

Tutorial letter 201/1/2018

HIV/Aids care and counselling PYC2605

Semester 1

Department of Psychology

Feedback on Assignment 01

INTRODUCTION

Dear Student,

We hope that you are enjoying your module in HIV/Aids care and counselling. If you find the course helpful, please tell your friends and colleagues about it. Remember, it is possible for students to enroll only for this one module for non-degree purposes, if they wish to do so. The only prerequisite for the course is matric (Standard 10/Grade 12). It may also interest you to know that almost 6 000 students enroll for the HIV/Aids care and counselling course (PYC2605) per year!

The main purpose of this tutorial letter is to give feedback on Assignment 01. However, before we do so, let us address some other issues first.

Assignment issues

In the previous semester, many students did not get examination admission because (a) their assignments were never received by Unisa; (b) the assignments reached Unisa after the closing date; and (c) the assignments were submitted in the wrong semester. Please note that it is your own responsibility to make sure that Unisa has received and marked your assignments. Please check myUnisa regularly to see if your assignment has been received and marked. If you check the system regularly and it seems that your assignment was not received or marked, please direct your enquiries to the Students Assessment and Assignment Department. Please do not contact your lecturers to find out what happened to your assignments. Your multiple choice assignments go directly to the Assignment section to be marked by computer. Unfortunately, lecturers do not see your multiple choice assignments at all.

Please note that you have to submit Assignment 01 to gain examination admission. Together Assignments 01 and 02 contribute 20% to your final year mark.

Make sure that you know exactly if you are registered for the first or for the second semester. Use the assignment closing date and unique number of that specific semester ONLY on your mark reading sheet. If you are registered for the 2nd semester, please do not use the 1st semester unique numbers. Your assignment will NOT be registered on the system and it will get lost.

Electronic Learning Units and Open Electronic Resources

Do you enjoy the online module? We surely had a lot of fun compiling it! Some students find the online approach a bit daunting but keep in mind that the purpose of the online module is only to guide you through the prescribed book and to challenge you to think differently about HIV and Aids and to motivate you to do things in your communities. There will be neither examination questions directly on the content of the electronic learning units, nor on the open educational resources (e.g. videos and webpages).

The examination questions are based on your prescribed book only, and Tutorial Letter 101/2018 (Section 7.1 Syllabus: What to study for the exam) indicates what to study in your prescribed book.

The examination paper

Tutorial Letter 102 contains a practice examination paper to familiarise you with what to expect in the examinations. Please make use of the opportunity to see if you can complete it (without your prescribed book) within the two hours allowed for the paper. **DO NOT** send your answers to Unisa to be marked. You will find the answers at the back of the tutorial letter for you to mark your own paper. Old examination papers for this module are available on myUnisa.

Feedback on Assignment 01

The purpose of this assignment was to help you to assess where you are in terms of your HIV and Aids reading and comprehension skills, knowledge and attitudes at this early stage of your studies. Use your assignment mark and our feedback to sensitise you to possible problems in your learning. Table 1 gives a summary of the correct answers to Assignment 01.

We hope that you have learned more than theory in this assignment and that you are stimulated to read more about new developments in the HIV and Aids field. Best wishes with all the work ahead, and make the best of it!

Table 1: Correct answers to Assignment 01 of Semester 1

Question	Assignment 1 correct answer	Question	Assignment 1 correct answer
1	1	9	4
2	3	10	4
3	2	11	3
4	2	12	2
5	4	13	3
6	1	14	3
7	2	15	4
8	4		

Students generally did very well in Assignment 01. I will now discuss each one of the questions in more detail. All page number included in the feedback refers to pages in your prescribed book.

QUESTION 1

What is currently the most widely accepted scientific theory about the origin of Aids?

- (1) An ancestor of HIV-1 group M virus was transmitted from a chimpanzee to a hunter.
- (2) HIV was introduced into the human population by polio vaccines which were produced on monkey kidney cell cultures in the 1950s.
- (3) Aids is not a new disease, but has probably been present for many centuries in central Africa.
- (4) HIV originated in the white gay communities of America and Europe in the early 1980s.

Feedback on Question 1

The correct answer is 1. There are many theories about the origin of Aids. However, the accepted theory (after doing a scientific process called 'sequence comparisons') is that HIV crossed the species barrier from primates to humans at some time around the 1930s when chimpanzee blood infected a human being. Alternative 2 is not correct and can be seen as a conspiracy theory (polio vaccines causing Aids).

Conspiracy theories like this do a lot of damage to vaccine programmes and can cost the lives of thousands of children. Alternative 3 is not correct since HIV is not that old. Alternative 4 is incorrect because, although HIV was first diagnosed in white, gay men in America, it is not where HIV originated. Read “Crossing the species barrier” (p. 7) for more information.

QUESTION 2

How do viruses (including HIV) reproduce?

- (1) Viruses can reproduce in any warm and humid environment; the cells of the virus divide to form new viruses.
- (2) Viruses reproduce in the open air; they cannot reproduce in anaerobic conditions.
- (3) Viruses ‘inject’ their genetic material into a living cell and then use the cell to reproduce more viruses.
- (4) Viruses first kill cells, then enter them and then use the remains of the cell as ‘food’ for the new viruses.

Feedback on Question 2

The correct answer is 3. Viruses need other cells to be able to reproduce. They have to enter cells and take over the normal mechanisms of the cells to be able to divide and increase their numbers. Therefore, viruses cannot reproduce in any environment as they need to access other cells in order to multiply using these host cells abilities to divide. Alternative 1 is more correct for the conditions bacteria need to reproduce, but it is not true for viruses. Alternative 2 is incorrect (viruses do not reproduce in open air), and Alternative 4 is wrong because viruses do not kill the host cells to use them as food as they need living cells in order to facilitate their multiplication. Read page 38 in your prescribed book for more information.

QUESTION 3

The defences of the immune system can be divided into two main groups: the non-specific defences, for example (a) _____, and the specific defences, for example (b)_____.

- (1) (a) the skin and mucous membranes; (b) plasma proteins
- (2) (a) phagocytes (e.g. macrophages); (b) lymphocytes (e.g. T cells and B cells)
- (3) (a) plasma proteins; (b) phagocytes (e.g. macrophages)
- (4) (a) T lymphocytes (e.g. CD4+T cells); (b) B lymphocytes (e.g. B memory cells)

Feedback on Question 3

The correct answer is 2. To understand the division of the immune system into non-specific and specific defences, look at Figure 2.1 on page 27. Although you do not have to study figures, this figure gives a nice summary of the content under Section 2.1.1 to Section 2.1.3 on pages 29 to 33. Non-specific defences defend the body in a ‘crude’ manner, which means that they do not have specialised weapons (therefore the name ‘non-specific’ defences. Non-specific defences consist of two lines of defence. The first line of defence (physical barriers) tries to keep pathogens out of the body (e.g. the skin and mucous membranes). The second line of defence is the inflammatory reaction. When the skin breaks and pathogens do enter they body (e.g. a child falls), protective plasma proteins and cells like phagocytes (e.g. macrophages) try to get rid of the pathogens by killing or eating them. So far the (a) part of both alternatives 1 and 2 are correct.

Now let us look at the (b) part of the question that asks for example of the specific defences. When the non-specific defences fail to protect the body (as first and second lines of defence), the specific defences or third line of defence (with their specialised ‘weapons’) come to the defence of the body. The specific defences consist of the lymphocytes (T lymphocytes and B lymphocytes).

Remember that you also get different T lymphocytes (soldiers doing different jobs) like the CD4 cells, the CD8 cells, the Suppressor T cells and the Memory T cells) and different B lymphocytes (like the Plasma B cells and the Memory B cells). The correct answer is therefore 2.

QUESTION 4

An example of a body fluid that requires universal precautions, is (a)____, while (b)____ do/does not require any special precautions.

- (1) (a) blood; (b) cerebrospinal (CSF) fluid
- (2) (a) vomit containing visible blood; (b) faeces and urine
- (3) (a) nasal secretions; (b) saliva and tears
- (4) (a) wound secretions; (b) amniotic fluid

Feedback on Question 4

The correct answer is 2. Universal precautions are based on risk of exposure to blood and other bodily fluids and not on a positive diagnosis of HIV infection. Blood, CSF, vomit containing visible blood, wound secretions and amniotic fluid require universal precautions. Faeces and urine, nasal secretions and saliva and tears do not require universal precautions as the concentration of the virus in these body fluids is too low for successful transmission. Read the introduction to Chapter 3 (p. 50) as well as “Universal precautions” (pp. 548-549) for more information.

QUESTION 5

The World Health Organization’s recommendations on universal access to safe blood and blood products include that

- (a) no blood should be accepted from homosexual donors.
- (b) donated blood should randomly be screened for HIV, hepatitis B and syphilis.
- (c) donors should be voluntary and not be paid for donating blood.
- (d) clinical transfusion practices should be safe and of good standard.

The correct answer is:

- (1) (a) and (b)
- (2) (b) and (c)
- (3) (a) and (c)
- (4) (c) and (d)

Feedback on Question 5

The correct answer is 4. It is recommended that donors should be low-risk, regular, voluntary and unpaid, and clinical transfusion practices should be safe and good. Not accepting blood from a particular social group contributes towards stigmatisation, especially as one cannot assume that people are HIV-infected based on the social group they belong to (option a is incorrect). **All** blood should be screened for transfusion-transmissible infections and blood should not be *randomly* screened (option b is therefore incorrect). Read “Blood transfusions and blood products” (p.56-58) in your prescribed book for more information.

QUESTION 6

The health status of the immune system of an HIV infected person can be more accurately predicted by

- (1) doing a CD4+T cell count. The lower the CD4+T cell count, the sicker the person will be and the higher the possibility of opportunistic infections.
- (2) measuring the viral load in the person's blood. The lower the viral count, the sicker the person will be.
- (3) counting the number of opportunistic infections the person had over the last four weeks. More opportunistic infections are an indication of an inadequately functioning immune system.
- (4) the patient's adherence to the prescribed drug regime as well as how well the patient take care or him-/herself in terms of diet and exercise.

Feedback on Question 6

The correct answer is 1. The health status of the immune system can be predicted by doing a CD4+T cell count. A high CD4+T cell count is an indication of a healthy immune system. A high viral load usually indicates a low CD4+T cell count (because viruses destroy CD4+T cells) and a low viral load usually indicates a high CD4+T cell count. A low viral count will therefore imply that the person will be healthier (alternative 2 is therefore incorrect). The occurrence of opportunistic infections is an indication of a less healthy immune system but a CD4+T cell count is a more accurate indication than 'counting the opportunistic infections' (alternative 3 is incorrect). Adhering to the drug regime, diet and exercise could influence the health of patient but is not an indicator of the status of the immune system. Read "CD4+T cell count, viral load and stages of HIV infection" (p. 84) for more information.

QUESTION 7

Opportunistic infections and diseases, such as tuberculosis, often attack people with Aids. An opportunistic infection

- (a) is caused by pathogens which usually do not attack a healthy immune system.
- (b) is always characterised by fever, weight loss and diarrhoea.
- (c) is characterised by both a high viral count and a high CD4+T cell count.
- (d) takes the 'opportunity' to attack a deteriorated immune system.

The correct answer is:

- (1) (b) and (c)
- (2) (a) and (d)
- (3) (a), (c) and (d)
- (4) (a), (b), (c) and (d)

Feedback on Question 7

The correct answer is 2. The organisms that cause opportunistic infections usually do not cause a person with a healthy immune system to get ill and therefore use the opportunity to make a person with a deteriorated immune system sick. The symptoms presented by a person with an opportunistic infection will depend on the specific opportunistic infection involved (option (b) is therefore incorrect). Option (c) is impossible to occur as the viral load and CD4+T cell count cannot be high at the same time. A patient with an opportunistic infection will most likely have a high viral load and a low CD4+T cell count which indicate a compromised immune system. Read "Opportunistic infections" in the margin on page 92 in your prescribed book for more information.

QUESTION 8

Which combination of symptoms is an indication that a person has tuberculosis?

- (1) Fever with chills, swollen glands, diarrhoea and oral thrush.
- (2) Coughing, enlarged liver, weight loss and shingles.
- (3) Anaemia, shingles, malaise and persistent fever.
- (4) Fever, night sweats, a current cough and weight loss.

Feedback on Question 8

The correct answer is 4. Fever, night sweats, a current cough and weight loss are symptoms looked for during tuberculosis (TB) screening. Swollen glands are actually swollen lymph nodes and is an indication that the body is fighting an infection and this could be any infection. *Swollen glands* are therefore not of significance when screening for TB. Diarrhoea may form part of a disease that closely resembles TB but which is caused by bacteria other than those causing TB. Oral thrush does not form part of TB symptoms. Option 1 is therefore incorrect. An enlarged liver may indicate lymphoma, atypical disseminated leishmaniasis, or unexplained persistent hepatosplenomegaly. Shingles are caused by the herpes zoster virus which is unrelated to TB. Options 2 and 3 are therefore incorrect. Anaemia could be indicative of disseminated non-tuberculous mycobacteria or disseminated mycosis, but not of TB. Malaise could be a symptom associated with TB but is not important for screening purposes. It could also indicate other diseases such as atypical disseminated leishmaniasis. Option 3 is therefore incorrect. Please read "Table 4.3: TB symptom screening" (p. 103) for more information.

QUESTION 9

What is meant by the 'window period' within the HIV testing environment?

- (1) The person still tests HIV negative and cannot, therefore, transmit the virus to another person.
- (2) The person already tests HIV positive, but is not yet infectious to others.
- (3) The person received a false positive result and may be infectious to others.
- (4) The person may be infected with the HI virus, but antibodies are not yet detectable.

Feedback on Question 9

The correct answer is 4. After infection with HIV the body needs some time to produce antibodies. Therefore, an HIV antibody test may be negative because it is unable to detect any antibodies, while an HIV virus test, which detect the virus itself, would have been positive. Take note that a person who has been infected with HIV but who is still in the window period may already be able to transmit the HI virus to others. Options 1 and 2 are therefore incorrect. A false positive result may occur where the specificity of the test is not good. In other words, it is unable to distinguish between HIV antibodies and other antibodies. Option 3 is therefore incorrect. Keep in mind that a false positive result actually means that the person does not have HIV and therefore cannot be infectious to others. Read "The ELISA antibody test" (p. 132) for more information.

QUESTION 10

Which test do we prefer to use to exclude existing HIV infection in rape survivors before starting ARVs?

- (1) Rapid HIV antibody test
- (2) HIV p24 antigen test
- (3) ELISA antibody test
- (4) DNA PCR test

Feedback on Question 10

The correct answer is 4. This test is used when early diagnosis is necessary. With rape victims existing HIV infection should be detected to ensure the right treatment. This should happen early to be able to distinguish between existing HIV infection and infection due to the rape. Read "Proviral DNA detection" (p. 137) as well as the sections discussing the other tests for more information.

QUESTION 11

Under ideal conditions, how does anti-retroviral medication (ART) work to prevent HIV infection after needle-stick injuries?

- (1) ART interferes with the integrase enzyme and prevents the viral RNA from integrating with the cell's DNA.
- (2) ART 'seals' the entry point of injury and prevents viruses getting past the first line of defence, namely the skin or mucose membranes.
- (3) ART interferes with the replication mechanisms of HIV and prevents the virus from attacking the CD4+T cells and thus from reproducing.
- (4) ART kills all the CD4+T cells in the vicinity of the HI viruses before the viruses have a chance to attack the CD4+T cells.

Feedback on Question 11

The correct answer is 3. Because it interferes with the replication mechanism of HIV these drugs are reverse transcriptase inhibitors, interfering with the reverse transcriptase enzyme (option 1 incorrect). Option 2 is incorrect as ARVs do not work on the first line of defence. Option 4 is incorrect as ARVs do not kill CD4+T cells. Read "Classes of art and their mechanisms of action" (p. 148) and "How does ART work to prevent HIV infection after needlestick injuries or rape?" (p. 176) for more information.

QUESTION 12

There are many reasons why people do not adhere to their antiretroviral medication. Which of the following reasons are medication-related problems or barriers?

- (a) difficult treatment regime;
- (b) not enough stock;
- (c) use traditional medicine;
- (d) pills too big to swallow;
- (e) side-effects.

The correct answer is:

- (1) (a), (b), and (e)
- (2) (a), (d), and (e)
- (3) (b), (c), and (d)
- (4) (a), (c) and (d)

Feedback on Question 12

The correct answer is 2. These are the only medication-related reasons stated in the prescribed book. The others refer to service-related barriers (not enough stock) and cultural aspects (use traditional medicine). Read "Reasons for non-adherence" (p. 166) for more information.

QUESTION 13

One of the main reasons why people do not change their behaviour is because of obstacles that hinder change. Which one of the following is an obstacle that often hinders people from changing their sexual behaviour?

- (1) Society's tolerance and encouragement of certain unsafe sex practices makes it difficult for people to change their behaviour, because 'if society approves, why change'?
- (2) High self-efficacy and an external locus of control often make it difficult for people to change their sexual behaviour.
- (3) If condoms are not available and accessible it is often difficult to ask for condoms over the counter; it is also difficult for young people to buy condoms if they do not have money.
- (4) Some people have a fatalistic attitude which makes it difficult for them to ask their sex partners to change their behaviour, even though they believe in it themselves.

Feedback on Question 13

The correct answer is 3. We have to take people's realities into account when we work with behavioural change. This include for example developmental phase, socio-economic status, and age. Option 1 was not identified as one of the obstacles and is therefore incorrect. People with high self-efficacy usually change their behaviour more easily (option 2 incorrect). A fatalistic attitude to life is an obstacle to sexual behaviour change, but here a description of a *lack of communication skills* is provided (option 4 incorrect). Read "Barriers towards change" (p. 191) for more information .

QUESTION 14

The following intervention could empower women and young girls and reduce their HIV risk:

- (1) Asking the partners on behalf of these women to start using condoms.
- (2) Teaching women to use less alcohol as part of a reproductive programme.
- (3) Enforcing legal policies prohibiting violence against women.
- (4) Create structural change to narrow the gap in access to education.

Feedback on Question 14

The correct answer is 3. To intervene in a relationship on behalf of women and young girls will not empower them (option 1 incorrect). Alcohol reduction interventions should form part of men's sexual and reproductive programmes (option 2 incorrect). Structural change should lead to equal access to education, training and income-earning opportunities (option 4 incorrect). Read "Intervention strategies to protect women" (p. 203) for more information .

QUESTION 15

It takes a lot of work to develop HIV prevention programmes. What are the basic principles and practical aspects that should be taken into consideration when developing such programmes?

- (1) Involving only people living with HIV to avoid stigmatization.
- (2) Holistic approach, cultural sensitivity and assertiveness.
- (3) Negotiation skills, life skills and communication skills.
- (4) National support, peer support and partnership.

Feedback on Question 15

The correct answer is 4. Involving people living with HIV only will not solve the problem of stigmatization. The other two options include skills that individuals need to be empowered with while implementing an HIV prevention programme. Read "Prevention programmes" (p. 210) for more information.

The End