STATUS OF CARDIOVASCULAR POPULATION HEALTH IN THE REPUBLIC OF MOLDOVA

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Summary

Reducing burden of cardiovascular diseases and other non-communicable diseases (NCD) is an overriding global priority. World Health Organization (WHO) established a set of actions in base of six objectives in order to strengthen international cooperation, national capacity to respond, multisectoral action to reduce risk factors, identified through people-centered primary care, and strengthening progress monitoring in attaining the NCD targets. The purpose of the study was to estimate the prevalence of cardiovascular health in population-centered primary health in order to highlight the need to strengthen cardiovascular diseases control and prevention in the Republic of Moldova. The assessment of cardiovascular health was performed in base of cross-sectional study sample (n=2,612) using American Heart Association (AHA) methodology. The result of the study identified the distribution of cardiovascular health levels as follows: ideal in 0.6% (95% CI 0.3–0.9%), intermediate in 18.3% (95% CI 16.8–19.9%), and poor cardiovascular health in 81% (95% CI 79.4–82.6%) of cases. Uncommon presence of ideal cardiovascular health level (0.6%) underlines the needs to improve cardiovascular health among adults in the Republic of Moldova with emphasis on primary care, as first line population contact.

Keywords: *cardiovascular health, primary health care, Republic of Moldova*

Rezumat

Starea de sănătate a populației din Republica Moldova: aspect cardiovascular

Reducerea poverii bolilor cardiovasculare (BCV) şi a altor boli netransmisibile (BNT) este o prioritate imperativă globală. Organizaţia Mondială a Sănătăţii a stabilit o serie de acţiuni în baza a şase obiective, pentru a fortifica cooperarea internaţională, capacitatea naţională de a răspunde, acţiunea multisectorială de reducere a factorilor de risc, identificaţi prin intermediul populaţiei orientate spre asistenţa medicală primară (AMP), şi consolidarea monitorizării progreselor în atingerea ţintelor privind BNT. Scopul studiului a fost de a estima prevalenţa sănătăţii cardiovasculare în populaţia centrată pe AMP, în vederea evidenţierii necesităţii de fortificare a controlului şi prevenţiei bolilor

cardiovasculare în Republica Moldova. Evaluarea sănătății cardiovasculare a fost efectuată în baza studiului transversal selectiv (n=2,612), aplicând metodologia Asociației Americane a Inimii. Rezultatele cercetării au identificat distribuția sănătății cardiovasculare pe nivele după cum urmează: ideal în 0.6% (95% IÎ 0.3–0.9%), intermediar în 18.3% (95% IÎ 16.8–19.9%) şi sănătate cardiovasculară precară în 81% (95% IÎ 79.4–82.6%) cazuri. Prezența rară a sănătății cardiovasculare ideale (0.6%) evidenţiază necesitatea de a îmbunătăți sănătatea cardiovasculară la adulţii din Republica Moldova, cu accent pe asistenţa medicală primară, ca un contact de primă linie cu populaţia.

Cuvinte-cheie: *sănătate cardiovasculară, asistenţă medicală primară, Republica Moldova*

Резюме

Состояние сердечнососудистого здоровья населения в Республике Молдова

Снижение бремени сердечнососудистых заболеваний и других неинфекционных заболеваний (НИЗ) является основным глобальным приоритетом. Всемирная Организация Здравоохранения (ВОЗ) определила ряд действий в соответствии с шестью задачами в целях укрепления международного сотрудничества, национального потенциала на реагирование, многосекторальных действий по сокращению факторов риска, выявленных посредством населения ориентированного на первичную медицинскую помощь, и усиление мониторинга прогресса в достижении целей касательно НИЗ. Цель исследования состояла в том, чтобы оценить распространённость сердечнососудистого здоровья среди населения ориентированного на первичную медицинскую помощь, с тем чтобы подчеркнуть необходимость укрепления контроля и профилактики сердечнососудистых заболеваний в Республике Молдова. Оценка сердечнососудистого здоровья была проведена на базе выборочного поперечного исследования (n=2,612) с использованием методологии Американской Кардиологической Ассоциации. Результаты исследования определили распределения уровней сердечнососудистого здоровья следующим образом: идеальный уровень в 0.6% (95% ДИ 0.3–0.9%), промежуточный в 18.3% (95% ДИ 16.8–19.9%), и плохое сердечнососудистое здоровье в 81% (95% ДИ 79.4–82.6%) случаев. Редкое наличие идеального уровня сердечнососудистого здоровья (0.6%) подчеркивает необходимость улучшения сердечнососудистого здоровья среди взрослых в Республике Молдова с акцентом на первичной медицинской помощи, в качестве первой линии контакта с населением.

Ключевые слова: *сердечнососудистое здоровье, первичная медицинская помощь, Республика Молдова*

Background

World health Organization (WHO) defined strengthen the health system at all levels, with emphasis on primary care as one of the ten actions required to attain the global target 1: a 25% relative reduction in overall premature mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases by 2025 (referred to as "25x25") [5, 6]. Republic of Moldova set National target 2020 a relative reduction of premature mortality from cardiovascular disease by 10%, cancer by 7%, and digestive diseases, diabetes and chronic respiratory disease together by 10% [7, 9, 10, 11]. Achieving the National target to reduce premature mortality from cardiovascular diseases and other non-communicable diseases (NCD) will require reducing behavioral risk factors and health conditions which determined them [7, 9, 10, 11].

The American Heart Association (AHA) has recently defined ideal cardiovascular health as absence of disease and presence of 7 key health factors. The spectrum of each individual health or behavioral factor is classified by 3 categories: *poor*, *intermediate* and *ideal* [4].

Objective

To evaluate the status of cardiovascular health among adults in the Republic of Moldova using AHA defined metrics, in order to justify the needs to strengthen the prevention and control of cardiovascular diseases and the underlying behavior risk factors and health conditions through people-centered primary health care in the Republic of Moldova.

Methods

A population transversal study design was performed. Multistage sampling methods were used to select 2,612 participants visiting physicians for primary care assistance. Respondents were aged 18+ years, comprising both sexes, as well as residents of all districts of the country.

There was used the formula of sample size to estimate confidence interval for one sample within dichotomous outcome in order to calculate the survey size. Cluster sampling procedure was carried out to select according to geographical criteria following by clusters previously selected convenience sampling (all physicians' visitors in the period of March – June 2015 willing to participate).

Validated questionnaire was used as tool of data collection comprising items related to demographic and social status, behaviors and health conditions.

Cardiovascular health of population was measured using cardiovascular health metrics according to methodology of American Heart Association [4]. The cardiovascular health factors of smoking, physical activity, healthy diet score, body mass index (BMI), blood pressure, total cholesterol, and blood glucose were measured.

Distribution of individual baseline cardiovascular health metrics was identified according the definition of ideal, intermediate and poor categories for each of 7 health metrics as follows [2]:

1. Smoking: ideal (never or quit >12 months), intermediate (former ≤12 months), and poor (current);

2. Physical activity: ideal (≥150 min/week moderate), intermediate (6-149 min/week moderate), and poor (1-5 min/week moderate);

3. A healthy diet score: ideal (4-5 components), intermediate (2-3 components) and poor (0-1 components);

4. Body mass index: ideal (<25 kg/m^2), intermediate (25-29.9 kg/m^2), and poor (≥30 kg/m^2);

5. Blood pressure: ideal (<120/<80 mmHg), intermediate (SBP 120-139 or DBP 80-89 mmHg), and poor (SBP ≥ 140 or DBP ≥ 90 mmHg);

6. Total cholesterol: ideal (<190 mg/dl – 5.0 mmol/l), intermediate (200-239 mg/dl – 5.0-6.19 mmol/l), and poor (≥ 240 mg/dl – 6.2 mmol/l);

7. Fasting serum glucose: ideal (<100 mg/dl – 6.1 mmol/l), intermediate (100-125 mg/dl – 6.1-6.9 mmol/l), and poor (≥126 mg/dl – 7.0 mmol/l).

According to the complete definition of the cardiovascular health levels were defined on base of all 7 cardiovascular health metrics categories as follows [1, 2, 3]:

·   *Ideal* Cardiovascular Health level: all 7 metrics at ideal categories;

·   *Intermediate* Cardiovascular Health level: at least 1-7 health metrics at intermediate categories, but no poor categories;

·   *Poor* Cardiovascular Health level: at least 1-7 health metrics at poor categories.

Results

Distribution of study population by age groups were identified in 11.4% (95% CI 10.2–12.6%) for ages 18 to 39 years, 60.1% (95% CI 58.2–61.9%) for ages 40 to 64 years, and 28.5% (95% CI 26.8–30.3%) for ages 65+ years old. Study participants had a mean age of 56,8±13,8 years. Distribution of respondents by gender was as follows: 34.8% (95% CI 33.0–36.7%) for male and 65.2% (95% CI 63.3–67.0%) for female. Distribution of respondents by area of residence was as follows: 44.1% (95% CI 42.2–46.0%) for urban area and 55.9% (95% CI 54.0–57.8%) for rural area.

The prevalence of smoking by categories was 21.5% (95% CI 19.9–23.0%) for poor, 4.9% (95% CI 4.1–5.8%) intermediate and 73.6% (95% CI 71.9–75.3%) ideal cardiovascular health. For physical activity an ideal level was found in 80.6% (95% CI 79.1–82.2%), intermediate 14% (95% CI 12.6–15.3%),

and poor 5.4% (95% CI 4.5–6.3%). A healthy diet score was poor for 20.5% (95% CI 19.0–22.1%), intermediate 35.5% (95% CI 33.7–37.4%), and ideal 43.9% (95% CI 42.0–45.8%). The prevalence of poor BMI was 33.5% (95% CI 31.7–35.3%), intermediate 37.6% (95% CI 35.7–39.5%) and ideal 28.8% (95% CI 27.1–30.6%). Only 7.5% (95% CI 6.5–8.5%) achieved an ideal level of blood pressure, 40.1% (95% CI 38.2–42.0%) intermediate and 52.4% (95% CI 50.5–54.4%) poor. The prevalence for blood cholesterol and glucose of poor, intermediate and ideal level respectively was as follows: 18.9% (95% CI 17.3–20.4%), 42.7%, (95% CI 40.7–44.7%) 38.4 (95% CI 36.5–40.3%)% and 8.0% (95% CI 6.9–9.1%), 4.7% (95% CI 3.8–5.5%), 87.3% (95% CI 86.0–88.6%).

When assessing the complete definition of cardiovascular health (all 7 metrics), ideal was only present in 0.6% (95% CI 0.3–0.9%), intermediate 18.3% (95% CI 16.8–19.9%), and 81% (95% CI 79.4–82.6%) had poor cardiovascular health.

Discussions

World Health Organization determined to strengthen and orient health systems to address the prevention and control of non-communicable diseases (NCD) and underlying risk factors through people-centered primary health care and universal health coverage as one of the six objectives of Global NCD Action Plan [5]. Setting national targets on control and prevention of cardiovascular diseases and other NCD [7, 9, 10, 11], Republic of Moldova need to track progress in attaining them by establish a monitoring of risk factors focused on population-centered primary care and universal health coverage.

Conclusions

Ideal cardiovascular health in the Republic of Moldova is uncommon (0.6%). To improve cardiovascular health among adults in the Republic of Moldova population-based as well as individual approaches with emphasis on primary care, as first line population contact, are needed.

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