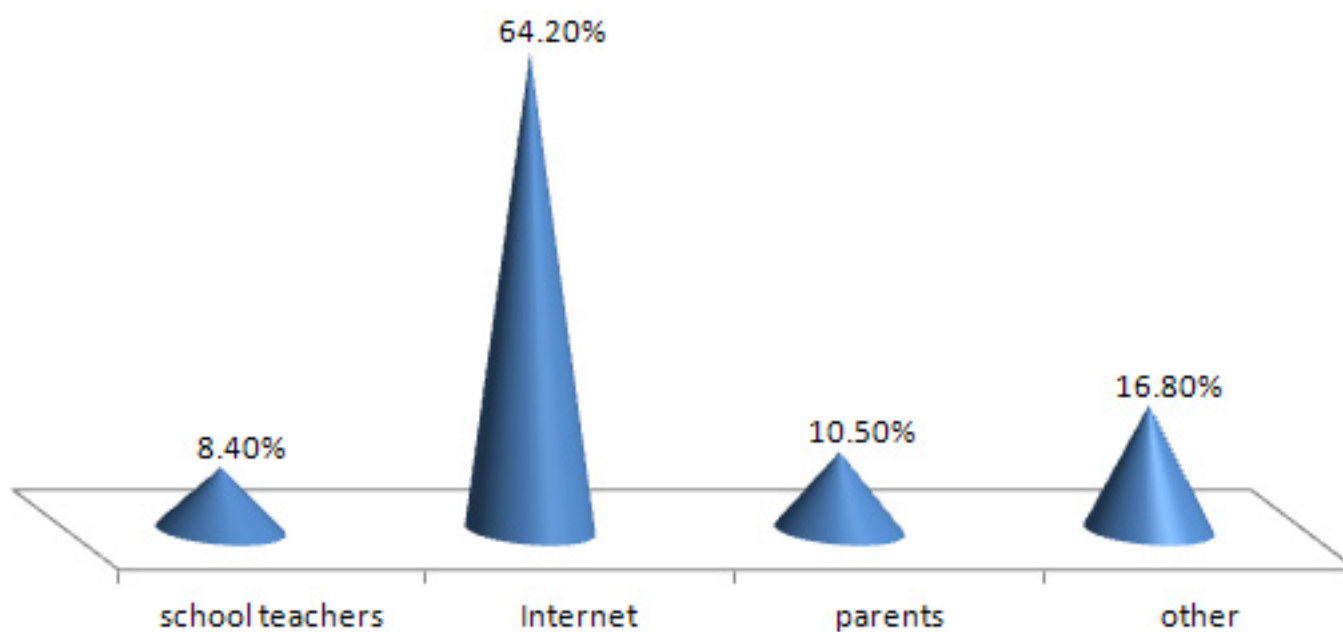


Figure 1: Sources of Information among Secondary School Girls

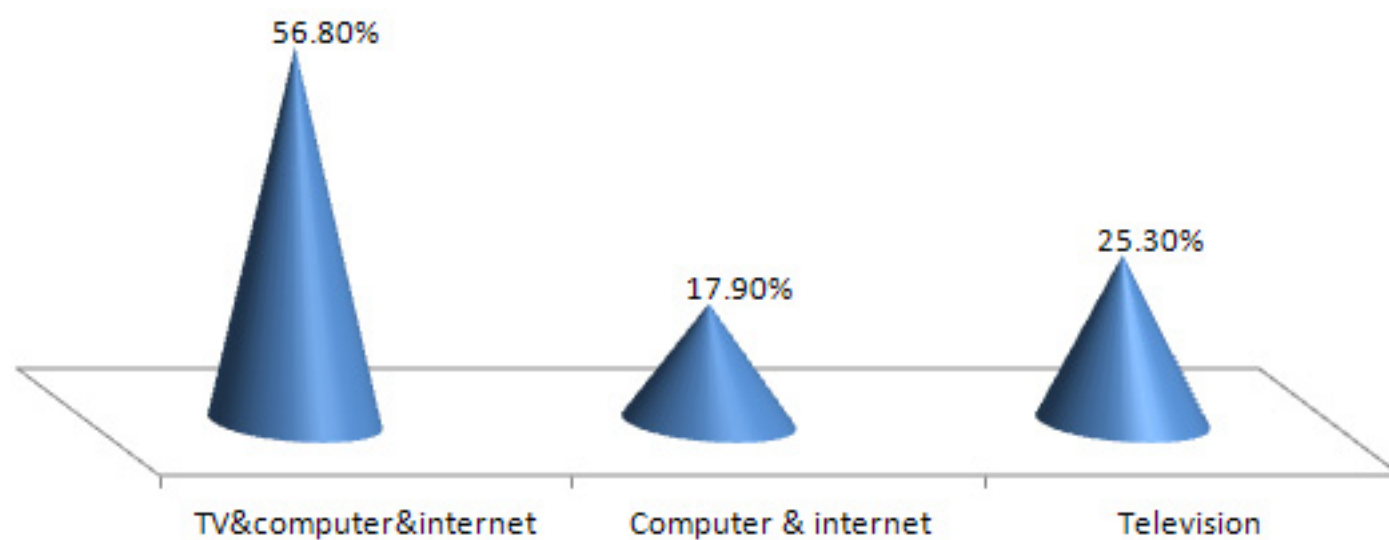


Figure 2: Distribution of the Students According to Available Media at Home

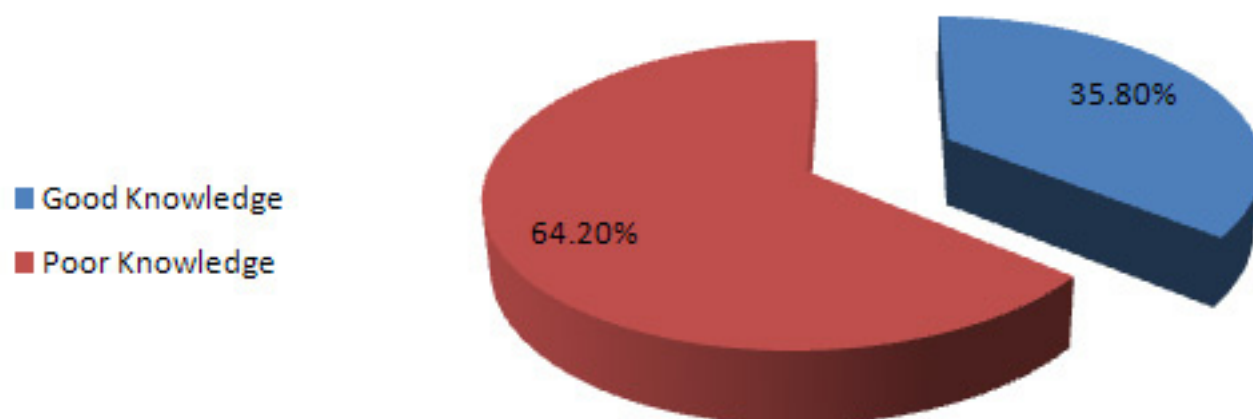


Figure 3: Total Score of knowledge about AIDS among Secondary School Girls

Elements	Frequency Total number=95	Percentage 100%
1- Definition of AIDS: • Incorrect answer • Correct answer	56 39	58.9% 41.1%
2- Prevalence of the diseases: • Incorrect answer • Correct answer	67 28	70.5% 29.5%
3- Gender have more prevalence: • Incorrect answer • Correct answer	42 53	44.2% 55.8%
4- Causes of diseases: • Incorrect answer • Correct answer	56 39	58.9% 41.1%
5- Effect of the disease on body: • Incorrect answer • Correct answer	50 45	52.6% 47.4%
6- Mode of disease transmission: • Incorrect answer • Correct answer	35 60	36.8% 63.2%
7- Availability of treatment: • Incorrect answer • Correct answer	54 41	56.8% 43.2%
8- Methods of prevention: • Incorrect answer • Correct answer	38 57	40.0% 60.0%
9- Time to appear of real signs & symptoms • Incorrect answer • Correct answer	84 11	88.4% 11.6%
10- Most common symptoms of diseases: • Incorrect answer • Correct answer	66 29	69.5% 30.5%
11- Cause of death from disease: • Incorrect answer • Correct answer	54 41	56.8% 43.2%

Table 2: Knowledge of Secondary School Students About AIDS

duration of time to appearance of signs and symptoms of disease. While more than half of the students had correct knowledge about mode of transmission and prevention (63.2%, 60.0% respectively).

Figure 3 (opposite page) illustrates that Students having Good knowledge were 35.8% while more than two thirds of the students had Poor knowledge; (64.2%).

Figure 4 (page 8) shows that 42.1% of the students think patients with AIDS are sometimes victims and sometimes have bad ethics and behavior.

Figure 5 (page 8) illustrates that (37.5%) of the students don't know how to deal with patients having AIDS while (29.5%) reported that patients with AIDS have to be isolated.

Table 3 (page 9) shows that the lowest percent of poor knowledge was in the 3rd school year students (16.4%) compared to (41.0% & 42.6% respectively) in 1st and 2nd year with statistically significant differences (P 0.04). Also this table shows that most of the students having good knowledge had TV, and computer and internet at home (79.4%) compared to (21.3% &

34.4% respectively) who had TV only or internet only; however these differences were statistically significant (p 0.003).

Table 4 (page 10) shows that most of the students (70.7%) who had good knowledge had a positive attitude and think patients with AIDS are sometimes victims and sometimes have bad ethics and behavior, while more than half (50.8%) of the students who had poor knowledge didn't know. However this difference was statistically significant (p 0.000). Also this table shows that (47.1%) of the students who had good knowledge think we have to deal

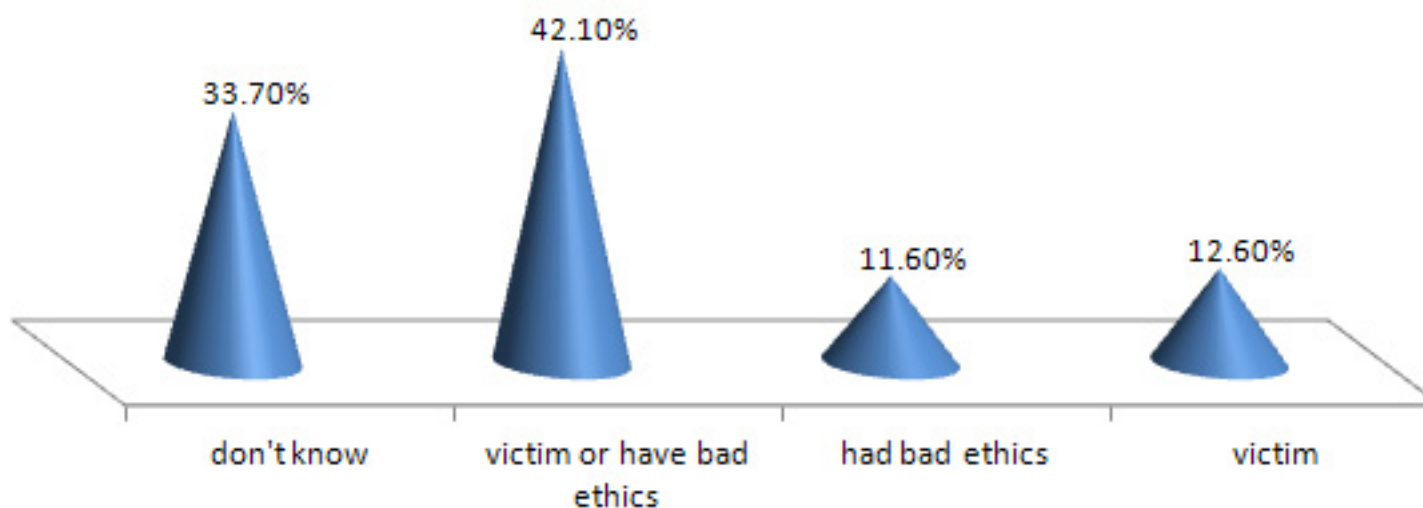


Figure 4: Categories of Patients with AIDS according to the Students Attitude

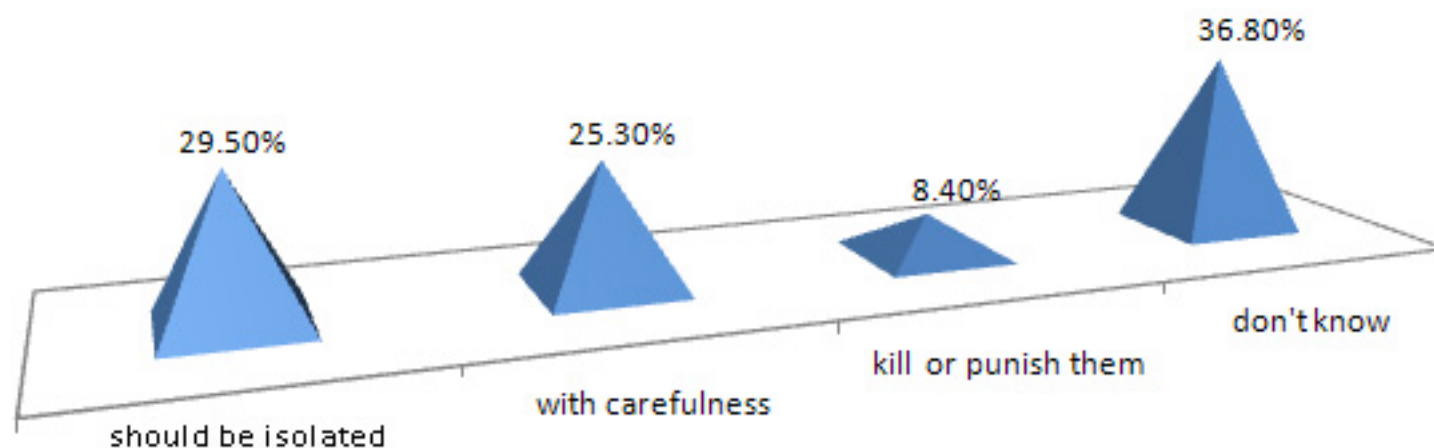


Figure 5: Students' Attitude Regarding How to Deal with Patients Having AIDS

with patients with AIDS normally but with care, while more than half (55.7%) of the students who had poor knowledge think patients with AIDS have to be isolated. However these differences were statistically significant ( $p = 0.000$ ).

## Discussion

The majority of the girl students in the current study were from Saudi Arabia and most of them were aged from 15-17 years. Also most of students were single and have sufficient family income.

The current study indicated that internet was the main source of information of the students while teachers, parents, and other sources like magazine, TV, and books were secondary sources. This result is

in agreement with Emily et al [23] who found students are substantial users of the Internet and programs like Face book, MySpace, and search engines. Students indicate believing that the Internet is easy to understand, important, beneficial, believable, and accurate. Also the present study is consistent with Jonathan et al [24] who reported that 61% had used the Internet as a personal health information source.

The current study found more than half of the students had correct knowledge regarding mode of transmission, and prevention of AIDS. This result is in agreement with Tavoosi et al [25] who found that the majority of the students had accurate knowledge about HIV/AIDS modes of transmission.

The present study revealed that nearly two thirds of the students had poor knowledge about AIDS especially information areas regarding to definition, cause, effect on human body, availability of treatment, most common symptoms, and cause of death. These results are consistent with Majeed[26] who showed that students did not have enough knowledge about HIV/AIDS and found 44.3% of students had low knowledge in his descriptive study.

The present study revealed students who had good knowledge had a positive attitude toward AIDS patients and they think we have to deal with them normally but with care, while students who had poor knowledge think those patients should be isolated. Also the current study reported a significant correlation between knowledge



Elements	Poor knowledge Total number=95		Good knowledge		X <sup>2</sup>	P value
	Frequency	100 %	Frequency	%		
<b>School year:</b>						
1 <sup>st</sup>	25	41.0%	8	23.6%	6.31	0.04*
2 <sup>nd</sup>	26	42.6%	13	38.2%		
3 <sup>rd</sup>	10	16.4%	13	38.2%		
<b>Father job:</b>						
Professional	21	34.4%	21	61.8%	8.18	0.04*
Skilled	5	8.2%	0	0.0%		
Other	35	57.4%	13	38.2%		
<b>Available Media:</b>						
TV	21	34.4%	3	8.8%	11.52	0.003*
Computer& internet	13	21.3%	4	11.8%		
TV& Computer& internet	27	44.3%	27	79.4%		
<b>Marital status:</b>						
Single	53	86.8%	26	76.5%	4.53	0.10
Married	4	6.6%	7	20.6%		
Other	4	6.6%	1	2.9%		
<b>Family income:</b>						
Sufficient & store	38	62.3%	21	61.8%	0.003	0.95
Sufficient only	23	37.7%	13	38.2%		
<b>Source of information:</b>						
School teachers	6	9.8%	2	5.9%	6.016	0.11
Internet	34	55.7%	27	79.4%		
Parents	9	14.8%	1	2.9%		
Other	12	19.7%	4	11.8%		

**Table 3: Relationship between Total Score of Students' Knowledge about AIDS and their Socio-Demographic data**

and attitude. These results are in agreement with Tavoosi et al [25] who revealed that approximately half of the student in his study expressed that an infected students with AIDS should not be allowed to enter an ordinary school, and they would avoid sitting near them. Also Tavoosi et al [25] found a correlation between knowledge and attitude among these students. Also the present study is consistent with Ghabili et al [27] who found more than one quarter of the students agree with the idea that HIV positive people should be isolated from the general population.

### Summary and Conclusion

Acquired immune deficiency syndrome (AIDS) is a disease of the human immune system caused by the human immunodeficiency virus (HIV) The disease is a major health problem in many parts of the world, and is considered a pandemic, In 2009, the World Health Organization (WHO) estimated that there are 33.4 million people worldwide living with HIV/AIDS, with 2.7 million new HIV infections per year and 2.0 million annual deaths due to AIDS.

The objectives of the current study were to assess secondary school girls' knowledge about AIDS, assess secondary school girls' attitude about AIDS, and detect if there is

a relationship between students' knowledge and attitude.

The study was composed of students of secondary school girls in Mohyeil Asser (four schools were present, 2 of them were selected randomly using folded paper method, one of them was the first school secondary school girls, and another one was the third secondary school girls).

Students who have Good knowledge were (35.8%) while more than two thirds of the students had Poor knowledge: (64.2%). (47.1%) of the students who had good knowledge think we have to deal with patients with AIDS normally but with care, while more than half (55.7%) of the

Elements	Poor knowledge Total number=95		Good knowledge		X <sup>2</sup>	P value
	Frequency	100 %	Frequency	100%		
<b>Patient of AIDS considered:</b>						
<ul style="list-style-type: none"><li>Victim</li></ul>	6	9.8%	6	17.6%	0.46	0.000*
<ul style="list-style-type: none"><li>Have bad ethics</li></ul>	8	13.2%	3	8.8%		
<ul style="list-style-type: none"><li>Sometimes victim or have bad ethics</li></ul>	16	26.2%	24	70.7%		
<ul style="list-style-type: none"><li>Don't know</li></ul>	31	50.8%	1	2.9%		
<b>Dealing with AIDS pt:</b>						
<ul style="list-style-type: none"><li>Pt should be isolated</li></ul>	34	55.7%	1	2.9%	29.9	0.000*
<ul style="list-style-type: none"><li>Normal but care</li></ul>	12	19.7%	16	47.1%		
<ul style="list-style-type: none"><li>Punish or kill him</li></ul>	9	14.8%	15	44.1%		
<ul style="list-style-type: none"><li>Don't know</li></ul>	6	9.8%	2	5.9%		

Table 4: Relationship Between Students' Attitude about AIDS and their Total Score of Knowledge

students who had poor knowledge think patients with AIDS have to be isolated.

In the light of the study findings, it might be concluded that: The studied students girls had lack of knowledge about AIDS and those students who had poor knowledge also had negative attitude and think people with AIDS should be isolated.

#### Recommendation:

Based on the findings of the current study, the following recommendations are presented:

- Students' curriculum should contain parts about HIV/AIDS to increase their health awareness
- Further studies to plan and implement health education programs to improve students' knowledge about HIV/AIDS.

#### Acknowledgment:

The researchers of this study thank the talent and creativity center of the King Khalid University and appreciate it's effort and support of this research.

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## KNOWLEDGE OF TRUCK DRIVERS OF AIDS PREVENTION

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### Introduction

The Acquired Immunodeficiency Syndrome (AIDS) is one of the most complex health problems of the 21 century, is in its third decade and has become a pandemic disease that threatens the world population. Moreover, with no treatment or cure in sight, the disease continues to spread at an alarming rate [1]. Also recent epidemiological data indicates that an estimated 34-46 million individuals are living with Human Immunodeficiency Virus HIV/AIDS and over 30 million people have already died from AIDS, with the year 2003 alone seeing 3 million [2]. Over 50% of the newly infected adults are in the age bracket 15 to 24 years old and more than 40% are women [3]. According to the World Health Organization (WHO)/UNAIDS classification, the Islamic Republic of Iran has a low prevalence of HIV/AIDS infection of less than 1% among the general population. However, this rises to more than 5% among high-risk groups [4]. It is reported that the transmission pattern of AIDs in the north of Iran is via blood and blood products and in the south it is via sexual contact with one of its factors the journey of southern persons to Arabic countries [5].

A major route of transmission of the HIV infection has been identified as heterosexual intercourse contributing over 90 percent of the epidemic in the country. Sexual behavior of high-risk groups, namely, adolescents, street children, drivers, barmaids and sexual workers has frequently been blamed for the rapid spread of the disease [6]. One of the high risk groups who should be aware of the dangers of AIDS is truck drivers and their knowledge comes primarily from personal experience rather than public knowledge programmes [5].

Truck drivers play an important role in HIV/AIDS transmission in many countries [7]. Truck drivers have

### Abstract

**Introduction:** Truck drivers are one of the most high risk groups to be exposed to Aids who must have been aware about the dangers of this disease. The destination is not important but Truck drivers' knowledge is very important. The aim of this study was to assess the knowledge of Truck drivers of AIDs prevention in Iran.

**Materials and Methods:** This is a Cross - sectional study which determines the participant's knowledge about HIV and Aids transmission and its prevention and then the relationships between these and demographic characteristics have been measured. Samples: 190 Truck drivers going to Iranian cities.

**Results:** Findings showed the most (43.5%) truck drivers' knowledge was in the average level with Mean value (5.1) and standard deviation (2.2 2). Chi showed positive relationships between knowledge and some variables like educational level, and continent of destination ( $P < 0.05$ ). Z statistical test and Pearson's correlation coefficient showed that there is positive relationships between drivers ' knowledge and their age ( $P < 0.05$ ), ( $r = .14$ ) and

between drivers' knowledge and their informational sources. ( $P < 0.05$ ), ( $r = 0.51$ ).

**Conclusion:** Findings showed that drivers didn't have sufficient knowledge about transmission and prevention of AIDs. So, their health knowledge must be increased for health protection. Therefore training is one of the ways which can be used for increasing drivers' knowledge.

**Key Words:** transmission, prevention, Truck drivers, knowledge, AIDS



been identified as having high risk lifestyles for STD (sexually transmitted disease) transmission in India, Thailand, and sub-Saharan Africa [8].

According to the 2010 report of the Joint United Nations Program on HIV/AIDS (UNAIDS), sexual intercourse is the primary mode of HIV transmission of Truck drivers and helpers, security personnel, traveling businessmen/salesman, students, tourists and migrant workers[9]. The main factor behind the multiplication of HIV/AIDS is that about fifty percent of people living with HIV/AIDS (PLWHA) are not even aware about the disease and even when aware, there is misconception and lack of adequate knowledge [10].

The prevention science can do better. Interventions derived from behavioral science have a role in overall HIV-prevention efforts, but they are insufficient when used by themselves to produce substantial and lasting reductions in HIV transmission between individuals or in entire communities [11]. The impediments facing countries with low HIV prevalence affect their response to the problem at all levels, from policy formulation to prevention planning, implementation strategies and individual behavior change [5]. It is crucial to learn more about

the knowledge [12]. There are only a few studies that have reported on Knowledge about HIV/AIDS prevention .The aim of the current study was to assess the truck drivers' knowledge towards AIDS prevention in Tehran, Iran.

### Materials and Methods

This is a cross-sectional study. The study population consisted of 190 truck drivers. The questionnaire used in this survey, is based on the WHO AIDS programmed knowledge survey in 1988 [13] that was developed based on three sections; (1) demographic characteristics, (2) knowledge concerning AIDS preventions and (3) multiple choice questions about the source of the truck drivers' information. Data has been collected once and in one stage. Admissible criteria of samples were; Participants should be 20-60 years old, they should be inclined to participation and should be able to answer the questions.

The criterion of measuring the number of correct answers to the questions was on the basis of objects that equated to good, average and poor knowledge. So the total correct answers between (9 - 12) were good, (5 - 8) were average and (0 - 4) were poor. Data were presented in mean  $\pm$  SD or percentage, when appropriate. Statistical analysis

was performed by using Statistical Package, for Windows version 12.0. Inferential statistics have been used for understanding the relationships between variables. For understanding the correlation between Qualitative data Chi 2 has been used, and for understanding the intensity of correlation between these variables contingency coefficient has been used. For Quantitative data Z statistical test and Pearson's correlation coefficient (demographic items and total knowledge score) were used.

### Results

Findings about demographic characteristics showed that 63% of participants were between 20 - 39 years old, 73.5% were married and 28% were single. Education level of most of the samples (66%) were diploma graduates and about 54% of drivers had used informational sources to get knowledge about the ways of prevention and transmissions of HIV (the mean value was 2.04 and standard deviation was 1.52).

Findings showed (Table 1) that 35.26% of truck driver's knowledge of AIDS transmission were at a good level (Mean 7.52, SD=2.31), also (Table 2 next page) 26.32% of truck drivers had good knowledge of AIDS Prevention (Mean 5.1, SD=2.22).

Table 1: The distribution of truck driver's knowledge according to AIDS transmission

The knowledge score of AIDS transmission	Number	percent
Poor (0-4)	46	24.22
Middle (5-8)	77	40.52
Good (9-12)	67	35.26
Total	190	100

Mean: 7.52 SD: 2.31

Table 2: The distribution of truck driver's knowledge according to AIDS Prevention

The knowledge score of AIDS Prevention	Number	percent
Poor (0-3)	53	27.89
Middle (4-6)	87	45.79
Good (7-9)	50	26.32
Total	190	100

Mean: 5.1 SD: 2.22

About 73 percent of truck drivers who had three sources of information had good knowledge, also Pearson's correlation coefficient showed positive that there is significance between information sources and knowledge of ways of AIDS transmission ( $P < 0.04$ ,  $r = -0.42$ ); 53% of truck driver who were 40-49 years had good knowledge of AIDS transmission.

In order to evaluate statistically the Pearson correlation coefficient showed an inverse relationship between information sources and knowledge ( $r = -0.67$ ) to determine the significance of this correlation, z test showed a significance with 99% confidence ( $p \leq 0.01$ ).

### Conclusion

The research findings show that the maximum good knowledge (67.3%) was from drivers who had used more than three information sources but for 71.3% of them who had used just one information source, the source was mass media. The quotation of W.H.O, and Mass media should be readily accessible for people quickly because "Health for All" is the purpose [14].

About half of the truck drivers (43.5%) who were traveling abroad had average knowledge about AIDs prevention and their knowledge had a positive. In this regard Carrey showed a relationship with characteristics like age, sex, level of education, the numbers of informational sources and the times of Being away from home [15]. Time away from home; urban residence, income, and marital

status were the strongest correlates of genital symptoms for Sexually Transmitted Infections (STI) and risk behaviors, although none were consistent predictors of all outcomes [16]. Findings in this research showed that there is a positive relationship between truck driver's age and educational level with their knowledge.

In this research 37.5% of truck drivers thought that AIDS can be transmitted by insects and 23 percent that AIDS was transferable via public toilets.

Sraël-Biet showed that before education 10% of students believed that AIDS is transmitted by insect bites and that after education it decreases to 1% [17]. In this research the truck drivers had low knowledge about AIDS.

In this regard, Meda showed that research on long-haul truck drivers suggests that they have low HIV knowledge [18].

Findings showed that drivers didn't have sufficient knowledge about AIDs. Therefore training is one of the ways to increase knowledge. Because AIDS is a fatal disease and can affect every age, sex, race, in all countries millions of truck drivers arrive and depart every year and their health knowledge must be increased for health protection.

Education as an important activity in preventing AIDS sometimes has been neglected by society

and individuals. If individuals knew that some of their behaviors have significant negative consequences, they would change those behaviors [19].

Therefore, training is one of the ways, which can be used for increasing drivers' knowledge so health training is very important.

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# FINGERTIP INJURIES: SHOULD YOU HAVE A LOW THRESHOLD FOR MOVING TO THE OPERATING ROOM? TWO YEARS EXPERIENCE AT ROYAL REHABILITATION CENTER

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## Abstract

**Introduction:** Fingertips are essential for normal hand function and appearance; they are the most sensitive part of the hand. Fingertip and nail injuries account for 45% of all hand injuries seen in the emergency room. Although they may appear minor, they can have serious implications because of the effect on so many activities; immediate repair by plastic or hand surgeon is preferable for the best outcome.

**Objective** Analysis of fingertip injuries: age distribution and mechanisms of injury, with discussion about different surgical options and strategies of management obtain the best outcome.

**Design:** Retrospective study

**Materials and methods:** A total of 50 patients (56 fingers) who presented to the plastic surgery unit with fingertip injuries from April 2008 to May 2010 were included in this study. Five patients had more than one finger injured. Patients' ages ranged from 2-55 years; X-ray

was requested in all patients; 12 patients were managed in the emergency room and the remaining 38 patients were managed in the theatre. Management options utilized were: primary closure, healing with secondary intention, skin grafts, composite grafts, advancement flaps and regional flaps.

**Results:** Patients age ranged from 2-55 years; 60 % (30 patients) were under the age of 15 years; 31 patients were males (62%), 19 patients (38%) were females.

The most common mechanism of injury was crush injuries mainly by doors especially in pediatric age groups and falling of heavy objects account for 72% (36 patients).

The most common finger injured was the middle finger (30.3%), ring finger (25%), index finger (21.4%), followed by little finger (12.5%). The least common finger injured is the thumb (10.7%).

Local advancement flaps (volar V-Y, lateral V-Y) were used in 21 fingers; regional flaps were used in 3 fingers (2 cross finger flaps, 1 thenar flap).

Composite grafts of the amputated tip were used in 13 fingers, mainly in children below 6 years, with a success rate of 80%.

Skin grafts harvested from amputated part, hypothenar aspect of hand, and volar wrist skin were used in 6 fingers. Primary closure was performed in 10 fingers, healing with secondary intention, 3 fingers.

**Conclusion:** Fingertip injuries are common and can have a great impact. Immediate repair by hand surgeon is preferable, and some injuries can be managed in the emergency room but with a low threshold for moving to the operating room when necessary. Local and regional flaps along with composite grafts in children, yield the best outcome, so patients are advised to always bring the amputated part with you.

**Key words:** fingertip, nail bed, skin grafts, composite grafts, advancement flaps.



## Introduction

Fingertips are essential for normal hand function and appearance; they are the most sensitive part of the hand. Fingertip and nail injuries account for 45% of all hand injuries seen in the emergency room. Although they may appear minor, they can have serious implications because of the effect on so many activities. Immediate repair by plastic or hand surgeon is preferable for the best outcome.

In this retrospective study, our aim is analysis of fingertip injuries: age distribution and mechanisms of injury, with discussion about different surgical options and strategies of management to obtain the best outcome.

## Materials and Methods

A total of 50 patients (56 fingers) who presented to the plastic surgery section with fingertip injuries from April 2008 to May 2010 were included in this study. 5 of the patients had more than one finger injured. Patients' ages ranged from 2-55 years. X-ray was requested in all patients. 12 patients were managed in the emergency room and the remaining 38 patients were managed in theatre.

In children mask anesthesia were used while digital nerve block was sufficient for adults. Finger

tourniquet using a penrose drain and hemostat was used and under loupe magnification with good light source. After irrigation and debridement of clearly nonviable tissue, management was proceeded; pre and post operative photos were taken and patient follow up and dressings were done in the outpatient clinic.

Management options utilized were: primary closure, healing with secondary intention, skin grafts, composite grafts, advancement flaps and regional flaps.

## Discussion

Injuries to fingertips may appear minor but can have a great impact and serious implications because of the effect on so many activities. Typically they may result in lost work and sometimes the end of a career.

Fingertip and nail injuries account for 45% of all hand injuries seen in the emergency room. Middle fingertip is the most common injury followed by the ring finger, and thumb tip injury is the least common. (1, 2, 3)

Everything distal to distal interphalangeal crease is considered the finger tip. The glabrous skin on the fingertip is specialized for pinch and grasp functions; the nail protects the distal phalanx and provides counterforce to the tip pulp. Figure 1 shows the anatomy of the fingertip. (4, 5)

Initial assessment of the patient should delineate: patient age, occupation, mental health, level of cooperativeness, smoking habits, which is the dominant hand, presence of other injuries, and the patient's expectations (may be unrealistic).

Assessment of injury site should delineate: mechanism and type of injury, level of the injury, is the injury on volar versus dorsal aspect, angle of the injury, involvement of nail and or nail bed and if the bone is exposed or not. (1, 3)

Goals for reconstruction should include: function, appearance, shortest time to functional recovery, prevention of joint contracture and neuromas, preservation of length and sensibility.

Immediate repair of injuries is preferable for the best outcome; repair can often be performed in the emergency room but with low threshold for moving to the operating room when necessary. (2, 3, 6)

Allen has classified fingertip injuries based on the level of injury, nail and bone. (See Figure 2 - next page)

- Type 1 injuries involve only the pulp.
- Type 2 injuries involve the pulp and the nail bed.

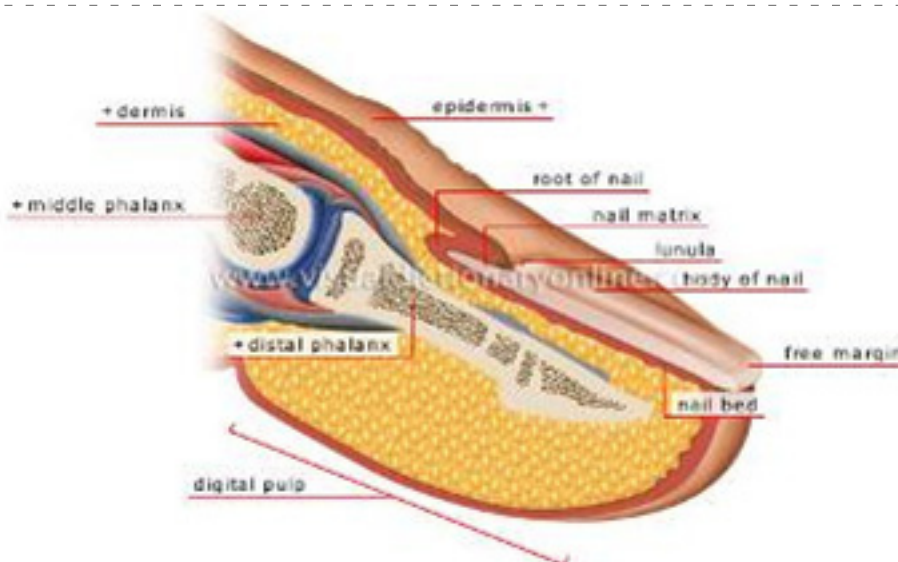


Figure 1: Anatomy of the fingertip

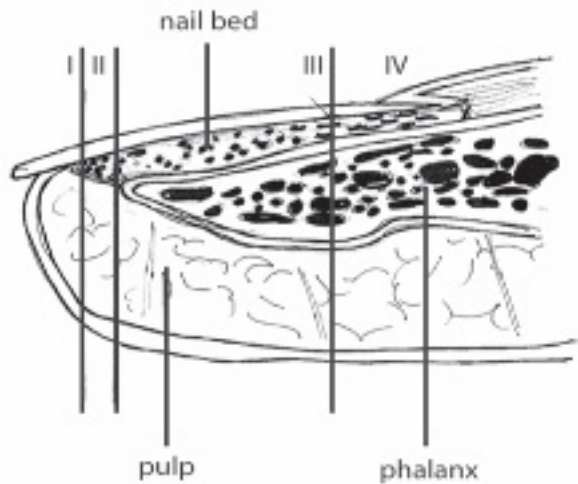


Figure 2: Allen classification system

- Type 3 injuries include partial loss of the distal phalanx.
- Type 4 injuries are proximal to the lunula.

Reconstructive options include: primary closure, secondary intention, skin grafts, local flaps, regional flaps, composite grafts and micro vascular reimplantation. (3, 7)

### Nail injuries

#### Nail bed hematomas:

If less than 25% of surface of the nail in size, drain by lancing the nail with cautery or a heated paperclip end. If greater than 25%, remove the nail to repair the nail bed. (8)

#### Nail bed lacerations:

Use a Freer elevator or tenotomy scissors to separate the nail from the eponychium and underlying matrix, then set the nail aside in sterile saline and repair the nail bed with 6-0 or 7-0 absorbable suture material. Use precise, interrupted stitches under loupe magnification. Maintain the eponychial fold with a stent. One can use the trimmed nail if available, or other material such as the foil from a suture pack. This is usually considered helpful to prevent the formation of painful split nails. (9)

#### Avulsed nail bed:

If the bed is attached to nail, replace as an onlay graft. In case of missed nail bed, use a split-thickness nail bed graft from another nail to fill the defect (usually electively). (10, 11)

#### Primary closure:

Primary closure is an option only if tissue loss is minimal; otherwise, tight closures can limit function and cause pain.

### Secondary intention:

It gives the best results in most cases. The injured part needs frequent dressing changes and antibiotic ointment to keep it moist and clean. Cold intolerance is common, however not worse than with other treatment options.

### Skin grafts:

If used, the best alternative is a full-thickness skin graft (FTSG). The best donor site options include original skin (if salvageable, this skin should be aggressively trimmed of all fat and even some dermis), skin from ulnar/hypothenar aspect of hand (Figures 3, 4, 5), volar wrist skin and antecubital skin. Split-thickness skin grafts should not be used. (1, 2, 3, 7, 12, 13)



Figure 3: Shows fingertip amputation



Figure 4: FTSG applied over the defect



Figure 5: Hypothenar donor site closed primarily

## Local flaps

### Lateral V-Y advancement flaps (Kutler flaps):

These are most useful for transverse amputations. Bilateral triangles are advanced and sutured to distal nail bed. The flaps can be advanced up to 5 mm if skin alone elevated or up to 14 mm if a neurovascular flap is elevated down to the level of the periosteum.

Disadvantages of Kutler flaps are scar at the tip which may be painful or insensate, and the vascular supply is sometimes unreliable. (14, 15)

### Volar V-Y advancement flap (Atasoy-Kleinert flap):

These are most useful for dorsal oblique amputations. They are a triangular flap, with base design no wider than the nail bed. Skin incisions are through the dermis; deep aspect is dissected off the phalanx, advanced up to 10 mm with good survival (figures 6, 7, 8). Disadvantages include possible hypersensitivity or hook nail. (16, 17)

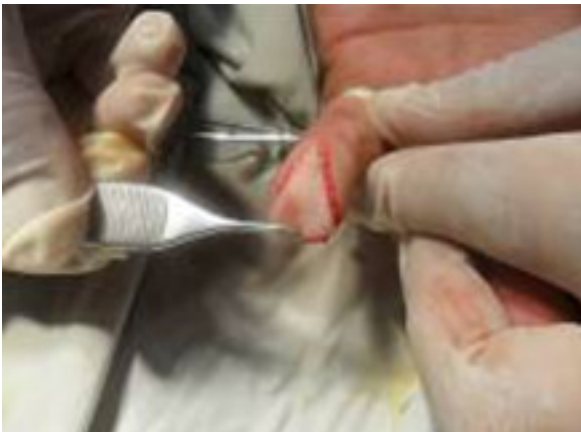


Figure 6



Figure 7

Figures 6, 7 show volar V-Y flap elevation, advancement and inset.



Figure 8: shows flap after healing

### Volar neurovascular advancement flap (Moberg flap):

Best sensation preservation. Longitudinal incisions are made on both sides, dorsal to the neurovascular structures, so nerves and arteries are contained in the flap. Then the flap is advanced to cover the tip defect. This requires some joint flexion during healing; therefore, there is a high risk of flexion contracture. The Moberg flap is used mainly for the thumb tip, when padding and sensation are critical and some flexion contracture can be tolerated. (18)

## Regional flaps

### Cross-finger flap:

The dorsal skin from one digit is transferred to the injured area of an adjacent digit as a pedicled flap; it can be used for volar or dorsal amputations. Pedicled flap needs delayed division, usually in 2 to 3 weeks. The donor site requires a skin graft. (19, 20)

### Thenar flap:

The injured digit is flexed and tucked into the thenar area, and the palmar skin is used to cover the tip. The thenar flap requires 10-14 days of immobilization with the PIP joint in flexion (Figures 9, 10, 11, 12). Disadvantage includes PIP flexion contracture, and joint stiffness of recipient finger. Therefore, this is mostly used in children. (21)



Figure 9





Figure 10



Figure 11



Figure 12

Figures 9, 10 show amputated fingertip with thenar flap marking and elevation. Figure 11 shows reconstruction of the injured digit with thenar flap. Figure 12 shows fingertip after flap division and healing.

#### **Neurovascular island transfer flap (Littler flap):**

This is used for insensate fingers following trauma to recreate sensitivity in the tip. This is usually reserved for thumb, index finger, or ulnar little finger. The practitioner must balance recipient sensation restoration with donor site loss. Flap pedicle is composed of digital vessels and nerve. It is typically raised from the ulnar aspect of

the ring or middle finger; raised at the level of the flexor sheath. Donor site is closed either with graft or primarily. (22)

#### **Composite graft:**

Composite grafting has been shown to be successful in 43% to 80% of cases especially in children. Fingertips were replanted without any vascular anastomosis. Composite graft needs good defatting, debridement, strict elevation, and immobilization of the graft. (23) Success rate reached 80% in our study (see Figures 13, 14, 15, 16).



Figure 13



Figure 14



Figure 15





**Figure 16**

Figures 13 shows amputated fingertip .Figure 14 shows amputated part after defatting and debridement, with finger nail which is used as splint. Figure 15 shows composite graft used in reconstruction fingertip. Figure 16 shows final result a few weeks later.

#### **Micro vascular reimplantation:**

Possible options in some centers. Practice is somewhat controversial. Studies showed good outcomes with sensate tips. (24, 25)

#### **Results**

Patients age ranged from 2-55 years, 60 % (30 patients) were under the age of 15 years; 31 patients were males (62%), 19 patients (38%) were females.

The most common mechanism of injury was crush injuries mainly with doors, especially in pediatric age groups and falling of heavy objects account for 72% (36 patients).

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#### **Conclusion**

Fingertip injuries are common and can have a great impact. Immediate repair by a hand surgeon is preferable, and some injuries can be managed in the emergency room but with a low threshold for moving to the operating room when necessary. Local and regional flaps along with composite grafts in children yield the best outcome, so patients are advised to always bring the amputated part with them.

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# STUDENTS' KNOWLEDGE OF A PROBLEM BASED COURSE COMPARED WITH THE SAME COURSE UTILIZING GROUP DISCUSSION

## Abstract

Helping students develop problem solving skills is a frequently cited goal of science education. This method involves students thinking about operations of analysis, synthesis and evaluation.

This study was performed on 38 students from the 6th semester who were randomly divided into two groups and trained by two methods, of PBL and group base learning. Each group underwent 3 weeks of free period training by the two methods. (Each groups was self controlled). Data gathering was via a short questionnaire assay evaluated. Analysis from T-test and paired T-test with SPSS was done.

Overall both methods increased students' knowledge in the two groups but the mean score of learning from group based learning is higher than problem based learning. Comparison between mean score of learning from the two methods before training was not significant ( $P=0.59$ ) but after training, was significant ( $P=0.02$ ).

Regarding results there was no preference for one method or another. We recommend that using a critical method inside common teaching can provide an effective learning environment for students and students participation in learning as group based learning can increase effective learning.

**Key words:** Students learning, Problem based learning, Group base learning,

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## Introduction

It is important that the college produces doctors of chiropractic who are equipped with scientific and technical knowledge, critical thinking skills, and competency based and with communication skills essential in clinical practice, but also that, through the course of their educational experience, the graduates become lifelong learners who are able to meet the changing health care needs of society (1).

Trends in medical education have shifted away from didactic teaching and towards traditional, or problem-based learning (PBL), justified by studies showing superiority of PBL in improving reasoning, inquiry, competencies and communication skills(2).

The use of problem-based learning (PBL) methods in medical education has been increasingly employed . "Problem solving in education explains how a wide spiral curriculum coordinated both within and between courses can help students master thinking skills and transfer these skills and group dynamics" (3).

"Problem based learning (PBL) students use "triggers" from the problem case or scenario to define their own learning objectives". They work in small groups in a classroom setting, apply previously learned information to solve the problem and identify the knowledge and skills they lack to accurately solve the problem(4,5).

Hughes, Ventura and Dando and Camp state that Problem-based learning satisfies many of the key principles of adult learning and fosters development of lifelong learning. An expanding number of educational settings and disciplines are employing PBL in the curriculum as a method to meet the needs of the adult learner (6,7).

In this method the discussion about the subjects that should be taught to the students is based upon a real clinical case and participation of the attending students. In contrast in problem solving method multiple student groups participate in learning skills. Using this method students were divided into multiple subgroups and discussed title and subtitles that teachers determined for them. Dormans D, Schmidt HG (8).

Different studies have shown that PBL increases the motivation and encouragement for personal studying, promoting self learning skills, emphasizing on the importance of learning basic science in order to use it in the clinical setting and promoting the analysis capabilities and clinical competence of the students at the time of professional medical practice. (9-12).

Problem Based learning emphasizes on a clinical problem as the axis of teaching and on participation of the student in multiple steps.

**Step 1: problem presentation ,**  
**Step 2 : terminology,**  
**Step 3 : Defining the problem ,**  
**Step 4 : Brain storming ,**  
**Step 5 : Assembling ,**  
**Step 6 : presentation,**  
**Step 7 : final (13).**

Interest in active methods of learning has accelerated in recent years. There has also been an interest in developing student centre approaches vs teacher center approach to learning and inter-professional education(13,6).

In regard to the importance of group based teaching in recent years, students must be able to interpret, relate and incorporate new information with existing knowledge and apply the new information to solve novel problems. Peer instruction is a cooperative learning technique that promotes critical thinking, problem solving and decision making skills (14).

Felder and Brent reported that in cooperative learning students work in teams on problems and projects under conditions that assure both positive interdependence and individual accountability. This method is a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their

understanding of a subject: each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement(15).

Other researchers also claim that use of this method improved academic achievement, improved behavior and attendance, increased self confidence and motivation and increased linking of school and classmates. Cooperative learning is also relatively easy to implement and is inexpensive (16).

According to the Howard community college's teaching, "elements of cooperative learning include : 1- positive interdependence 2- face to face interaction 3- individual and group accountability 4- interpersonal and small group skills 5- group processing "(17).

We tested student learning using two methods in group instruction or Group learning and problem based learning; this is a comparison of the two methods of personal and group learning in the classroom.

### Method

This study is a comparative study on 38 nursing students in the psychiatric field.

38 students were randomly divided into two groups and trained by two methods of teaching from PBL and group learning respectively. Each group of students were trained through the specified method for 7 weeks. Parallel questions were designed using multiple choice. After a 3 week free period (due to decreased interactive teaching process), students trained by the common training method such as lecturing, then by crossing over, the method of teaching changed in the two groups (Each group was considered as self control). The final exam was performed using parallel questions. The final score for each midterm and the final exam in two sections were calculated from 15.

In problem based learning sessions to determine content asked students

to:

- share experiences about the subject and describe desirable outcomes about content presented.
- share best practices or known instances of consistent achievement of the desired outcomes

Strategies expected to lead to successful outcomes after preparation of group discussion was from:

- forming an atmosphere of group, guidance and direction of group about activities
- determine the subject and brainstorming content
- cohesion, sharing , trust building and then creativity
- completion of the task and conclusion from team activities

Proportions of learning from different types of teaching were compared using independent T-test and paired T-test with SPSS (13.5).

### Result

Altogether 38 students participated in this research and the mean score of learning from the two methods showed that mean score of students' learning from group base learning was higher than problem based learning.

Comparison between mean score of student's learning from the two methods in two stages of the program, was significant ( $p > 0.05$ )(Table 1 - top of next page).

### Discussion

Recent results showed the both active methods affect students' knowledge, but comparison of mean score of trainer showed mean score from group base learning was significant and that this result may be related to advantages of student participation in group processes and increase of cooperative learning increases self esteem and involvement of all students in the learning process.



Group	Method	Mean	T
Pre test	Group 1	PBL	9.21 +1.85
	Group 2	Group learning	9.90 + .93
Post test	Group 2	PBL	8.84+ 1.92
	Group 1	Group learning	10.57+2.40
			-2.45*

\*P=<0.05

**Table 1: The comparison between mean score of learning from the two methods in two stages of teaching**

Ironsides in his study on working together showed that working together is creating excellence and shaping the future of education(18).

This finding confirmed by Dollman in his study with the aim of evaluation of practical skills of students from two methods of peer group learning compared with a traditionally instructed method showed that there were no differences between traditional instructed and peer group learning on intra testing ( $P=0.24$ ) but the peer group learning had a higher inter tested result from the traditional method (8).

Murphy and Adams approved our study to explore the benefits of user education described in three different approaches to mediated training for medical students and clinical training provided by peers, juniors and information specialists and considers the benefits to the participants, showed user education or peer group education is a indirect, and has long-term benefits relating to more social issues and provides evidence of direct benefits (time saved, quality of service, skill acquired and financial savings)(19).

Other researchers such as Visschers, Pleijers, Dormans, et al approved other research and explored the notion that in the students' opinion, the interaction process in the tutorial group can be improved and provides useful information to detect short comings in group learning interactions (20).

And Kelly and Haidet support these finding by using the strobe classroom observation tool to compare patterns of engagement behaviors among learners in class sessions across 3 distinct instruction methods from lecture, problem based learning (PBL) and team learning. In this research it was observed that in PBL and team learning the amount of learner to learner engagement was similar and much greater than in lectures. Also learner to instructor engagement appeared greater in team learning than in PBL(21).

### Conclusion

We recommend that using critical methods as a problem base learning or group - base learning inside lecturing can provide effective learning for students and students participating in group learning can increase effective learning

that remains in student memory. Therefore we suggest using new teaching methods such as group based learning in future in the classroom.

### Acknowledgement :

We thank Saed Sobhanian, M.Sc., greatly for his assistance with statistical analysis.

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# ABORTION AMONG JORDANIAN INCEST PREGNANCIES. ARGUMENTATIVE ESSAY

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## Introduction

A 17-year-old girl was admitted to the hospital emergency service; she was complaining of severe pelvic pain and a delay in her menstrual period for 6 months. Ultrasound revealed she had a 20 week gestation with a positive fetal cardiac activity. She was hospitalized with the diagnosis of preterm labor. During assessment by social service officers, she confessed that the child pregnancy was a result of incest, and her father was the father of the child. Her father had been raping her for 7 months and had threatened her with her life. Her mother was aware of the situation, but what could she do to her husband who was an addict. The girl showed rage against the baby. For this reason, the victim and her mother wanted to have abortion because if she was forced to continue the pregnancy that could have detrimental emotional effects on her. However, abortion is illegal according to Jordanian laws.

This case scenario reflects one of the current debatable issues and presents questions that need to be answered. Based on respect of patient autonomy should incest abortion be legalized in Jordan? What would happen if incest abortion be legalized? Can a physician induce incest abortion to a 17 year old female? Can a victim request abortion? What are the long term effects of applying incest abortion on nursing as a profession? On the other hand; is killing a fetus that is a product of incest, fair? Do you think that unborn baby deserves this? (Do you support abortion in these cases or do you oppose

it?) What should the management of incest pregnancies be? "What is your opinion?" In health care, ethical dilemmas may occur while healthcare workers have to choose between two or more acceptable lines of action or have to make a decision between equally unacceptable options. Healthcare providers are often placed in the situation of having to integrate their own moral reasoning in order to resolve ethical dilemmas (Elis & Hartley, 2007).

In this essay we examine both sides of this controversial issue taking into account patient rights, autonomy, no harm and other important ethical principles. We live in the 21st century; which is characterized by a tremendous advancement in all aspects of life. These advancement lead to a lot of unresolved and controversial issues.

Recent rapid technological developments, new economic and philosophical trends raise crucial ethical questions relating to life and death issues, and ethical dilemmas. The majority of these issues rely primarily on our morals, ethics and religion, therefore, generating a very strong yes and no, or good and bad, is still unreachable. Despite advances in science, technology, society and legalization, abortion remains a controversial issue and popular legal issue that places healthcare workers at risk of ethical dilemma. However generally there are two limits of perspective, pro-choice and pro-life.

Medically, abortion is defined as: "The termination of pregnancy before the viability of the fetus, any time before the end of the six months of gestation" (Ellis & Hartley, 2007). Abortion is considered one of the oldest medical practices, evidence of which dates back to ancient Egypt, Greece, and Rome. Abortion methods used by Egyptian pharaohs were documented in the ancient Ebers Papyrus (1550 B.C.). It is noted that during the Middle Ages, abortion methods were adopted and accepted by Western Europe and later diffused across the globe (Potts and Campbell, 2003). Many reasons can lead to induced abortion; under the general cause "unwanted pregnancy" abortion is a wide topic to be discussed, so abortion due to incest will be our focus in this paper.

Argument discussion of abortion rests on a different perspective; two major teams participate in this argument; the pro-life group, which is against abortion, and the pro-choice group; which supports abortion. The two rival groups of this topic have a strong fire burning between them, making this one of the biggest moral debates all over time. The moral, religious and legal aspects of abortion are subject to intense debate in many parts of the world. Does a woman have the right to terminate her pregnancy? Is it moral to do abortion under any circumstance? Is the fetus a living human being? How can anyone deny an abortion to a twelve-year-old girl who is the victim of incest?" The debate has raged for a long time and there does not seem to be any end to the controversy and it often results in violence.

This paper aims to discuss abortion among Jordanian incest pregnancies, and reveal legal, religious, and social perspectives regarding this controversial issue.

Despite legal and religious restrictions against abortion in much of the Arab world, changing social

values and economic realities as well as demographic shifts have contributed to an apparent increase in the number of abortion procedures in the Arab world. Jordan is a Muslim country and has a strong religious and cultural background, where tradition and customs govern and control all aspects of social and political life; these traditions sometimes even hinder the religious opinion.

Reliable data are lacking on the incidence of induced abortion and the public health consequences. More than 99% of induced abortions are not reported at all, disguised as a different procedure or reported as spontaneous abortion in public hospitals (Shepard and Becerra, 2007). According to the Guttmacher Institute (2008) it is estimated that approximately 42 million abortions are performed worldwide every year. And around 115,000 abortions per day of these 26 million are said to occur in places where abortion is legal; the other 20 million happen where the procedure is illegal. In addition around 1% of all abortions occur because of rape or incest; 6% of abortions occur because of potential health problems concerning either the mother or child, and 93% of all abortions occur related to social reasons (i.e. the child is unwanted or inconvenient).

World Health Organization (2007) estimates that there are around 70,000 deaths each year are related to unsafe abortions, almost all of them in the developing world. Millions of women suffer permanent injury or chronic illness, adding a high cost to both individual families and health systems. According to the research conducted by Hessini (2007), the estimation of the number of abortions in Jordan for period 1995-2000 is about 196,792. The death rate from unsafe abortion is 161 cases. Jordan is among the countries from which incest cases are rarely reported, which are expected in the context of cultural stigma for both victim, and predator, therefore, there are no statistics that reveal the actual number of incest abortions.

In this paper the current author is against abortion except in two cases, she supports her opinion with evidences. She considers abortion as a type of murder; the current author believes that nobody has the right to take another's life. In the author's religion, murder is a sin. And since she is going to put it in a religious point a view, any religion will agree with her. On the other hand there are two and only two reasons where she believes abortion should be legal, that is, in the cases in which it will save the mother's life and in cases in which the woman becomes pregnant through rape or incest.

## Discussion

Incest is defined as sexual relations between close blood relatives, such as a child and a father, uncle, or between siblings (Celbis, Ozcan & Zdemir, 2005). Also it is defined as a "crime of sexual relations or marriage taking place between a male and female who are so closely linked by blood or affinity that such activity is prohibited by law" (free dictionary, 2008). Legally, incest is classified as a criminal behavior.

Adolescence is a crucial period for personality, physical, sexual, psychosocial and identity development. Adolescents represent the largest portion of the population, especially in developing countries. Being an adolescent is more risky to be an incest victim; as they can't express their problems freely. Female adolescent victims are usually passive and fearful while their mothers have a weak personality and can't help their children. According to McLean and Gallop (2003) they stated that being the victim of paternal incest during childhood might be a major predictor of a borderline personality disorder and complex posttraumatic stress in adults.

For adolescents with unwanted pregnancy, ignorance may be the first and major restraint. She might be embarrassed to ask advice from family or friends. She is often unaware of other sources of help,

even when the sources are available. Her age, education, social class and career expectation will affect her decision whether she will continue her pregnancy or choose abortion. Her option and desire to continue the pregnancy are subject to personal decision (WHO, 1978).

## Abortion in Jordan and the legal aspect

Abortion, a moral issue, raises questions about basic beliefs regarding life and death, sanctity of life, the beginning of life, and a woman's individual right. Overtime, abortion has become a political issue. One of these changes includes legal arguments over a women's choice versus right to life.

In Jordan legislation, abortion is governed by penal codes laws. Based on Jordanian law No. 16 for the year 1960, abortion is prohibited in Jordan under the Penal Code, and persons who commit abortion are subject to imprisonment of one to three years, and it may increased by one third if that person is a medical worker. These penalties are increased if the abortion was carried out without the woman's consent or resulted in her death (United Nations, 2003). However, Jordanian legislations regarding abortion are derived from the Qur'an as main source and the Islamic al-hanafi School, which prohibits illegal taking of human life especially after 120 days after conception in the mother's womb (Stephens, Jordens, Kerridge & Ankeny, 2010). Jordanian laws are constrictively firm against induced abortion. However, Public Health Law in 1971 permits induced abortion to save a threatened mother's life, but with the restriction of physicians' approval and a written consent from her or her spouse if she is unable to provide it (United Nations, 2003).

In summary; according to the laws of Jordan No. 16 abortion is governed by penal codes, and termination of pregnancy is not allowed if the pregnancy is a result of rape or incest. So, again the law is a restrictive rigid legislation regarding induced abortion.



## Abortion and Religion aspect

Regardless of advances in science, technology, and society, religion remains a major influence on contemporary attitudes to the issues surrounding the beginning and the ending of life, and mainly those surrounding abortion.

The majority of Jordanians are Muslim. Islam is a diverse religion, and its jurisdiction interpretation partially differs among the Muslim world. Individual interpretation is an explanation Islamic principle; Muslims are encouraged to read and analyze traditional religious sources to find solutions to contemporary problems. There are four schools of interpretation that exist in Sunni Islam. These schools have developed a significant body of Shari'a (Islamic law), which differs from country to country, and in Jordan the school is al-Hanafi. In cases where Islamic jurisprudence is ambiguous, religious leaders will issue fatawa (nonbinding religious edicts) to provide guidance (Zubaida, 2005).

Deliberations on abortion have a long history in Muslim thought. Most Islamic scholars decided abortions were allowed if pregnancies ended before the soul enters the fetus (Hessini, 2007) and because of specific reasons, which may include: specific health problems for children or physical complications for the mother (Hewitt, 2004). Four main situations on abortion prior to ensoulment presently exist across these schools of thought: i) abortion is allowed, ii) abortion is allowed under certain circumstances, iii) abortion is disapproved of and iv) abortion is forbidden. Support for abortion and the belief that life begins at ensoulment is based primarily on a Qur'anic verse, which discusses the different stages (semen, blood clot, bones and flesh) of fetal development.

A fatwa in 1991 in Saudi Arabia allowed for abortion in the first 120 days after conception in the case of fetal impairment in cases of genetic

disorder in the first trimester; the other allowed abortion in the first trimester if a woman's health and life were at risk. The Quran, and Al-Sunna (the tradition of the prophet) give specific rules regarding incest, which prohibits a man from marrying or having sexual relationships with predetermined women in the family. The same applies for a woman with the male counterparts to the aforementioned (Wikipedia).

According to the Centre of Arab and Islamic Law, most authors allow abortion in the case that the woman has been raped. Aroua wrote: when the child is the product of irresponsible sex (mental illness, rape, incest), one must take into consideration to the rights of the child, of the mother and of the society. In conclusion there are also different approaches in terms of religious perspectives. According to the Islamic perspective, with some variations depending on the school of thought (i.e. according to different Islamic sects), most scholars agreed that abortion is allowed before ensoulment of the fetus, varying between 40, 90 or 120 days after conception.

In summary; the religious interpretation differs across the Muslim world. Usually, a justifiable reason is needed for terminating a pregnancy, e.g. to protect a breastfeeding child, rape/incest and health reasons (Hessini, 2007).

## Social Perspective and Unwanted Pregnancy

In conservative societies such as Jordanian society, sexual topics are considered as taboo and incest cases are rarely reported. In such societies, sexual abuse cases are not reported because of worry about victim reputation and future life. Sometimes incest would continue hidden for years until an accidental confrontation with a health problem such as pregnancy happens.

Incest is a stigma and socially unaccepted. Also it is considered as a neglected social problem.

With correspondence of Singh et al (1997), the main reason of both married women and unmarried woman to find induced abortion is unwanted pregnancy. Unwanted pregnancy may occur related to Sexual coercion and rape: Women's right of sexual self-choice is restricted in many societies. Unwanted pregnancy caused through incest or rape is a particular concern in conflict and refugee circumstances (Tautz, 2004). In Jordan, termination abortion because of incest or rape is considered illegal.

According to WHO (1978), the decision making process facing unmarried women with unwanted pregnancy involves an interaction between her individual psychology, social pressure and the willingness of service providers to undergo abortion. Unmarried Jordanian women with unwanted pregnancies face difficult choices: giving birth and facing social stigmatization as well as loss of family or parental support, besides facing the danger of being killed under the name of honor, or undergo an illegal abortion, risking serious injury or death by bleeding, infections etc.

In this essay the current author examines both sides of this controversial issue:

## Disagreement with Incest abortion

Many people assume that abortion will at least help a victim put the assault behind her and get on with her life, but facts show that abortion is not some magical treatment which turns back the time to make a victim "un-pregnant". Pro-abortionists argue that abortion should be permitted in cases of incest. Abortion will not remove the incestuous violation of a young girl. In reality, in incest cases abortion helps protect the abuser by helping to hide his sin. Secondly, killing a fetus that is a product of incest punishes the fetus. It does not punish the abuser. No civilized society punishes a fetus with death because of the sins of their parents.

A woman who is pregnant due to incest may not want the child. However, killing the child just puts the woman in the position of responding to violence with another act of violence.

Pro-life groups believe that many women who become pregnant through incest do not believe in abortion, believing it would be a further act of violence against their bodies and their fetus. Further, many of the incest women believe that while their children's lives may have been brought into life by a horrible act, but perhaps fate will use the child for some greater purpose. Good can come from evil.

In survey conducted by Sobie (2010) of women who became pregnant as a result of rape or incest, many women who underwent abortions indicated that they felt pressured or were strongly directed by family members or health care workers to have abortions. Women did not do abortion because of the woman's wish to abort but as a response to the suggestions or demands from others.

Mahkorn (1999) found that 75-85% of pregnant rape victims made a decision against abortion. According to Parratt (1994); he advocates that abortion is another trauma for women who experience guilt, depression, anger towards men and lowered self-esteem after any abortion procedure.

### **Agree with Incest abortion**

Many people support abortion in incest pregnancies and try to compromise other opinions based on ethical principles, patient right, autonomy, beneficence, fairness and justice. The pro choice group aims to guarantee a woman her reproductive rights and that she should have the freedom to decide whether she wants to continue or terminate her pregnancy.

The value of the mother's health is always greater than the value of the fetus. Abortion may be the best

way for the incest victim to regain her mental health and personal life. Pregnancy caused by incest would keep reminding the victim for nine months of the violence committed against her and would just increase her mental distress (Learman et al., 2005; McNaughton et al., 2006)

Incest pregnancies affect victim's quality of life, so the group of pro choice does support their point of view to terminate the pregnancies. In a study conducted by Engelmann et al. (1996), whether the incest pregnancies should continue or be terminated for the sake of the victim quality of life, the result revealed 89% of college students were willing to terminate pregnancy for incest and 82% for rape.

There are also different approaches in terms of religious perspectives. According to the Islamic perspective, with some variations depending on the school of thought (i.e. according to different Islamic sects), most scholars agree that abortion is allowed before ensoulment of the fetus, varying between 40, 90 or 120 days after conception. The religious interpretation differs across the Muslim world. Usually, a justifiable reason is needed for terminating a pregnancy, e.g. to protect a breastfeeding child, rape/incest and health reasons (Hessini, 2007).

The current author opinion: supporting abortion for incest victims

Incest pregnancy presents multiple challenges to the practitioner: medical, psychological, emotional, legal, and ethical. Children of incestuous parents have a higher than normal rate of birth defects and congenital diseases (Huff-Hannon, 2009). But more over the psychological trauma of incest can be destructive, especially to the young person engaging in it with his or her mother or father. When a girl is an incest victim,, she feels dreadful. The trauma of being an incest victim could break her down and make her depressed, insecure, does not trust anyone and that is only the beginning. After she has

been subjected to incest from the person who should support her and protect her she has no respect or self-esteem for her and then comes the embarrassment. Herself respect will be damaged permanently and she will be looked down upon.

After the unwanted baby is born, the childhood that he or she will get will not be the best one it deserves because of how it was originated. At home, the incest woman may not be a good mother and may be cruel to the baby. Therefore, because of this abnormal type of childhood, when the child grows up and becomes a teenager, he or she may often turn to crime and may be involved in gangs and drugs. There are often appalling sequelae for children born of incest because of the ongoing psychological damage done to the mother. All that could be prevented if the mother was allowed to get an abortion early on and therefore, had not to face all the shame and embarrassment for herself and her family.

The other reason is that if woman is pregnant due to incest and she really wants an abortion, whether it be legal or not, she will get one. When women are desperate, they do desperate things and that is what a woman will do. No one can stop her from getting an illegal one, which is usually dangerous for the woman as illegal abortion involves the use of non sterilized tools. In addition, abortion of incest victims will prevent mixing family lineages. How could a girl bear / rise up a baby from her father/ brother; what should she consider him?

### **Summary and Recommendation**

The nature of abortion and the decision-making process it involves can be particularly sensitive issues for all involved. The abortion debate is not a simple one and is not reducible to simplistic pro-choice or pro-life standpoints. Social, legal, ethnic and religious factors may affect the perspectives of women about abortion after incest. It is essential that health professionals

understand the issues behind the arguments and are able to support and inform their patients when required. The debate will continue and, perhaps, the ethical issues will be discussed philosophically without a conclusion being reached that is acceptable to all. The law and professional guidelines direct nurses' actions but, ultimately, a moral position on abortion must be individually constructed. The science of nursing is to make sense and respect for the mystery of life and death, also to hold this mystery in trust, and hand it to future generations.

Regardless of all the arguments in this paper, the nurses must be autonomous and make his or her decision, based on religious, social or other aspects. They should determine their opinion and not practice it behind doors. This paper represents the author's clear opinion which is in support for abortion in incest victims with respect for other opinion, based on the idea of prevention of mixing lineages which is supported by Islamic perspective which agrees with abortion before ensoulment.

In summary, it is the time for Jordanian government to take Legal action to support abortion among incest victims in Jordanian public places by applying legal policies for incest victims. Bioethical issues (incest abortion) should be openly debated through seminars, conferences and workshops and should be held to encourage interaction between experts, academicians, researchers, students, and policy makers.

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## ABORTION POLICY ANALYSIS

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documented in the ancient Ebers Papyrus (1550 B.C.). It is considered that during the Middle Ages, abortion methods were adopted and accepted by Western Europe and later diffused across the globe (Potts & Campbell, 2003).

### Abstract

Abortion is a major issue all over the world. The policy of abortion is considered as a controversial issue and is under debate, but generally there are two limits of perspective, pro-choice and pro-life. This paper attempts to review abortion from different ways and discuss abortion from religious, social and legal perspectives as well as provide policy analysis for abortion in Jordan from individual perspectives to find the reasons behind why women need to do abortion. With concern for local and rights perspectives, this paper attempts to provide an alternative perspective of abortion in Jordan and provide alternative policy recommendations for this issue by using a six-step policy analysis model which will verify and define the problem through implementing, monitoring and evaluating this policy.

**Key words:** policy, abortion, Islam, social.

### Introduction

Abortion is a major issue all over the world. The policy of abortion is considered as a controversial issue and is under debate, but generally there are two limits of perspective, pro-choice and pro-life. This paper attempts to review abortion from different way and discuss abortion from religious, social and legal perspectives as well as provide policy analysis for abortion in Jordan from individual perspectives to find the reasons behind why women need to do abortion. With concern for local and rights perspectives, this paper attempts to provide an alternative perspective of abortion in Jordan and provide alternative policy recommendations for this issue by using a six-step policy analysis model which will verify and define the problem through implementing, monitoring and evaluating this policy.

In health care, ethical dilemmas may occur while healthcare workers have to choose between two or more acceptable lines of action or having to make a decision between equally unacceptable options. Providers of healthcare are often placed in the situation of having to integrate their own moral reasoning in order to resolve ethical dilemmas (Elis & Hartley, 2007). Despite advances in science, technology, society and legalization, abortion remains a controversial issue, and a popular legal issue that places healthcare workers at risk of ethical dilemmas.

Abortion is one of the oldest medical practices, evidence of which dates back to ancient Egypt, Greece, and Rome. Abortion methods used by Egyptian pharaohs were

### Verify, define, and detail the problem

Jordan is one Muslim country in the world and has a strong religious culture, and applies Islamic law to all matters of jurisprudence, including abortion. Legalization of abortion as proposed by pro-choice activists will have a high political and social cost. On the other hand, pro-life activists can't seem to provide alternative ways that are appropriate for Jordan to reduce abortion.

The World Health Organization (2007) estimates that about 25% of all pregnancies worldwide end in an induced abortion, about 50 million each year. Of these abortions, 20 million are being performed under dangerous conditions, either by untrained providers or using unsafe procedures, or both. Unsafe abortions account for around 70,000 deaths each year, almost all of them in the developing world. Millions of women suffer permanent injury or chronic illness, adding a high cost to both individual families and health systems.

According to the research conducted by Hessini (2007), the estimated number of abortions in Jordan for the period 1995-2000 is about 196,792. The death rate from unsafe abortion is 161 cases. Based on the reasons above, it is important to find a way to reduce unsafe abortion in Jordan, but we can't expect to follow both pro-life and pro-choices. Is there an alternative way to reduce the number of death because of unsafe abortion in Jordan?

To answer the question, this paper provides analysis of abortion from religious and legal perspectives and



provides analysis from individual perspectives to find the reasons why women need to do abortion and formulates policy recommendations for alternative intervention based on the finding of abortion reasons, to directly reduce the unsafe abortion and the need for abortion and indirectly, we can expect to reduce maternal death because of unsafe abortion.

### Abortion and Religion

Regardless of advances in science, technology, and society, religion remains a major influence on contemporary attitudes to the issues surrounding the beginning and end of life, and mainly those surrounding abortion.

The majority of Jordanians are Muslim. Islam is a diverse religion, and its jurisdiction interpretation differs among the Muslim world, and its interpretation differs across the Muslim world. Individual interpretation is an explanation Islamic principle. Muslims are encouraged to read and analyze traditional religious sources to find solutions to contemporary problems. Four official schools of interpretation exist in Sunni Islam. These schools have developed a significant body of Shari'a (Islamic law), which differs from country to country, and in Jordan the school is al-hanafi. In cases where Islamic jurisprudence is unclear, religious leaders will issue fatawa (nonbinding religious edicts) to provide guidance (Zubaida, 2005).

Jordan is predominantly a Muslim country. Contraception and family planning are allowed in Islam and there is no explicit resistance to contraception in Quran. Muslim couples are encouraged to have children, who are referred to as their 'wealth'; furthermore, Muslims believe that every baby comes with his own provision. Muslims are influenced by the Prophet Mohammed's call to 'get married and multiply', and believe that procreation is one of the most important objectives of marriage (Kridli & Libbus, 2001). According to study conducted in Iraq as it is a Muslim

country by Ridhwany and Aljawadi (2012) the Husbands and husband's parents are the vital decision-makers about wives' contraceptive use.

Deliberations on abortion have a long history in Muslim thought. Most Islamic scholars decided abortions were allowed if pregnancies ended before soul enters the fetus (Hessini, 2007) and because of specific reasons, which may include: specific health problems for children or physical complications for the mother (Hewitt, 2004).

Four main situations on abortion prior to ensoulment presently exist across these schools of thought: i) abortion is allowed, ii) abortion is allowed under certain circumstances, iii) abortion is disapproved of and iv) abortion is forbidden. Support for abortion and the belief that life begins at ensoulment is based primarily on the following Qur'anic verse, which discusses the different stages (semen, blood clot, bones and flesh) of fetal development.

Contemporary fatawa have been issued in certain countries that add legal indications to otherwise restrictive laws. A fatwa in 1991 in Saudi Arabia allowed for abortion in the first 120 days after conception in the case of fetal impairment in cases of genetic disorder in the first trimester; the other allowed abortion in the first trimester if a woman's health and life were at risk.

### Abortion in Jordanian legal system

Abortion, a moral issue, raises questions about basic beliefs regarding life and death, sanctity of life, the beginning of life, and a woman's individual right. Overtime, abortion has become a political issue. One of these changes includes legal arguments over women's choice versus right to life.

The laws of Jordan are governed by penal codes, and based on Jordanian law No. 16 for the year 1960, abortion is prohibited in Jordan under the Penal Code, and persons

committing abortion are subject to imprisonment of one to three years, and it may be increased by one third if that person is a medical worker. These penalties are increased if the abortion was carried out without the woman's consent or resulted in her death (United Nations, 2003). However, Jordanian legislations regarding abortion are derived from the Quran as the main source and the Islamic al-hanafi School, which prohibits illegal taking of human life especially after 120 days after conception in the mother's womb (Stephens, Jordens, Kerridge & Ankeny, 2010). Jordanian laws are constrictively firm against induced abortion. However, Public Health Law in 1971 permits induced abortion to save a threatened mother's life, but with the restriction of the physicians' approval and a written consent from her or her spouse if she unable to provide it (United Nations, 2003). So, again the law is a restrictive rigid legislation regarding induced abortion.

Legal status of the fatwa is having no legal power and no legal binding. It is only influenced by social and religious affairs of the Jordanian Muslim society. But, the implementation of fatwa about abortion is usually supported in Jordan which represents a majority Jordanian Muslim population and which has a strong influence on Jordanian politics and legal system. It means that the fatwa might be one of the references for political decisions and policy making.

### Social Perspective and Unwanted Pregnancy

With attribution to Singh et al (1997), the main reason for both married women and unmarried woman to seek induced abortion is unwanted pregnancy. The majorities of women who look for an induced abortion are married or live in a stable union and have several children with economic restrictions to having more children. The other major group is young unmarried women who look for an induced abortion because of social constraints regarding having a baby without formal marriage, which is considered premarital sex taboo.

Stakeholders	Need	Services Provided	Desired Outcome
Patient	Support, advice, medical care	Consultation, safe procedure	Safe, affordable care
Doctor	Provide needed care	Medical facility and equipment, standard procedures	Successful procedure, satisfied patient
Medical Industry	Innovation	Procedural and pharmaceutical alternatives	Safe, cost effective alternatives
Courts	Ensure the rights of the fetus and women	Interpret existing law, provide guidance	Interpret and uphold the law
Jordanian House of Representatives	Propose new or revised legislation	Listen to constituents, support or propose legislation	Satisfied citizens
Pro-Choice Advocates	Protect women's right to choose	Advocacy, Support, propose legislative change	Abortion is legal, safe, available and affordable
Pro-Life Advocates	Protect rights of the mother and child		Abortion is illegal

Table 1: From this the stakeholder of abortion policy will be: the physicians, nurses, patient's family, religion, the administrator, Jordanian House of Representatives, media, discussion program and the policy maker

A Few Causes	Alternative	Degree of control	Expected Outcome
Medical conditions	Donate or raise money for medical research	Direct	Fewer incidences
Can't afford or support a child	Raise money for medical and living expenses	Direct	Amount of money provided; people served
	Provide information on adoptions	Not applicable in our religion	Not applicable in our religion
Rape or Incest (sexual intercourse between close relative that is illegal in the jurisdiction)	Community awareness programs; Improved law enforcement	Some	Fewer incidences
Education	Help develop and deliver education programs	Direct	Number of people attending education sessions; number of pregnancies
Don't believe fetus is viable human being	Propose changes to law	Some	Law is changed
	Change people's minds	Little	Number of people who report that they changed their beliefs

Table 2: Issue: Why are there unwanted pregnancies that result in termination?

There are many reasons why women look for an induced abortion, including the inability to avoid unintended pregnancies. Millions of women lack access to modern contraception, or do not use it for a variety of reasons, including health concerns, social disapproval and partner resistance (Williamson et al., 2009).

Unwanted pregnancy may occur for various following reasons and in (Table 2):

- Firstly; Millions of women and men either do not have access to appropriate contraceptive methods, or do not have adequate information and support to use them effectively. Secondly, no contraceptive method is a hundred percent effective, there would still be nearly six million accidental pregnancies annually. Thus, even with high rates of contraceptive use, unwanted pregnancies will occur which women may seek to end by induced abortion (Tautz, 2004)
- Sexual coercion and rape: Women's right of sexual self-choice is restricted in many societies. Unwanted pregnancy caused through rape is a particular concern in conflict and refugee circumstances (Tautz, 2004). In Jordan, termination abortion because of rape is considered illegal.
- Pregnancy status change and male irresponsibility: Pregnancies can also change from being wanted to unwanted through altering of social status of pregnancy such as unstable or altering relationships or rejection of fatherhood (Tautz, 2004).
- Social and economic causes: poverty or economic restriction is a major reason for married women to not have more children. Fear of job loss and of social taboo is one reason for unmarried women to think of unwanted pregnancy and undergo abortion (Tautz, 2004).

### Abortion Decision Making

Jordanian life is complex, many-sided and ruled by multiple formal and traditional legal systems. The abortion decisions of married and unmarried women in Jordan are affected by social restraint, legal system, Islamic perspective and desire for privacy.

According to WHO (1978), the decision making process facing unmarried women with unwanted pregnancy involves an interaction between her individual psychology, social pressure and the willingness of service providers to undergo abortion. Unmarried women of Jordan with unwanted pregnancies face difficult choices: giving birth and facing social stigmatization as well as loss of family or parental support; or undergo an illegal abortion, risking serious injury or death by bleeding, infections etc.

For young unmarried women or adolescents with unwanted pregnancy, ignorance may be the first and major restraint. She might be not sure whether she is pregnant and is embarrassed to ask advice from family or friends. She is often unaware of other sources of help, even when the sources are available. Her age, education, social class and career expectation will affect her decision whether she will continue her pregnancy or do abortion. Her option and desire to continue the pregnancy are subject to personal decision (WHO, 1978).

The problem of abortion choices which are faced by pregnant married women are different than those faced by unmarried women, but equally complex (WHO, 1978). In Jordan, with strong relationship systems and strong social control on sexual, marital and reproductive activity of the young, demand for abortion is most likely to derive from married women who have large families and economic constraints or married women who are not ready to have more children. The choice to look for abortion depends on relationships between the woman with her husband or her family.

There are a lot of arguments behind the policy to reduce the death rate from unsafe abortions. On one side, human rights activists and pro-choice activists suggest rights based approach for dealing with abortion choices and improving quality of the providers to reduce the death rates because of abortion (Boonin 2003). On the other side, pro-life activists are against abortion practices, based on moral, political, legal, and religious perspectives (Beckwith, 2007).

### Decision makers (Stakeholders)

Recently law and policy has improved, although it is not radical it still represents a step forward towards ensuring a woman's right to safe abortion care. It is only in recent years that several national level consultative efforts involving policymakers, and professional bodies like the obstetrics and gynecology, Jordanian House of Representatives, ministry of health, medical Association, family planning association and health activists, have championed the improvement of access to safe and legal abortion services. They aim to increase availability and access to safe abortion services, create more qualified providers, link policy with technology and research and good clinical practice, apply uniform standards for both the private and public sectors, and ensure quality of abortion care (WHO, 2007).

Rising awareness and dispelling misconceptions about the abortion law among providers and policymakers is just one step towards improvement. There is a need to enhance awareness of both contraceptive and abortion services. For these policies to be implemented effectively, they need to be backed by political will and commitment in terms of adequate resource allocation, training and communications support, accompanied by social input based on women's needs. Advocacy and action at both central and state level are required to put into place the operational strategies relevant to abortion. Please see Table 1.



### Objectives of Abortion policy

From the above discussion we can conclude that: Abortion policy services aim to achieve main objectives: to reduce mortality and morbidity from unsafe abortion, to ensure reproductive choice for women faced with unintended pregnancy, to reduce unsafe abortion in the future, to strengthen public and political commitment to the right to choose and to have access to safe abortion, and to raise awareness among the general public, policy makers and key professional groups on the public health and social justice impact of unsafe abortion.

Significance of Abortion policy based on principles of respect for human life, control our value systems as individuals and governments, in which we should be obligated to be faithful to sacred agreements such as pregnancy, commitments not to harm human life and responsibilities being held (Elis & Hartley, 2007).

### Policies Analysis

Jordanian Law, an informal legal system, like religious law as well as the formal legal system has flexibility for women with unwanted pregnancy to undergo abortion under specific conditions. But the formal legal system still isn't able to provide clear guidelines for abortion and will bring stakeholders on the multi-perceptions.

One of the major problems related with the Jordanian laws on abortion is mis-interpretation and lack of understanding of women with unwanted pregnancy as well as lack of understanding of abortion providers about which one allows abortion and which one forbids abortion under the laws.

Sometimes, women with unwanted pregnancy are afraid to have a legal abortion because they think it is illegal although in their case it might be categorized as legal, because they have misperceptions about law related to abortion and are afraid of the legal consequences.

Moreover, health providers are sometimes also afraid to perform a legal abortion and refuse the women who are seeking safe abortion because they don't have clear understanding which one is permitted abortion and which one is forbidden. Because of those reasons, women with unwanted pregnancy have to seek illegal or unsafe abortion (stigma). Clandestine abortion (secret) providers include gynecologists and a range of physicians. The quality of services varies considerably and depends on ability to pay, access to pain relief and use of modern or traditional abortion methods.

Therefore, socialization about the laws with clear practical translation should positively affect on reducing illegal or unsafe abortion in the short term. In the long term, legal improvement, especially revision of the laws to avoid multi-interpretations, should be performed in effective ways.

The legal improvement approach should be in line with capacity improvement to provide safe abortion and counseling. We have to make sure that the women who have rights to undergo abortion under the laws know how to and have access to counseling and safe abortion.

The legal improvement might be able to reduce the proportion of unsafe abortions of the women who need to undergo abortion, but it can't reduce the number of women who need to undergo abortion. To reduce the demand of abortion, we have to know what the major reasons for abortion, or the root of abortion decision making, are.

The cause of abortion decision making is unwanted pregnancies. Therefore, legalization on abortion might not be the right solution to reduce unsafe abortion in Jordan, because legalization of abortion not only can't reduce unwanted pregnancy as real causes of abortion but also has a huge social and political cost in the Jordanian context.

### Establishing Evaluation and Implementation Criteria

In order to establish the criteria, we should develop a way to evaluate the desired outcome, undesired outcomes and underestimated outcomes, so that we can write evaluation criteria which will distinguish among the alternatives and select the most appropriate one.

Abortion services aim to achieve three main objectives: to reduce mortality and morbidity from unsafe abortion, to ensure reproductive choice for women faced with unintended pregnancy and to reduce unsafe abortion in the future. In traditional evaluation terms, input is needed for successful implementation of an abortion care program, such as political advocacy, stakeholder education, and resources for services, including supportive regulations, provider training and supervision, supplies and equipment and sufficient financing. The process of program implementation should, ideally, lead to the desired program results or outputs such as women's demand for, and utilization of, safe services and a sufficient supply of high-quality, accessible abortion services.

Evaluation of the components of a safe abortion program will describe the challenges for evaluation of each component, describe feasible evaluation strategies, suggest key indicators to measure progress in program implementation and achievement of objectives, and offer findings from evaluation studies of successful evaluation approaches. Furthermore, evaluation data for advocacy purposes can be used to underscore resource gaps to identify implications for health system change and highlight the need for legal and policy changes. Consistent and visible use of program evaluation findings can also expand the number and types of stakeholders committed to improved abortion care, and diminish the stigma attached to abortion which is oftentimes a major barrier to change. Current evaluation challenges for abortion care programs for both



services and policies, include weak health service statistics, difficulties in assessing health service quality and a limited ability to measure program impact on maternal mortality and morbidity.

There are a number of feasible steps that can be taken at the facility, national and global levels to address the growing need for abortion program evaluation. These steps are both technical and political in nature. Most do not require large, new investments, although the underfunded area of abortion demands a renewed commitment by national governments, international agencies and donors to expand the resources available.

Suggestions include the incorporation of abortion measures into health system information systems and service monitoring; expansion of abortion-related evaluation studies; improved efforts to monitor policy change; expanded dissemination and use of evaluation findings; and increased commitment of resources and political support for abortion evaluation.

### Alternatives

Strategies for reducing unwanted pregnancy can be effective strategies to reduce unsafe abortion in the long term. We have to identify the causes to develop alternatives for it. The strategy to reduce unwanted pregnancy can be formulated as follows and in Table 3.

- a. Jordan is predominantly a Muslim country. Contraception and family planning are allowed in Islam and there is no explicit opposition to contraception in the Quran.
- b. Improving access and quality of contraceptive. First and primarily, improvement of access to and quality of contraceptive methods and services should be ensured and continually.

Secondly, eliminate barriers that currently limit women's and men's access to contraception. In many cases women become pregnant because contraceptive means and services are not available, or financially, culturally, geographically not accessible, or because they are not effective.

- c. Improving knowledge, attitude, and behavior about the right way to use contraceptives. In some cases women become pregnant because the couple didn't have enough understanding about the right way how to use contraceptives.
- d. Male involvement. Some pregnancies become unwanted because of refusal of fatherhood or unstable relationships; male responsibility in pregnancy is very important. Legal advocacies are to address responsibility of men on pregnancy under the law is very important to reduce abortion because of this cause.
- e. Integrating family planning with income generation and poverty alleviation programs. Economic constraint is one of the major reasons of unwanted pregnancy of married women. Income generation can be an effective arm to directly reduce unwanted pregnancy and indirectly reduce abortion on poor women.
- f. Improving access of women with unwanted pregnancy to keep their jobs. Fear of expulsion from

Alternative	Effectiveness	Legality	Ease of applying	Equity	Cost effectiveness	Political acceptability
Improving access and quality of contraceptive	Highly effective	legal	Easy	yes	Depend on the quality of material	accept
Improving knowledge	effective	legal	Easy	yes	Effective	accept
Men involvement	effective	legal	Easy	yes	Effective	accept
Integrating family planning with income generation and poverty alleviation program	effective	legal	Easy	yes	Effective	accept
Improving access of women with unwanted pregnancy to keep their jobs.	Not applicable	legal	Not easy	yes	Effective	accept
Donate or raise money for medical research	effective	legal	Easy	yes	effective	accept
Social advocacy to society	effective	legal	Easy	yes	Effective	accept

Table 3

occupation may be one concern of unmarried women with unwanted pregnancy, to undergo abortion. Advocacies to change industrial relations in accepting pregnant women are one of the possible strategies to reduce unsafe abortion.

- g. **Social advocacy to society.** We need to ensure society is aware that delivering the baby for unmarried women is better than undergoing abortion. Some unmarried pregnant women undergo abortion because they are afraid of social punishment. We can advocate the right of life and we can expect that community can provide support to unmarried women to take care of the baby with appropriate advocacy.

In order to implement the suggested policy, an abortion care program must be in place, such as political advocacy, stakeholder education, and resources for services, including supportive regulations, provider training and supervision, supplies and equipment and sufficient financing and media. Establishing a training program will teach the staff of one department; to test the effectiveness of the policy, the employee will be trained to apply the modification of the policy.

The process of program implementation should, ideally, lead to the desired program results or output such as women's demand for and utilization of safe services and a sufficient supply of high-quality, accessible abortion services. Expected, longer-term program outcomes include reduced maternal mortality and morbidity, increased reproductive choice and reduced repeat unintended pregnancy and unsafe abortion.

### **Developed conceptual framework to abortion policy**

A major gap in abortion policy in Jordan is the lack of explicit policy on good clinical practice and research. Jordan has simply

not found a way to ensure the use of improved and safer abortion practices brought about through research and continuously evolving reproductive technology. There are some suggestions for a developed framework of policy analysis to be more explicit (Table 4 - opposite page).

In order to build explicit policy, we have to define the important terms in abortion policy.

**Abortion rate:** The number of induced abortions per 1,000 women aged 15 to 44 years.

**Unsafe abortion:** According to the World Health Organization, unsafe abortion is a procedure for terminating an unwanted pregnancy carried out by persons who may lack the necessary skills or is conducted in an environment lacking minimal medical standards or both.

**Government support for family planning:** The type of support that the Government provides to family planning services within the country.

**Total fertility:** The number of births a woman would have if she were subject during her lifetime to current age-specific fertility rates.

**Maternal mortality ratio:** The number of maternal deaths over a year per 100,000 live births in that year.

As governments design and implement safe abortion care interventions, however, the need for a stronger evaluation focus has become evident. Donors increasingly want to ensure that scarce resources are spent on the most effective service delivery strategies, while policymakers must be confident that any shift in abortion care services represents an efficient use of funds, is evidence-based and that progress in such programs can be tracked.

The components of the conceptual framework : (purpose, responsibilities, stakeholder,

procedure Legal and political context of abortion, Demand for services, Supply of services, Abortions performed under safe conditions, Reduced maternal mortality and morbidity, Increased reproductive choice, Reduced repeat unintended pregnancy and unsafe abortion and documentation).

### **Conclusion**

Millions of Jordanian women become pregnant, and many of them choose to end their pregnancies, despite the fact that abortion is generally illegal. There are a lot of controversies behind policy to reduce the death rate because of unsafe abortion. There are alternative ways to reduce unsafe abortion through reducing unwanted pregnancy from Jordanian perspectives.

The major strategies are legal reform, communication and advocacies. Socialization about abortion law in Jordan should be an important part of the strategy. Improving the quality, and quality of contraceptive access, as well as advocacies for schooling, work place and society are important aims for the implementation of the strategy.

This paper is only proposes brief of alternative ideas to reduce unsafe abortion and demand of abortion. I hope this paper can influence the development of further intervention strategies or further research to find alternative strategies for reducing abortion.

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Action to be taken/Expected Outcome	Who	When	Resources
Donate or raise money for medical research / Fewer abortions for the respective medical condition			
Raise money for medical and living expenses / Fewer incidences			
Provide information on adoptions / More adoptions of infants			
Help develop and deliver education programs / Attendance at education sessions; feedback, fewer incidences			
Propose changes to law / Law is changed			
Change people's minds / Number of people who report that they changed their beliefs			

Table 4: Develop an action plan to implement the selected alternative. An action plan identifies tasks, timelines, resources, and responsibilities.

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