

Web resources scientific libraries of medical universities in Ukraine: a comparative analysis

Marta Nadraga, Olena Storozh and Khrystyna-Maria Zhuk

Lviv National Medical University Scientific Library, Lviv, Ukraine

Abstract

Seventeen Ukrainian medical university libraries websites were analysed. Web resources of these libraries can be divided according to the type and character of resources into the 3 categories: own libraries web resources, library website as part of a university website, single page with information about the library on the university website. The information for library users is most fully presented on individual sites of libraries. Content management systems are generally used to create sites. Most of the web resources of the Ukrainian scientific university libraries require a periodical updating of their resources, availability of on-line information and services.

Key words: medical university; scientific libraries; websites; services; web resources.

Introduction

To interact with readers in the modern information society many libraries commonly use electronic resources. Today in Ukraine there are 19 High Medical Education Centers – Medical Universities and Medical Institutes. Each of them has its own scientific library, which provides the necessary textbooks and literature for students, postgraduate students, doctors and researchers, and also provides some part of services online. Information about 17 Ukrainian medical university libraries are available on the Internet. At the time this analysis was carried out there was no information about the library of Donetsk National Medical Universities and Lugansk State Medical Universities. Most universities present their libraries directly on the official universities websites; some are presented on the affiliated sites or have their own website. Some university scientific libraries to keep pace up with the times try to share relevant information and news through websites, social networks, blogs, email newsletters and other innovative methods.

Web resources of Ukrainian Medical Universities Libraries can be divided according to the type and character of resources into the following categories:

- own libraries web resources (8);
- library website as part a university website (5);

- single page with information about the library on the university website (4).

Characteristics of the resources

Single page with information about the library on the university website

These are the websites of those Medical Universities where information about the library is on a single page:

- Bogomolets National Medical University (<http://www.nmu.edu.ua/>);
- The P.L. Shupyk National Medical Academy of Postgraduate Education (<http://www.nmapo.edu.ua>)
- Zaporizhia Medical Academy of Post-Graduate Education Ministry of Health of Ukraine (<http://www.zmapo.edu.ua/>)
- Zaporizhia State Medical University (<http://www.zsmu.edu.ua/>)

Information about the library of the Bogomolets National Medical University can be found at <http://www.nmu.edu.ua/biblio.php>. The page is static, contains a brief history, description of library resources, structure, services provided by the library, as well as a working hours and contact information. Information about the library of the P.L. Shupyk National Medical Academy of Postgraduate

Address for correspondence: Marta Nadraga, Lviv National Medical University Scientific Library, library director, Ukraine, 79000, Lviv, Sichovych Strilciv 6. Tel: +380322553122. E-mail: m.nadraga@gmail.com

Education is at <http://www.nmapo.edu.ua/index.php/uk/biblioteka>. The page is static, contains a brief history, description of library resources, structure, services provided by the library.

Zaporizhia Medical Academy of Post-Graduate Education Ministry of Health of Ukraine presents their library at <http://www.zmapo.edu.ua/index.php/biblioteka>

This page gives the historical background, general information about the library and its resources and structure, contact information, links to e-catalog (which is temporarily closed) and to the library blog, as well as the instruction on the use of resources in the electronic library.

The library page of Zaporizhia State Medical University can be found at http://www.zsmu.edu.ua/tip_134.html It contains a general description of the library, historical background, information about the activities, contacts, description of the structure of the library and of its resources, the details of the implementation of the automated information library systems and electronic catalogue. This page contains some photos, as well as an attached document with the library rules. There are links to electronic catalogue (based on IRBIS system) and the library blog.

After analyzing these pages we can conclude that the library data on a page of the university website is for informational purposes only. This approach does not involve user interaction with the resources, current information, news, announcements are not displayed. The purpose of such resource is aimed at a user who is looking for an electronic library catalogue and contact information or general information about the library.

Library website as part of a university website

The information about the university library is structured, divided into categories on separate pages, which contain dynamic elements, tools, interaction with users. Examples of institutions that use such web resources are:

- Dnipropetrovsk Medical Academy (<http://www.dsma.dp.ua>)
- Zhytomyr Institute of Medical Nursing

(<http://www.zhim.org.ua>)

- I.Ya. Horbachevsky Ternopil State Medical University (<http://www.tdmu.edu.ua>)
- National University of Pharmacy (nuph.edu.ua)
- Crimea State Medical University named after S. I. Georgievsky (<http://www.csmu.strace.net>)

The library site on Dnipropetrovsk Medical Academy's website gives information about the structure of the library. There is a menu which links to items such as repository, general information about the library, the schedule for loaning textbooks, new arrivals, professional periodic issue, electronic resources, virtual reference, virtual exhibition, contacts. Most of them appear in the form of a simple page with information on the topic. New arrivals are presented in PDF files. The repository opens as a separate section of the university website, built on the platform of EPrints 3. The site contains a virtual help form. Users can complete the form to request information about the presence of literature in the library or specify a book on-line.

The electronic resources section of the page is static and contains lists of links to websites, periodicals, medical search engines, libraries, databases, and other useful links. There is also access to the temporary e-catalog, which presents only a selection of the scientific books in the library, but they can be ordered via the online form, which is convenient for readers. On the website of the university there is a search tool, with which you can easily find the required information in the library section.

Zhytomyr Institute of Medical Nursing's library site <http://www.zhim.org.ua/library.php> contains only general information about the library, the calendar of important dates and information letters issued on the website as separate PDF files. The website is for informational purposes only and is not interactive.

I.Ya. Horbachevsky Ternopil State Medical University's library site <http://www.tdmu.edu.ua/ukr/library/library.php> has the following parts: electronic catalogue, catalogue of book supply, new arrivals, famous university scientists, virtual exhibitions and thematic bibliography. The basic information about the library is displayed on the website when opening the section, and the other

units are opened as separate pages with text. The electronic catalogue provides a search by the title of the document and the author. Site search does not work.

National University of Pharmacy's (NUoPh) library section <http://nuph.edu.ua/ukrayins-ka-biblioteka/>. It contains the following categories: methodological publication of NUPh, scientific journals of NUPh, electronic archive of NUPh (temporarily closed), the announcement of the scientific library of NUPh, the leading medical and pharmaceutical universities. On the main page of the section there is information about the library, contact information, description of the structure and fund of the library, pictures from the library. Also there are links to the online catalogue, electronic library, electronic archive (repository), electronic document delivery, virtual reference and virtual exhibitions (currently unavailable). NUPh library is a member of "Informatio" consortium, which gives to its members an opportunity to obtain access to English-language collections of full-text and abstractive periodical and reference publications of EBSCO Publishing. In the announcement section of the scientific library of NUPh there is information on test access to global databases, electronic libraries, magazines. Site search is implemented through Google.

The section of the scientific library of S. I. Georgievsky Crimea State Medical University can be found at <http://www.csmu.edu.ua/site/page/show/docid/48095>. There is general information about the library, contacts, schedule, description of the departments of the scientific library, reading halls of the scientific library, the list of Ukrainian and Russian periodicals of 2013y, the new arrivals of educational literature are presented in DOC format. Libraries, which present information through the web resources of a university, primarily reflect the information that is rarely updated, present only small important announcements, and rarely use the on-line interaction with users.

Own libraries web resources

Eight libraries of medical universities of Ukraine have created their own web resources. These are individual websites, blogs that function as the library

website. The advantage of a certain site is its independence from the website of the university. On such site it is easier to search for necessary information, because there are only messages from the library. In contrast to the information provided on the university website, here the information is more complete.

Among the web resources of these libraries there are separate web sites and blogs.

For the analysis of web resources of the libraries we used the following criteria:

- site location;
- technology of site creation;
- usability;
 - › website graphics;
 - › navigation structure;
 - › informational content;
 - news, announcements;
 - information last updated;
 - online services;
 - availability in other languages;
 - the electronic catalogue, repository;
 - external references.

A site location can be identified by a domain name. A site can be located either on a separate resource, or on the capacity of the university resource. A site, which is located on a separate resource, is self-contained and does not depend on the condition of the university site. The address of the university sub-domain site is as follows: www.lib.ifnmu.edu.ua. Here ifnmu.edu.ua is the address of the website itself, and [lib.](http://lib.ifnmu.edu.ua) indicates the beginning of the domain name of the library. In order to simplify website creation, technology of content management system (CMS) is used. It helps to create full-featured websites without the knowledge of web programming languages. It also allows users to select design templates through a convenient interface, to connect various functional parts (e.g., photo gallery, forum, and so on), and to fill the site information at any time. *Table 1* presents data on the location of the web resource libraries and the CMS they use, *Table 2* presents website description and analysis.

Table 1. *Location and Content Management System*

Name of medical university	Site address	Site location	Content Management System (CMS)
Ivano-Frankivsk National Medical University	http://lib.ifnmu.edu.ua	University sub-domain	Joomla!
Bukovinian State Medical University	http://medlib.bsmu.edu.ua	University sub-domain	Google Sites
National Pirogov Memorial Medical University of Vinnytsia	http://library.vsmu.edu.ua	University sub-domain	Joomla!
Danylo Halytsy Lviv National Medical University	http://medlib.lviv.pro	Domain lviv.pro	WordPress
Odessa National Medical University	http://libblog.odmu.edu.ua	University sub-domain	Blogger
Ukrainian Medical Stomatological Academy	http://biblumsa.blogspot.com	Domain in Blogger	Blogger
Kharkiv Medical Academy of Postgraduate Education	http://lib.med.edu.ua	Domain in Google Sites	Google Sites
Kharkiv National Medical University	http://libr.knmu.edu.ua	University sub-domain	Joomla!

Table 2. *Website Ukrainian University scientific library analysis*

Informational content	Graphic design	Navigation structure
Bukovinian State Medical University http://medlib.bsmu.edu.ua		
<p>The home page includes news about the library service.</p> <p>Information is posted on the website in the form of text, illustrated. There are lots of articles, information in the attached files in PDF and DOC format. In some chapters there are pictures in the embedded gallery.</p> <p>The library provides online services of virtual reference, copyright sign for documents via e-mail.</p> <p>There is an English version of the site, which includes similar information to the Ukrainian version. The electronic catalogue is available via the website – IRBIS.</p> <p>The repository of the university is available.</p>	<p>The page has a simple template design.</p> <p>The header contains a picture and the name of the library in blue letters on a green background. Horizontal menu has a green tint and black text color. A vertical strip with the menu and information has a gray background. The menu text is blue.</p> <p>The main text of the site is black, background is white. To highlight important text elements different colors, enlarged font, italics and bold typography are used. Links and the items of submenu are highlighted in blue.</p> <p>Visual perception is complicated by</p>	<p>There is a horizontal menu, with separate critical sections, and a vertical menu, with more informational chapters.</p> <p>To the left of the vertical menu there is a long strip with information about the library schedule and contact information, links to online services, virtual exhibitions, access to databases and journals and other references. This complicates the search as you have to scroll through several pages to find the correct item.</p> <p>From each page you can return to the homepage or select a different menu item.</p>

There are external links to online databases, websites, periodicals, medical library, partner sites.

the variety of the colors of the formatting.

The search is not provided. Navigation is complicated with some menu items that have dual or more attachments.

National Pirogov Memorial Medical University of Vinnytsia <http://library.vsmu.edu.ua>

The main page there is information about access to databases, electronic libraries, magazines, relevant announcements.

The materials in the virtual exhibition are mainly provided in PDF format.

There is no English version of the site.

Electronic catalogue – IRBIS.

There are external links to electronic medical records, partner sites.

A template is used for graphic design. The header contains the name of the library in white letters on a black background. The text of the menu is white on a cherry background color.

Side dashboards have a gray background and highlighted headers. The main text of the site is gray, the background is white. Important text elements are highlighted, in large font and bold typography.

Visual perception is complicated by a large number of colors.

The navigation structure consists of a horizontal dropdown menu, left and right dashboards and links to news and popular articles at the bottom of the website. Horizontal menu is well thought out. Almost all elements have units that unfold in the dropdown menu. Dashboards ease the perception of the website; they display the schedule, contacts, information about library blogs, the search and the current survey. These categories are always at the top of the website, so there is no need to look for them. From each page you can return to the homepage or select a different menu item.

The search on the website is available.

The navigation is convenient.

Danylo Halytsky Lviv National Medical University <http://medlib.lviv.pro>

On the main page there are the latest news and relevant announcements.

The library provides such online services: extension of books; UDC, BBK, copyright sign; consultation on the replacement of lost books; international subscription.

In order to get these services, one must fill out a form, which is automatically sent for processing.

Virtual exhibition can be downloaded or viewed in the multimedia tab on the website.

Some important sections of the website and menu are translated into English.

Electronic catalogue – IRBIS.

There are external links to available online databases, open access journals, Ukrainian medical libraries, partner sites.

The site is designed in one style. The menu is designed in shades of blue and the text is black. Important text elements are in large font and bold typography. The header is decorated with a combination of text and graphic elements. The background is white. Visual perception is easy.

There is an horizontal and a vertical menu. The horizontal menu contains a reference to the schedule, calendar, important days. The vertical menu is divided into 5 thematic sections.

From each page one can return to the homepage or select a different menu item.

The search is available.

The navigation is convenient.

Odessa National Medical University <http://libblog.odmu.edu.ua>

Even though it is a library blog, in structure it corresponds to a full-fledged website.

On the main page there are announcements and information about available databases and electronic resources

For the obtaining of online services, namely virtual reference and the assignment of UDC/BBK, email addresses are provided.

Virtual exhibition and presentation about the library can be viewed online at www.slideshare.net, only registered users can download them. There is no English version of the site.

The electronic catalogue is posted on the library website, which is still under construction.

There are external links to medical journals and newspapers, textbooks, medical portals and information resources.

The site is designed using the Blogger template. In the header there is the name of the library and words of welcome. On the background of the website there is a blurry picture, the menu has a semi-transparent gray background. The text of the menu and dashboard is cherry colored. The main text of the site is black.

Visual perception is relatively easy.

The vertical menu on the left is not divided into sections and an information box on the right, where the photo gallery slideshow, links to the blog archive, a panel on medicine in dates are provided.

From the pages of the website one can return to the main page.

The search on the website is not available.

Navigation is relatively convenient, unstructured.

Ukrainian Medical Stomatological Academy <http://biblumsa.blogspot.com>

The site is a library blog, but in content it corresponds to a full-fledged web resource.

On the main page there are announcements and news.

There are online services of UDC, BBK, interlibrary subscription, electronic document delivery. Email addresses are provided for applications.

Virtual exhibitions are available to view online at www.issuu.com and www.slideshare.net.

There is no English version of the site. Access to the online catalogue is available.

There are external links to medical databases available in test mode.

The website has a simple template design. The heading of the site is the name of the library in dark green letters. The headings of the menu sections are highlighted in orange, the text of the menu items is blue. The main text is black on a green background.

Visual perception is relatively easy.

The navigation structure includes a vertical menu on the left (important sections about the services, information about the library) and on the right (useful links, videos about the library). The button to switch to the electronic catalogue is also on the right.

From each page one can return to the homepage or select a different menu item.

The search is not available.

The navigation is relatively convenient.

Kharkiv Medical Academy of Postgraduate Education <http://lib.med.edu.ua>

On the main page there are announcements and contact information. All sections are static pages with information.

There are no online services available.

The header consists of pictures of books and the name of the library on an orange background. The text of the menu section headings are white on a dark orange background. Text of the menu items is dark orange, the items

The site menu is vertical, on the left, divided into 4 categories (about the library, to the readers, library resources, support of the research work organization).

The search is available.

There is no English version of the site.

There are external links to medical literature in open access, international scientific databases.

are on a light green background, the information box is on the same background.

The general background of the site is light pink.

Visual perception is complicated by a large number of colors and a wide header, which occupies half of the screen and does not provide any information.

The navigation is easy, convenient.

Kharkiv National Medical University <http://libr.knmu.edu.ua>

On the main page there is brief information about the library and announcements. Last updated on 22.01.15.

Virtual exhibitions are available for online viewing at www.calameo.com. Works of the library personnel (bibliographies, literature reviews) are placed in the repository of the university in PDF, PPT formats.

The website has a section for English speaking users, with information for students, library rules, structure description, contact information, virtual exhibition and new books.

Electronic catalogue – IRBIS.

There is a link to the repository of the university.

There are links to online journals, medical databases and other Internet resources.

The site is designed in the one style. The header contains the name of the library, variable photos, university logo.

The headings of menu sections and information boxes are white on a dark green background. The menu text is dark green. Background of the site sandy colored.

The main text is black. Important text elements are in large font. Visual perception is easy.

The design template includes a horizontal and a vertical left menu. To the right there is an information panel with links to external web resources. In the horizontal menu there are important items. The vertical menu is divided into 10 categories.

The search is available.

The navigation is easy.

Conclusions

We can conclude that web resources of most Ukrainian university scientific libraries are good. Eight libraries have their own websites, five are presented in a separate section on the university website, four have only a dedicated page with information about the library on the university website and only two scientific libraries are temporarily missing information. The information is most fully presented by libraries which have their own websites.

There the employees have the opportunity to promptly update the information, to present important announcements, to fill the sites with a large amount of useful information for the readers of their library. Content management systems are generally used to create sites. As a rule they provide a template design, in which only some of the elements of color and images can be changed, so they are not

distinguished by graphic design and do not always correspond to the rules of web aesthetics. However, they are fulfilling their informational functions, the majority provide access to electronic catalogues to search for literature in the library. An important advantage is the filling out of a form on the website to receive online services, but it is only used by two libraries, the rest provide an e-mail address for registration of services, and some do not provide them at all. Most of the web resources of the Ukrainian scientific university libraries require periodic updating of their resources to ensure the usability and attractiveness of their use, and availability of on-line information and services.

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