

Short Communication

AWARENESS AND COMPLIANCE REGARDING BLOOD SCREENING AMONG SEGi UNIVERSITY STUDENTS

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ABSTRACT

Due to improved management of infectious diseases, and also due to change in lifestyles, disease patterns have changed: from preponderance of infectious diseases to that of non-communicable diseases. Many of the latter do not manifest overt physical signs and symptoms at early stages although biochemical or haematological changes may have occurred that can be detected by blood tests. Early detection and treatment of these diseases would improve therapeutic outcomes and hence the Quality of Life (QOL). However, many people fail to undergo blood tests because they are not aware of the benefits. A study was done in June – September 2012 to determine the awareness and compliance (to undergo) of blood tests, on undergraduate students of SEGi University, Kota Damansara. Collection of data was done by means of self-answering questionnaires; followed by statistical analysis. The findings suggest that awareness of the blood tests need to be raised even among the younger age group, to improve compliance.

1.0 Preliminary Considerations

Over the years and up to the present, disease patterns in many parts of the world have changed from preponderance of infectious diseases to that of non-communicable diseases. At least in part this may be due to improved management of communicable diseases, and a change in lifestyles. As a consequence, the Epidemiological Transitional Theory states that the most common cause of mortality has changed from infectious diseases to non-communicable diseases (Wahdan, 1996). Some of the latter, such as diabetes, gout, dislipidemia, chronic poisoning by heavy metals etc., do not manifest overt signs and symptoms at early stages, even though biochemical or haematological changes may have occurred. If these conditions are left undetected and untreated at early stages, they may progress into advanced stages or develop complications, with dire consequences.

Fortunately, many of the early biochemical, haematological and immunological changes of certain diseases can be detected via blood testing. Haematological examination can detect abnormalities in blood components; biochemical tests can detect metabolic and endocrinal abnormalities such as diabetes, gout, dislipidemia, thyroid dysfunctions; and serological tests can detect abnormalities of some immunological diseases. In addition, blood tests can be instrumental to preventing certain infectious diseases such as Hepatitis and HIV infection.

Apart from specific tests “a la carte”, blood tests are available in Malaysia as Packages of Blood Screening:

Package 1 (Basic Health Screening Package)

This comprises 44 tests, including Full Blood Picture, Liver Function Test, Lipid Profile, Renal Function Test, Hepatitis B Screening, VDRL, *Helicobacter pylori* IgG and Anti-HAV IgG.

Package 2

Package 1 + 5 cancer markers, Anti-HIV I & II, hsCRP, Microalbumin ACR & Anti-HCV.

Package 3

Package 2 + Free T₄, Rheumatoid Factor, ECG, Lung Function Test, Bone Mineral Density Test, Ultrasound Upper Abdomen & Ultrasound Pelvis.

Package 4

Package 3 + AFP, CEA, CA 19-9, EBV, Ultrasound Carotid Arteries, Stress ECG & Travel Kit. And (a) Ultrasound Breast, LC-Prep, CA 125, CA 153 (for female)
(b) Ultrasound Scrotum, Ultrasound Thyroid, PSA (for male)

In practice, most of the blood tests are done for specific reasons such as to ascertain the diagnosis or monitor the progress of particular diseases as part of therapeutic regimens. blood tests may also be done as a requirement for employment, or enrolment in a course of study, or to travel abroad. Otherwise, a large majority of a country’s population do not undergo blood tests, either out of ignorance, or indifference especially in younger age groups who feel that it is not their concern. Nevertheless, there is evidence that development of non-communicable diseases is no longer restricted to older age groups (Khattak *et al*, 2002).

To find out the extent of the awareness and compliance of blood tests, and possible reasons thereof, a study was done on undergraduate students of SEGi University, Kota Damansara, in June – September 2012.

2.0 The Study

The study was done on a total of 227 undergraduate students aged 18 – 25 years, of SEGi University, including those from health science and non-health science faculties.

Data collection was done by means of self-answering questionnaires prepared in English. These include sections on:

- (a) Biological data such as age, gender, family history
- (b) Field of study in the University, i.e. health science or non- health science
- (c) Knowledge on Blood Tests, e.g. types of tests, what they can find out, where they are used
- (d) Subject’s history of undergoing Blood Tests: yes/no. Compliance graded as: compliant if undergone once every 3 years or more often; non-compliant for those who have never done Blood Test, or do once in 5 or more years.

Scores for Knowledge (c) and Compliance (d) were set arbitrarily for quantification, to enable statistical analysis.

(e) Reasons for doing or not doing Blood Tests.

Analysis of data was done using SPSS (Statistical Program package for Social Science) trial version 20.0. Since the frequency distribution graphs of the scores were skewed, non-parametric tests were employed.

3.0 Results & Findings

1. There was a significant difference ($p < 0.001$) in knowledge regarding blood tests, between health science and non-health science students; with the former group achieving a higher score.
2. There was no association between the knowledge and compliance (undergoing blood tests) in the subjects overall ($p = 0.45$). However, when considered separately, health science students showed significant association between the two parameters ($p = 0.042$).
3. Of the non-compliant health science students, 32.84% have never undergone blood screening.
4. Reasons for non-compliance among health science students were:
 - (i) Not aware of the importance of blood tests (43.48%)
 - (ii) Being physically healthy, thought that they do not require blood screening (21.74%).
 - (iii) Fear of the procedure or the needle (13%)
 - (iv) Cannot afford (17.39%)
 - (v) Not accessible to health centres where blood screening can be done (4.35%)
5. Paradoxically, among the health science students, those who scored higher in knowledge of blood tests were found to be less compliant than those who scored lower.

4.0 Discussions

Health science students in the present study were made up of those attending the MBBS, BDS, Pharmacy and Optometry courses. In the course of their study they must have been taught about changes in the blood stream caused by diseases. On the other hand, non-health science students included those attending courses in Business or Arts, and Foundation students, with little exposure to biological subjects. This probably accounts for better knowledge about blood tests by health science students compared to their non-health science counterparts. This may also account for the significant association between knowledge and compliance of blood tests in health science students; even though no such association was observed between the two parameters in the sample population as a whole.

In the present study the most common reason for non-compliance (failure to undergo blood tests) was found to be lack of awareness, i.e. ignorance, of the importance of blood tests.

Paradoxically, the study has found that among the health science students, those who scored higher in knowledge of blood tests were less compliant than those who scored lower. Possible reason for this may be that, being young (18 – 25 years of age) and in the

prime of life, and in robust health; and also having some knowledge about blood tests from their studies, such as their merits and limitations, they might assume that blood tests are not called for at this stage.

According to Framingham Heart Study (Arruda, 2012) cholesterol level, blood pressure, and ECG abnormalities are found to increase the risk of heart disease; the finding made as early as 1961. In an article written by Dr. Rugayah Bakri, it is mentioned that according to hospital-based study conducted by Dr Khalid Kadir in 1988 it was found that 37% of Malaysian diabetic patients had hypertension; and 21.8% had hypercholesterolaemia. Presumably, the situation could have been better if diabetes were adequately controlled; and control of diabetes would have been better if it were diagnosed and treated earlier. Timely Blood Tests would have provided earlier diagnosis.

In addition, the New Straits Times have reported that there were about 11 million out of 16 million adult Malaysians who were sick with a non-communicable disease like diabetes, hypertension, stroke, cancer and kidney failure. What is even more alarming is that these victims are made up of young people.

These findings highlight the importance of raising awareness about the importance of regular blood screening, especially for the young age group (Tih, 2012).

5.0 Conclusion

From the findings of the present study it may be concluded that awareness of blood tests needs to be raised even among the younger age groups. Presumably, due compliance with the tests would lead to, among others, earlier diagnosis of certain diseases and hence better therapeutic outcome, and better quality of life.

Since the occurrence of many diseases rises with advancing age, it may also be concluded that raising the awareness and hence promoting compliance of blood tests is even more urgent for those beyond “younger age groups”.

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