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Editorial Note

The Ministry of Public Health (MoPH) Afghanistan believes that research is critical for further development of evidence based health care and services, as well as creating an environment of evidence-based policies, strategies and decision making. Therefore, decided to revive the Afghanistan National Public Health Institute (ANPHI) to generate valid and reliable evidences pivotal for sound decision making in the health system through its public health Research directorate.

The public health Research directorate of ANPHI in collaboration with Health Management Information System, Surveillance, as well as program monitoring and evaluation departments of Evaluation and Health Information System (EHIS) aims to contribute to reduction of mortality and morbidity in Afghanistan by assisting in building capacities on evidence / data based decision making among senior/ mid-level public health officers both at central and provincial levels, and has passed the following milestones:

1. Coordinated & Conducted several research projects as:
    - Cross sectional study of polio coverage.
    - An Outbreak of hepatic vino-occlusive disease in Western Afghanistan, Gulran Herat Associated with Exposure to wheat Flour Contaminated with Pyrrolizidine Alkaloids.
    - Cross Sectional Study of Blood lead levels in residents of Kabul city.
    - Operation research on the use of Partograph: Increasing usage and correct application of the partograph in three maternity hospitals in Kabul, Afghanistan
    - Evaluation of Hemoglobin Color Scale in improving the treatment and referral of anemic pregnant women Spectrum of infectious diseases in infants.
    - A collaborative mega project with NMRU3, Infectious diseases surveillance.
    - The first ever-comprehensive mortality survey in Afghanistan.
    - An Outbreak Investigation of Suspected Acute Hepatitis B In Laghman Province Epidemiological & Serological Surveys
    - Outbreak of Crimean-Congro Hemorrhagic Fever (CCHF) Afghanistan 2009
    - Research of Gender Related Barriers to Access and Utilization of Primary Health Care Services-1.
    - End line Assessment of Integrated Behavior Change Communication (BCC).
    - Determine prevalence of appropriate knowledge, attitude and practice among parents/care givers of under-five children regarding polio.
    - Research of Gender Related Barriers to Access and Utilization of Primary Health Care Services with Focus on Access to First level Reproductive Health, TBand Mental Care Services.
    - Evaluation, Knowledge, Attitude and Practices among Afghans regarding A (H1NI) in Afghanistan.
    - Study of Patients Acquiring Medical Treatment from India.
    - Study of Patients Acquiring Medical care outside Afghanistan.
    - The WHO Multi Country survey on maternal and newborn health and quality of care.
    - Knowledge, Attitudes and Practices assessment of private sectors (doctors and pharmacies) regarding using zinc and ORS in treatment of diarrheal disease in Kabul City.

- KAP of Malaria, TB and HIV/AIDS, To identify knowledge, attitude and practice of TB, Malaria and HIV/AIDS among Afghans
- Baseline Survey: Water, Sanitation and Hygiene conducted in four provinces of Afghanistan
- Assessment of gender sensitive health care provision in Afghanistan: Focus on Access to Reproductive Health, EPI, Mental Health and Communicable Diseases control Health Services- 3

2. Won the first research grant from IANPHI (International Association of National Public Health Institutes).
3. Won the long institutional grants for five years from Reproductive Research Unit, WHO, Geneva.
4. Hold the first ever series of research methodology workshops in the history of MoPH for the RH Officers.
5. Obtained membership of the first Bioethics and Research Ethics Committees of EMRO region.
6. IRB has reviewed and approved hundreds of research proposals through its monthly meetings.
7. IRB was approved by US Department of Health and Human Services, Federal Wide Assurance (FWA) for the Protection of Human Subjects for International Institutions.
8. Conducted several training courses on Research methodology and scientific writings for researchers, health professionals, trainers and trainees of specialization dept. HRGD/ MoPH as well as lecturers and professors of Kabul Medical University.
9. All health research activities in health system are coordinated through an advisory committee (Research Coordination and Advisory Committee) initiated by the public health Research directorate.

Increasing and supporting health research capacity is one of the key steward functions of the Ministry of Public Health (MoPH), therefore, the MoPH places a strong emphasis on research operationalization and the public health Research directorate is committed to identifying and further exploring the gaps detected by HMIS and routine M&E.

The current approach and tactic of research will be modified and adapted to meet the unique challenges and issues for meeting specialized and professional research criteria in a post-conflict and rehabilitative environment.

Nutrition Emergency Response to Malnutrition among Returnees in Afghanistan: Initial Response, 2016

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Abstract

Background: In Afghanistan, about half of the children under-five (40.9%) are stunted, one in every four children (24.6%) is underweight, while 9.5% of children are wasted. Due to the sudden and considerable returnees from Pakistan influx in September-December 2016, local resources and basic services have become dangerously overstretched, with many returnee communities exposed to diseases and inadequate food intake that constitutes a major contributing factor to malnutrition. Nutrition Cluster in collaboration with the Ministry of Public Health (MoPH), Public Nutrition Department (PND) and United Nations Children's Fund (UNICEF) initiated the Nutrition in Emergencies (NiE) response for returnees in September 2016.

Methods: A standard package of NiE services was agreed upon all cluster partners and implemented at the port of entry and transit centres**.** Returnees' children aged 6-59 months were eligible to be screened for acute malnutrition and referred for treatment when needed, supplemented with vitamin A and children aged 24-59 months were provided with deworming tablets to prevent or eliminate Soil Transmitted Helminth (STH). The Severely Acute Malnourished (SAM) and Moderately Acute Malnourished (MAM) cases were identified using Mid Upper Arm Circumference (MUAC) Global standards cut off points and bilateral pitting oedema grades. In addition, children identified with SAM were given two weeks Ready-to-Use Therapeutic Foods (RUTF) supply as a Nutrition boost and referred to the nearest health facility to continue treatment where the families decided to settle. Promotion of appropriate maternal nutrition and optimal Infant and Young Child feeding (IYCF) practices in emergencies was provided through one-on-one and group counselling of pregnant and lactating women and caregivers of children 0-23 months, followed by distribution of Information, Education and Communication (IEC) materials to all returnee pregnant and lactation women and care givers.

Results: Of 18,475 returnees' children that were screened, nearly two percent of the children aged 6-59 months were identified with SAM and about four percent were MAM. The distribution of malnutrition in girls was more than in boys at 61.2% for SAM and 60.3% for MAM. Supplementation of vitamin A was provided to 24,168 children aged 6 – 59 months with 49.1% being girls and 50.9% boys. 16,224 were provided with Albendazole (deworming tablets) of which 49.3% were girls and 50.7% were boys. More than twelve thousands women and caretakers benefited from the information on appropriate maternal nutrition and optimal IYCF from January to November 2016.

Conclusion: The result indicates that the NiE programme has been able to identify and establish treatment for acute malnutrition and attempt to prevent returnees' children under five from risks of

malnutrition. Designated agencies with clear responsibility and Memorandum of Understanding (MoU) for NiE response need to be put in place.

د څېړنې لنډیز

مقدمه: په افغانستان کې شاوخوا نیمایې ماشومان (۴۰،۹٪) چې عمرونه یې له پنځو کلونو څخه کم دي، له نورمال حالت څخه ټیټه ونه لري، په هرو څلورو ماشومانو کې یو ماشوم (۲۴،۶٪) کم وزنه او ۹،۵٪ ماشومان خورا ډنګر (خوار ځواکی) دی. د ۲۰۱۶ کال د سپتمبر څخه تر دسامبر پورې له پاکستان څخه د بیرته راستنیدونکو وګړو په ناڅاپی او زیاته اندازه بیرته راتګ، ددی لامل شو چې محلی منابع او ابتدایی خدمات له حد او اندازې څخه خورا کم او بیرته راستیندونکی هیوادوال د بیلابیلو ناروغیو او د خوراکې توکو له کمښت سره مخ شی، کوم چې د خوارځواکې لپاره عمده لاملونه دی. ځکه نو د تغذي کلستر او په خاصه توګه د عامې روغتیا وزارت د عامه تغذي ریاست او د ماشومانو لپاره د ملګرو ملتونو وجهی صندوق د ۲۰۱۶ کال په سپتمبر کې په بیړنیو حالاتو کې د تغذي برنامه د بیرته راستنیدونکو لپاره پیل کړه.

د څیړنې میتودونه: د کلستر د همکارانو او تطبیقوونکو ترمنځ د بیړنیو حالاتو د تغذیې په یوې معیاري کڅوړې موافقه وشوه چې هیواد ته په دخولې دروازو او انتقالي مراکزو کی باید راستنیدونکو ته ورکړل شي. د راستنیدونکو د ۶ نه تر۵۹ میاشتو عمر ماشومان د حادی خوارځواکۍ د تشخیص په موخه معاینه او د ضرورت په صورت کې به د تداوۍ مرکزونو ته راجع کیدل او لازمه درملیزه کڅوړه به ورته توصیه کیده. هغو ماشومانو ته چې عمرونه یې د ۲۴ او ۵۹ میاشتو تر منځ وو، د چینجیو ضد درمل هم توصیه کیدل تر څو د هغو چینجیو چې د خاوری له لاری انتقالیږي مخنیوئ وکړی او یا یی له منځه یوسي. د شدیدې او منځنۍ خوارځواکۍ پیښې او ماشومان د مټ د پورتنۍ- منځنۍ برخې د قطر په اندازه کولو او د دوه اړخیزه پرسوب د درجې د میتود په وسیله تشخیص او پیژندل کیدل. سربیره پردې د شدیدې خوارځواکۍ ماشومانو ته به د دوه وو اونیو لپاره غني شوي خواړه ورکول کیده او په کوم ځای کې به یې چې کورنۍ غوښتل واوسیږی مربوطه نژدی روغتیایی مرکزونو ته به د خوارځواکۍ د تدوای لپاره هم راجع کیدل. په بیړنیو حالاتو کې د میندو د مناسبې تغذیې په اړه او د نوی زیږیدلو اوکم عمره ماشومانو د شیدو ورکولو د طریقې په هکله به بلاربو/اومیدواره او شیدی ورکونکو میندو ته او هغو میندوته چې د ۲۳-۰ میاشتو عمر ماشومان به یی درلودل، یو په یو او یا په ګروپی بڼه لازمې مشوري ورکول کیدې، او ورسره به معلوماتي پاڼې او مواد ویشل کیده.

پایلی: د ۱۸۴۷۵ راستانه شوو ماشومانو له معاینی څخه تقریباً په سلو کی دوه ماشومانو چی عمرونه یې د ۶ او ۵۹ میاشتو پوری وو، شدیده خوارځواکی او په سلو کی څلورو یی منځنۍ درجه خوارځواکی درلوده. د خوارځواکۍ کچه په نجونو کی تر هلکانو زیاته وه (۶۱،۲٪ شدیده خوارځواکي او ۶۰،۳٪ منځنی درجه خوارځواکي په نجونو کی وه). ۲۴۱۶۸ ماشومانو ته چې د ٦-۵۹ میاشتو پوری عمرونه یی درلودل، ویتامین ای ورکړل شوی چې لدی ډلی څخه ۴۹،۱ فیصده یی نجونې او ۵۰،۹ فیصده یی هلکان ول. ۱۶۲۴۴ ماشومانو ته البیندازول چې د چینجیو ضد درمل دی ورکړ شوی چې لدی ډلې څخه ۴۹،۳٪ یی نجونې او ۵۰،۷٪ یی هلکان ول. د ۲۰۱۶ له جنوری څخه تر نوامبره پورې له ۱۲ زرو څخه زیاتو میندو ته د میندو د تغذیې او د ماشومانو د شیدو ورکونې او تغذیې د ګټو په اړه اړین معلومات ورکړ شویدی.

وروستۍ پایلی: پورته پایلی ښیې چې په بیړنیو حالاتو کې د تغذیې برنامه دا توانایی لري چې د شدیدی او منځنۍ درجی خوارځواکې پیښی تشخیص او درملنه یې وکړي او هغوی د مړینی له خطر څخه وژغوري. په بیړنیو حالاتو کې د تغذیې برنامې اړوند او مسؤل نهادونه باید له روښانه لایحو او تفاهم نامو سره په اړوندو ساحو کې وګمارل شي.

Introduction and Background

Afghanistan humanitarian context escalated with the influx of Afghan returnees after the deterioration of the environment for Afghan refugees in several areas of Pakistan with decreased acceptance by hosting communities and local authorities, loss of self–reliance opportunities and uncertainty of renewal of

Proof of Registration (PoR) cards beyond March 2017 (UNHCR, 2016).

As of 26 November 2016, 601,850 documented and undocumented Afghan refugees have returned to Afghanistan with 560,001 (93%) arrived since July (OCHA, 2016) representing an increase of 1,250% as compared to the period from January to June, all return from Torkhom and Spin Boldak borders (UNHCR, 2016). 74% of refugees have been returning to five provinces: Nangarhar, Kabul, Banglan, Kunduz and Laghman. October had the highest rate of return in a single month since 2007 (146,090) (UNHCR, 2016). An estimated 60% of returning population are children (UNCEF, 2016).

As majority returnees entered Afghanistan through the Torkham border and were settling in Nangarhar province, due to the sudden and considerable influx of returnees, local resources and basic services in Nangarhar have become dangerously overstretched, particularly in Jalalabad capital city, with many returnee communities living in an open areas and multiple occupancy dwellings, heightening their exposure to the elements, diseases (Afghanistan Flash Appeal, 2016), and inadequate food intake that constitutes a major contributing factor to malnutrition (UNICEF, 1997, Black et al., Lancet 2008).

Nutrition Survey conducted in Afghan Refugee villages in the provinces of Khyber Pakhtunkhwa, Balochistan and Punjab in Pakistan where returnees came from showed Global Acute Malnutrition (GAM) rate of 4.3% in 2014, which is considerable lower than average GAM rate in Afghanistan (9.5%). This is below the World Health Organisation (WHO) emergency threshold of 15% for GAM. Likewise, Severe Acute Malnutrition (SAM) prevalence was recorded at 1.5%. However, the prevalence of stunting was very high among returnees i.e. 43.2%, which lies in the critical range according to the WHO benchmarks (UNHCR, 2014) and is comparable with average stunting rate in Afghanistan (40.9%) (NNS, 2013). No recent nutrition data existed for Afghan Refugees in Pakistan.

According to OCHA report on Initial Rapid Assessment (IRA) in Afghanistan returnees' settlements conducted in 31 villages across the six highest intended return districts (Behsud, Khogyan, Rodat, Surkhrod, Jalalabad, Batikot) in central Nangarhar province in early September 2016, it is suggested that there was a need for more robust displacement tracking mechanisms and border screening for health and nutrition.

Based on current projections, an estimated 57,000 undocumented returnee and registered refugee children are aged 6-59 months and were eligible to receive vitamin A supplementation, while 33,000 children aged between 2 and 5 years were eligible to receive deworming tablets by the end of the year. These 57,000 children 6-59 months also required screening to identify and refer acute malnutrition cases, with an expectation that around 550 children will be identified as severely malnourished and 1,600 children moderately malnourished.

Methods

Considering high levels of acute and chronic malnutrition in Afghanistan, UNICEF, in partnership with Ministry of Public Health (MOPH), communities and implementing partners, supported the scale up of critical nutrition in emergency interventions. In both acute and protracted humanitarian situations, all women and children require a set of essential nutrition interventions to protect their health and well-being, and to ensure every child reaches their full growth potential. These critical interventions include support for

promotion of appropriate maternal nutrition and optimal Infant and Young Child Feeding (IYCF) practices in emergencies, micronutrient supplementation, community-based nutrition promotion and management of acute malnutrition through endorsed 2014 Integrated Management of Acute Malnutrition (IMAM) guideline that recommended holistic approach to prevention and treatment of malnutrition included in the Basic and Essential Public Health Services Package (BPHS/EPHS) for all children.

The Nutrition cluster in Afghanistan, led by UNICEF and the Public Nutrition Department of MoPH, responds to nutrition emergencies, including current returnees' influx from Pakistan by providing coordination platform to all partners working on nutrition to collaborate.

Following the increase in returnees in August 2016, Nutrition Cluster Strategic Advisory Group (SAG) has met to agree on the Nutrition Cluster Response to returnees. The following was identified as cluster priorities for the following four months of 2016:

- Providing a standard package of NiE services in main returnees crossing points, namely at Torkham border - Zero Point (ZP), IOM Transit Center (TC) for vulnerable undocumented returnees and UNHCR encashment centre (EC) for documented returnees in Nangarhar as well as Puli-e-Charkhi UNHCR encashment centre in Kabul.

- This package is to include the following interventions: maternal nutrition and optimal IYCF counselling and nutrition education of pregnant and lactating women and caregivers of children 0-23 months, Mid Upper Arm Circumference (MUAC) screening and referral of children 6-59 months identified with acute malnutrition to the health facility nearest to the place where families were settling down, initial 2-week RUTF distribution to children identified with SAM for a nutrition boost, vitamin A supplementation and deworming. RUTF is high-energy, lipid-based spreads used for the treatment of SAM who are free from severe medical complications and also have appetite.

- In addition, in the 6 districts of Nangarhar province with highest expected numbers of returnees a BPHS implementer Agency for Assistance and Development of Afghanistan (AADA) had agreed to scale up IMAM services in all health facilities. Following the advocacy of the Nutrition Cluster, AADA received additional funding to implement this scale up from the Common Humanitarian Fund (CHF).

UNICEF continued to support essential nutrition interventions through working with local partners, while building the capacity of government and partners to play more prominent role in planning, implementing, coordinating and monitoring nutrition interventions – including identifying and addressing bottlenecks effectively. UNICEF approached UNHCR EC in Kabul and in collaboration with PND introduced the NiE package, which was delivered by PND volunteers with financial support and supplies provided by UNICEF.

AADA conducted capacity building training on NiE intervention package to staff in all sites and started mobile nutrition services to high returnees' areas at Zero Point. A team of three nutrition staff at Zero Point was deployed by AADA, one of them conducting MUAC screening and provided the vitamin A supplementation

and Albendazole (deworming tablets), the second staff registered the targeted beneficiaries (0-23 months and 6-59 month's old children), the third personnel provided nutrition education, the optimal IYCF counselling and conveyed the optimal IYCF messages while encouraging caretakers of children 0-24 months and pregnant women to breastfeed their children, to receive polio vaccine and provided each family with the a polio brochure and IYCF leaflets. All three staff have been oriented on basics of NiE interventions (MUAC screening, vitamin A supplementation and provision of Albendazole (deworming tablets), referrals, nutrition education, optimal IYCF counselling communication with the mothers and caretakers, reporting of the nutrition services and its usage). Health and nutrition supervisors from AADA supported the staff with on job training during their visits to Zero Point and worked with the staff on the ground. The nutrition screening team has been trained on the IMAM Standard Operating Package (SOP) training at Eastern Region UNICEF Zonal office enrolling one person after the other at each IMAM SOP training organised. Regular close follow up by UNICEF staff and on job training also proved to respond to the staff needs. Similar arrangements on capacity building and on job training were applied to IOM-TC and UNHCR-EC. At IOM-TC (about 5km from Zero Point) undocumented returnees who are missed from the Zero Point are traced for the same nutrition services. A plus point for IOM-TC is that returnees spend some time at the rest houses, making it easier to reach most targeted beneficiaries for delivery of essential nutrition services, particularly mothers and caregivers for the optimal IYCF counselling. UNHCR-EC is close to Jalalabad city, highly crowded and is mainly used to reach documented returnees with similar nutrition services as at Zero Point. Ready-to-Use Therapeutic Foods (RUTF), vitamin A supplements and Albendazole (deworming tablets) have been provided to AADA for further distribution to the three sites.

A key challenge was the lack of designated agency with clear responsibility on supply distribution from the onset of emergency between Regional Expanded Programme of Immunisation (EPI) Management Team (REMT) and AADA in addition to the staff capacity. Supplies were managed initially with UNICEF staff and extenders until a Memorandum of Understanding (MoU) among the partners was put in place and BPHS was supplying all the sites. Monitoring and supportive supervision had improved the staff capacity.

MUAC and Oedema Screening: MUAC is the circumference of the left upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow (elocranon process and the acromium). MUAC is good at predicting mortality and does better than any other anthropometric indicator (Lancet, 1987, Mother and Child Nutrition [Internet]). Therefore, early detection of acute malnutrition and treatment is a significant contributor to child mortality reduction. Children 6-59 months who were screened and found with MUAC less than 11.5cm or bilateral pitting oedema grade 1 or 2 and having appetite were identified as SAM without complications, provided with referral slips for the nearest health facility along with two weeks Ready-to-Use Therapeutic Foods (RUTF)/Plumpynut supply for a nutrition boost which is high-energy, lipid-based spreads used for the treatment of SAM who are free from severe medical complications and also have appetite. Immediate referral to the nearest health facility to their point of return or settlement to continue treatment for proper care and follow up was planned to children 6-59

months who were SAM with complications i.e. with bilateral pitting oedema grade 3 (severe oedema), MUAC less than 11.5cm and bilateral pitting oedema grade 1 or 2, MUAC less than 12.5cm or bilateral pitting oedema plus one of the following medical complication: no appetite, high fever, vomiting and diarrhoea disease (Afghanistan IMAM guideline, 2014), however no such children were identified so far. Children identified with MAM, MUAC cut off points of >11.5 to <12.5 cm were provided with two weeks Ready-to-Use Supplementary Foods (RUSF) supply and referred to the nearest health facilities as well.

Vitamin A supplementation of children 6 – 59 months has been shown to reduce mortality by all-causes among children under 5 by 24% (BMJ 2011;343:d5094). Furthermore, the risk of dying in children with vitamin A deficiency from diarrhoea, measles and malaria is increased by 20-25% (Lancet, 2003). Therefore, children aged 6-11 months were supplemented/provided with one blue capsule vitamin A (100,000 IU) and children aged 12 – 59 months were supplemented/provided with one red capsule (200,000 IU) in line with Global WHO standards and local MoPH policies.

Provision of de-worming tablets along with vitamin A supplementation of children 24-59 months: Soil Transmitted Helminth (STH) are believed to cause anaemia via loss of intestinal blood, vitamin A and other nutrient malabsorption, growth faltering and cognitive impairment in infected individuals. Children are most at risk of anaemia as it is a time of rapid growth and therefore would benefit the most from STH infection control with deworming (PJ Hotez et al, 2006). To reduce the incidence of worm infestation that are associated with a significant loss of micronutrients (WHO, 2004) and related diseases such as diarrhoea deworming tablets-Albendazole were provided to all children aged 24-59 months as per national micronutrient guideline.

Maternal nutrition and IYCF counselling: Positive effect on duration of Exclusive Breastfeeding (EBF) when mothers receive any form of support on breastfeeding and programmes that used WHO/UNICEF breastfeeding training materials (WHO, 2013) has been realised, thus the distribution of Social Behaviour Change Communication (SBCC) developed flyers to returnee pregnant and lactating women and caregivers. Interrupted breastfeeding and inappropriate complementary feeding heighten the risk of malnutrition, illness and mortality (UNHCR, 2009), hence all returnee mothers with infants under 6 months were encouraged to feed their infants exclusively on breastmilk. Oriented social mobilisers provided breastfeeding counselling. A simple flip chart and posters with IYCF messages were used as a counselling aid and IEC- flyers with key messages about IYCF, health, and water, sanitation and hygiene (WASH), were utilised. Social mobilisers identified caregivers from returnees' community with children 0-24 months old, non-breastfed infants or requiring assistance such as breastfeeding problems during counselling and nutrition education. Those women/carers highlighting problems and wanting help met with the counsellor individually for identification of the problem and more extensive one to one counselling sessions were implemented to observe, talk and discuss the child's feeding and associated problems.

Distribution of IEC multisector tailored and breastfeeding messages flyers were given at the end of session to each mother/caregiver.

There were many practical challenges, for the vast number of returnees and intensity of the

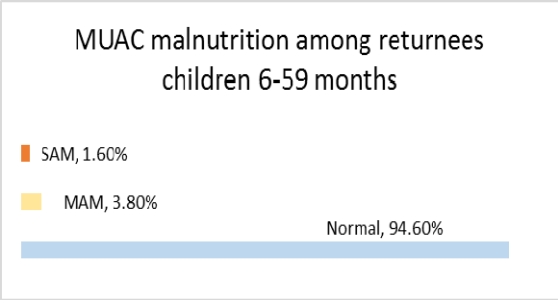
required daily activities, adequate supervision was a challenge and social mobilisers were not sufficiently trained in maternal nutrition and optimal IYCF counselling and did not adequately cover counselling skills at first. The group processing and limited time spent by returnees at the sites may have missed out infants and young children requiring support. Also the completion of fully support on few minutes to an hour of the nutrition education session and or counselling may have been over ambitious and so resulted in the low quality service.

Data collection and analysis: Data collection tools include tally sheets for recording dewormed children, vitamin A supplementation, maternal nutrition and IYCF counselling provided, and children screened for MUAC and identified with acute malnutrition. These tally sheets are summarised on a daily basis and daily reports submitted to focal points of the agencies implementing activities and regional and national nutrition cluster.

Results

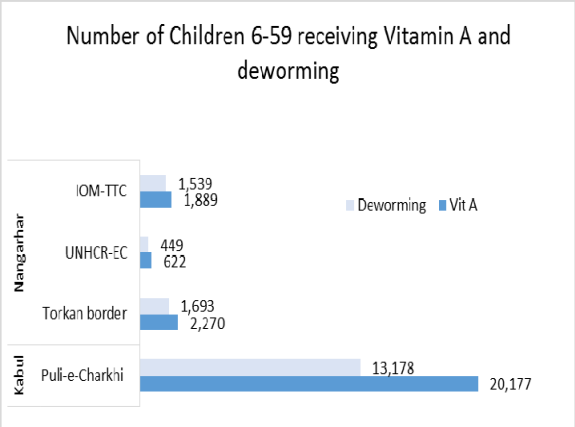
Of all the returnees' children that were screened (19,693) as of the 23 of November 2016, it was found that nearly two percent (1.6 %) of the children between 6-59 months of age were suffering from severely acute malnutrition and 3.8% were moderately acute malnourished. Girls were found to suffer from acute malnutrition more than boys at 61.2% and 60.3% respectively. Further investigation is needed on knowledge, attitude and practices on infant and young child feeding to understand why girls are more affected than boys.

Figure 1: Percent of Children 6-59 months identified with SAM and MAM as of 23 November 2016



Of those (16,978) provided with deworming tablets - Albendazole, 49.3% were girls and 50.7% were boys. Vitamin A supplementation had reached 25,125 children aged 6-59 months from which 49.1% were girls and 50.9% were boys. Nearly 12,728 women and children received IYCF counselling and IEC materials.

Figure 2: Number of Children 6-59 months received vitamin A and dewormed as of 23 November 2016

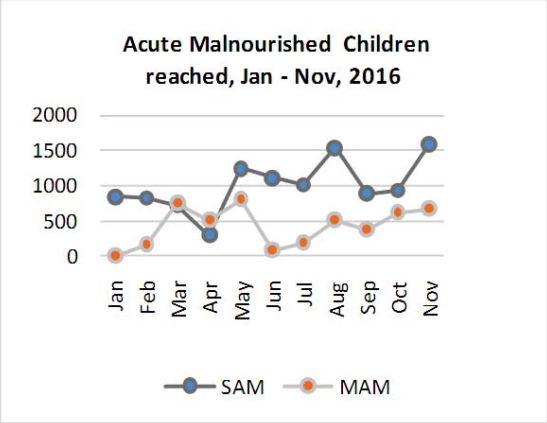


The proportion of children identified with SAM has reached more than half compared to the baseline estimates till the end of the year. Just about half has been reached for MAM cases, vitamin A and dewormed children respectively. A number of challenges have been identified such as no screening in Spin Boldak boarder, not all children screened in Zero Point because many families do not get down from the tracks. In IOM TC only vulnerable returnees are attending and that UNHCR EC is only documented returnees therefore children from

undocumented–non vulnerable families are missed.

In six districts namely Bat-e-Kot, Behsood, Jalal-Aabad, Khogyani, Rodat, Sorkh-Road of Nangarhar province where returnees are highly settled, admissions of SAM children showed slightly increase in June, July and August (6,489 as compared to 3,828 in March, April and May 2016 unlikely MAM cases. However, in November both SAM and MAM increased significantly following AADA secured funds from CHF and scaled up IMAM in these six districts. The ratio of boys and girls was 46% to 54% for both SAM and MAM admissions.

Figure 3: SAM and MAM children treated Jan – Nov 2016 in six districts of Nangarhar Province



Discussions

Major factors that influence migration are difficult to predict. While social, political and economic developments are exceptionally difficult to predict precisely, judgements can be made based upon current situations. Migrants themselves can be divided into two broad categories: humanitarian and economic. Humanitarian migrants include asylum seekers and refugees. These individuals generally migrate to countries geographically close to their country of origin (Future Directions International, 2014). Over the past decade, Afghanistan has been a major source of humanitarian immigrants, with Pakistan and Iran becoming their main destination countries (UNHCR, 2013). Malnutrition and restricted production and access to food are among the most significant problems in situation of forced migration (Forced Migration [Internet]). Increased food insecurity impact nutritional status and preventable diseases such as measles may become epidemic as a result of population movements and exposure to polluted water (A. Shepherd, J. Brunt 2013). Disease transmission is also a particular problem among refugees. (Lancet 2004; 364: 1974–83) and for the returnees to Afghanistan.

The return trend through Spin Boldak/Jamal Mayna Encashment Centre in Kandahar continue to remain proportionally high, with nearly 19,000 in October compared to 2,928 in August and 6,211 in September (UNHCR, 2016). The trends are expected to go down for winter due to UNHCR negotiations with Pakistan government but will again increase in March 2017. Consequently, the number of registered refugees returning has significantly declined—only 1,579 people were assisted in the last week of November, four times fewer than in the previous week (8,348). The winter pause of UNHCR's voluntary repatriation programme will take effect on 15 December 2016 with the closure of their Encashment Centres (EC) in all locations bar Herat where it remains open to assist returnees from Iran (OCHA, 2016).

Nutrition in Emergency (NiE) package was not sufficient implemented as linking Pregnant and Lactation Women (PLW) with relevant food distributions and screen and refer malnourished women for supplementary feeding did not occur due to no and or limited implementation of targeted feeding programmes. A planned Standardised Monitoring and Assessment of

Relief and Transitions (SMART) assessment for Nangarhar will be able to show the overall situation is and how it was influenced by returnees.

Cost was a real challenge given the staff to returnees ratio needed to deliver a skilled and intensive nutrition in emergency package at such rapid unfolding returnee's influx. Common Humanitarian Fund (CHF) allocations has enables AADA to scale up BPHS package in emergency affected province.

Sustainability of the NiE services at the four sites is based on the strengthening the capacity of the public health and nutrition systems to function effectively with minimal external input and enabling local capacity to control and be accountable for its own nutrition services and system. As the context of the situation may move on from the critical emergency phase to a more stable nutrition situation, community screening and follow up workload reduces and the role of volunteer may be adapted to address the issue of sustainability. In situation where the system is weak, there is a need of designated agencies to provide the surge and capacity building until the system is ready.

Through coordination, monitoring and supervision of nutrition interventions activities were able to be initiated and implemented at returnees' site. Practical guidance on how to take appropriate MUAC measurements, administer vitamin A supplements and providing nutrition education and optimal IYCF counselling was achieved.

Conclusion

The results indicate that the programme has been able to identify children with acute malnutrition and refer them to the health centres, however further follow up is needed to identify if these children attended the intended health centre. In a way this might be implied with the increase of admissions in the six districts. Unfortunately, it is not possible to track each child as parents are not willing to provide their phone numbers and intended destination is often changed. The findings provide also the information for planners, program managers and policy makers especially in the returnees' context which is new to Afghanistan. The combination of information on nutrition status before as refugees and after, while refugees are returning has helped to gauge the expected numbers and respond appropriately to the identified SAM and MAM cases. Meeting between partners for improvement of the programme activities deem necessary jointly and review of submitted progress reports as some of the data has not been able to be obtained and or dropped from the result due to its uncertainties, a case of IYCF care practices. Further analyses in other settings are needed to confirm the generalization of these conclusions as returnees are not spending much time (from 10 minutes to less than two hours) at the sites before they continue with their journey to their destinations.

References

1. A. Shepherd, J. Brunt (2013). Chronic Poverty: Concepts, Causes and Policy
2. Afghanistan Flash Appeal (2016): Situation Update No.1, 17 September, 2016
3. Afghanistan Integrated Management of Acute Malnutrition (IMAM) (2014) Guideline
4. Afghanistan National Nutrition Survey, 2013
5. BMJ, (2011). Evan Mayo-Wilson et al, Vitamin A Supplements for preventing mortality, illness and blindness in children aged under 5: Systematic

review and meta-analysis. BMJ 2011;343doi: http://dx.doi.org/10.1136/bmj:d5094(Published 25 August 2011) [accessed 20 December 2016]
6. Forced migration [Internet]. Impact of forced migration upon health. http://www.forcedmigration.org/research-resources/expert-guides/forced-migration-and-public-health/impact-of-forced-migration-upon-health [accessed 20 December 2016]
7. Future Directions International (2014). Migration and Population Movements Part 1: Strategic Analysis Paper, 24 October 2014
8. Lancet (1987). Arm circumference and other factors in children at high risk of death in rural Bangladesh. Lancet 1987 Sep 26;2(8561:725-8
9. Lancet (2003). Child Survival series 2003
10. Lancet (2004). Communicable diseases in complex emergencies: impact and challenges
11. Mother and Child Nutrition [Internet] (2016). Early detection and Referral of Children with Malnutrition: Mid-Upper Arm circumference [MUAC]. Available from motherchildnutrition.org/early-malnutrition-detection/detection-referral-children-with-acute-malnutrition/muac.htm [accessed 20 December 2016]
12. OCHA (2016). Afghanistan: Returnee Crisis Situation Report No. 4. 29th December 2016
13. OCHA (2016). Situation report, 26th November 2016
14. PJ. Hotez et al, (2006). Chapter 24 Helminth Infections: Soil-Transmitted Helminth Infections and Schistosomiasis
15. UNHCR (2016). Update on Refugees Return Trends, 6 November 2016
16. UNHCR (2009). Guidance on Infant feeding and HIV in the context of refugees and displaced populations, June 2009 Version 1.1
17. UNHCR (2013). Global Trends, p13
18. UNHCR (2014) HQ Nutrition Survey Final Report 6th May 2014
19. UNHCR (2016). Repatriation and Border Monitoring Monthly Update, October 2016
20. UNHCR (2016). Update on Refugee Return Trends, 06th November 2016
21. UNHCR (2016). Update on Refugee Return Trends, 24th October 2016
22. UNICEF (1997). Conceptual Framework of Causes of Malnutrition
23. UNICEF (2016). SitRep 4. 26th October 2016

Pattern of Obesity and Associated Factors among Herat Adult Citizens in Afghanistan

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Abstract

Background: Obesity is increasing throughout the world and has become a significant public health challenge of current century. This study aims to estimate the prevalence of obesity and determine potential influencing factors among adults in Herat City of Afghanistan.

Methods and Materials: A cross sectional study was conducted using WHO STEP-wise instrument among adults aged 25-70 years during May-June 2015 in Herat City. Demographic, socioeconomic and behavioral variables were collected using structured questionnaire. The Body Mass Index (BMI) was calculated by measuring height and weight. Biochemical markers were examined using blood serums collected from the field.

Results: Of 1,129 enrolled study participants 47.4% were males, 52.6% were females. Illiteracy rate was (54%) and 85.8% were married. Prevalence of smoking was 5.6% and 10.8% were mouth snuff users. Mean Body Mass Index of female and male were 26±6 and 24±4, respectively. Overall, 31.8% were overweight, of which 35.6% were women and 27.6% men. The overall prevalence of obesity was 15.7% with differentiation of 19.3% in females and 11.8% in males. Furthermore, the proportion of obesity grade one to three in women were 12.2%, 5.2% and 1.9% respectively. This proportion in men were 10.1%, 1.3% and 0.4%. The combined prevalence of both overweight and obesity was 47.6%. The overall prevalence of central obesity was 52.3% while it was reported 72.1% in females and 30.3% in males. The biochemical measurements findings show the mean and SD of total triglycerides, cholesterol, HDL, LDL, and fasting blood sugar were 155.3 ± 61.6, 180.7 ± 47, 45.2 ± 10, 104.5 ± 38.2, and 92.3 ± 86.2 mg/dL, respectively. The factors such as age, sex, blood pressure, frequency of taking fruits and level of triglycerides were independently associated with obesity after controlling for other variables.

Conclusions: This study reported high prevalence of obesity among adult residents of Herat City. The results of this study provide useful information to inform policy makers to prevent and control the occurrence of obesity.

Keywords: Pattern, Obesity, Overweight, Adults, BMI, Kabul, Afghanistan

سطح چاقی و فکتور های مرتبط به آن در بین افراد بالغ در شهر هرات افغانستان

چکیده

پس منظر: سطح چاقی در جهان رو به افزایش بوده و در قرن حاضر منحیث یک چالش جدید در بخش صحت عامه عرض اندام نموده است. این مطالعه به هدف تخمین شیوع و تعین فکتور های تاثیر گذار روی چاقی در بین افراد بالغ شهر هرات طرح ریزی شده است.

میتود: با استفاده از میتود تحقیقی عرضانی از طریق روش مرحله یی سازمان صحی جهان (WHO STEPS Tool) و معلومات لازم در مورد افراد بالغ ۲۵ الی ۷۰ سال در ماه می ۲۰۱۵ در شهر هرات جمع آوری گردید. ارقام دیموگرافیک، اقتصادی-اجتماعی و متحول های سلوکی با استفاده از پرسشنامه ساختاری جمع آوری گردید. با استفاده از متحول های وزن و قد اندکس کتلوی عضویت یا (BMI) محاسبه گردید. شاخص های بیوشیمی از طریق اجرای معاینات سیروم خون در لابراتوار تعین گردید.

نتایج: از جمله افراد شامل در این مطالعه (۱۱۲۹) ۴۷.۴% مردان و ۵۲.۵% آنها را زنان تشکیل میداد. سطح بیسوادی ۵۴% بوده و ۸۵.۸% متاهل گزارش شده است. سطح شیوع دود نمودن سگرت ۵.۶% بوده در حالیکه ۱۰.۸% نصوار دهن استفاده میکردند. سطح اوسط اندکس کتلوی بدن یا (BMI) در خانم ها و مردها بالترتیب 6±26 و 4±24 محاسبه گردیده است. در مجموع ۳۵.۵% خانم ها و ۲۷.۶% مردان اضافه وزن بودند در حالیکه سطح کُلی اضافه وزنی ۳۱.۸% بود. سطح عمومی چاقی ۱۵.۷% بوده که تفاوت ۱۹.۳% در خانم ها و ۱۱.۸% را در مردها نشان میدهد. علاوه بر اینها، سطح چاقی درجه اول ۱۲.۲%، چاقی درجه دوم ۵.۲% و چاقی درجه سوم ۱.۹% نزد خانم ها گزارش داده شده است. در حالیکه سطح چاقی مردان در درجات اول، دوم و سوم بالترتیب ۱۰.۱%، ۱.۳%، و ۰.۴% محاسبه شده است. بصورت ترکیبی سطح مشترک چاقی و اضافه وزنی ۴۷.۶% میباشد. بگونه اوسط سطح عمومی چاقی مرکزی ۵۲.۳% بوده که این رقم در زنان ۷۲.۱% و در مردان ۳۰.۳% نشان داده شد. اندازه گیری دریافت های بیوشیمیک نشان میدهد که اوسط و انحراف معیاری مقادیر ترای‌گلیسراید مجموعی، کولسترول، لیپوپروتین متراکم بلند، لیپوپروتین متراکم پایین و سطح گلولوز در مرحله گرسنگی بالترتیب 61.6 ± 155.3 ، ۱۸۰.۷ ± ۴۷ ،۴۵.۲ ± ۱۰ ،38.2 ± 104.5، ۹۲.۳ ± ۸۶.۲ ملیگرام فی دیسی لیتر بوده است. فکتور های مثل سن، جنسیت، فشار خون، فریکونسی اخذ میوه و سطح ترای‌گلیسراید بصورت مشخص و مستقلانه بعد از کنترول سایر متحول ها با چاقی ارتباط داشته است.

نتیجه گیری: این مطالعه سطح بلند شیوع چاقی را در بین ساکنین بالغ شهری در شهر هرات نشان میدهد. نتایج این تحقیق معلومات مفیدی را به منظور آگاهی پالیسی سازان بخاطر جلوگیری و کنترول وقوع چاقی مهیا مینماید.

Introduction

Obesity is increasing throughout the world and has become a significant public health challenge of current century (1-3). Globally, it is estimated that more than 2 billion people are overweight and one third of them are obese (4). Obesity is considered a chronic disease due to enduring imbalance between energy intake and output. It is a multifactorial disease influenced by socioeconomic, cultural, environmental, and public policy factors (5). Regretfully it is culminated to a wide range of serious health consequences, such as diabetes, hypertension, cardiovascular disease, and some forms of cancer (6). Nowadays taking fast food is common which is considered to be an important cause of increased obesity risk (7-8). Furthermore, factors such as age, gender, urbanization, education status, economic status, marriage, physical activity, smoking, and alcohol consumption and diet are contributing to obesity (9-11). Obesity is measured by various methods such as body mass index (BMI), waist circumference, waist-hip ratio,

skinfold, and percent body fat measurements (12).

In Eastern Mediterranean Region (EMR) countries, obesity has reached to its alarming level in all age groups. Among adults the prevalence of overweight and obesity ranged from 25% to 81.9%. Possible factors determining obesity in this region include: nutrition transition, inactivity, urbanization, marital status, a shorter duration of breastfeeding, frequent snacking, skipping breakfast, a high intake of sugary beverages, an increase in the incidence of eating outside the home, long periods of time spent viewing television, massive marketing promotion of high fat foods, stunting, perceived body image, cultural elements and food subsidization policy (13). In Pakistan, as eastern neighbour of Afghanistan, with the use of Indo-Asian specific BMI cut off values, the prevalence of overweight and obesity has been reported to be 25% and 10.3%, respectively. The factors independently and significantly associated with overweight and obesity include greater age, being female, urban residence, being literate, economic status and intake of meat (14). In Iranian adult population, the prevalence of overweight, obesity and pathologic obesity is reported to be 40%, 35% and 3%, respectively with significant difference by age, gender, education level, economic status, and residence (15). Recent studies in Kabul (16) show that prevalence of obesity in age group of ≥40 years is 31.2% and in Jalalabad City (17), the eastern city of the country, is 27.4%. Previous studies in Kabul and Nangarhar focused only on provincial regions of the country while the new study provides information from a different context. However, due to war and conflict very few information is available on burden of non-communicable diseases including obesity. In addition, high priority is given to infectious diseases. This study aims to identify the prevalence and associated factors of obesity in Herat City.

Methods and materials

A provincial cross-sectional study during May-June 2015 using the WHO STEP-wise approach (18) was conducted to estimate the prevalence and factors for non-communicable diseases in Herat City, Afghanistan. While this study reports the burden of obesity and factors associated with diseases among urban adult citizens utilizing data from the main study.

Sampling Size and Strategy: As data regarding risk factor prevalence in this province were not available, we assumed the highest prevalence and 95% confidence interval and band of error of 5%. Basically, the sample size was calculated to be able to determine the effect of risk factors on non-communicable diseases. The resulting sample size was 1,200. Multi-cluster sampling strategy was used to identify the final unit, households, to be approached for interview, filling questionnaire. For this reason, the 2015 Expanded Programme for Immunization (EPI) list of clusters was used as the sampling frame. Using multi-stage cluster sampling, in the first stage we conventionally and randomly selected 16 out of 60 EPI clusters. In the second stage, from each selected clusters five areas *(Guzar*) were randomly selected. 1200 households were selected using population proportionate to size of households in each cluster/ area. Our primary sampling unit (PSU) was clusters, secondary sampling units (SSU) were streets/areas, tertiary sampling units (TSU) were households, and ultimate sampling units (USU) were respondents more 25-70 years of age in the household. Inclusion criteria included: ages 25-70, city residents during study period, and consent to participate. Exclusion criteria included: temporary residents

(less than six months) and those living in institutionalized settings such as universities, prisons, barracks or in insecure areas, not consent to participate. The interviewer was instructed to find the masjid as a fixed landmark or a very populated street within the boundaries of the selected location and, following the bottle rotating rule, proceed to series of households. The survey team consisted of male and female to observe the cultural sensitivity of society.

Variables and Data Collection Tool: Data collection tool (WHO STEPS) adapted in advance used to collect demographic, socio-economic, clinical, and behavioral data via face-to-face interviews. Weighing scales and tension tape were used to measure body weight and height. A body mass index (BMI hereafter reported without units) ≥ 30 kg/m^2 was considered as obese, 25-29.9 was considered as overweight, and 18.5-24.9 was considered normal weight (19). Likewise, the obesity grades I, II and III were categorized in BMI scale as 30-35, 35-40 and >40, respectively. A waist circumference ≥94 cm for men and ≥80 cm for women was considered as central obesity (20). Cuff type sphygmomanometers were used to measure systolic and diastolic blood pressure (BP) thrice with five minutes between each measurement at a sitting or lying position by trained surveyors. Systolic blood pressure levels ≥140 mmHg and/or diastolic pressure levels ≥90 mmHg were considered hypertensive (21). Hypertension (HTN) in this study was defined as having a previous diagnosis of disease or being diagnosed by measurement during the study. Blood samples were collected and processed by lab technicians under supervision of the lab coordinator. After shipment of samples to the Central Public Health Laboratory (CPHL) in Kabul, they were stored at -80°C until glucose and biochemical measurements were completed. For enhancing quality of data close monitoring was carried out throughout the processes. Epi Info version 7 (22) was used for data entry. IBM SPSS software version 20 (23) was used for data analysis. Chi-square and logistic regression was used to examine the association of relevant variables at univariate and multivariate levels. For this study a blanket approval was obtained for main survey by the institutional review board (IRB) of the Ministry of Public Health. Written informed consent was taken from each individual before the interview while it was read for illiterates. The results of physical and biochemical measurements were communicated to participants while confidentiality of the information gathered was maintained. Biochemical tests were done by central public health laboratory using their own kits. Cut off point for total tri-glyceride, total cholesterol, high density lipoprotein (HDL) and low density lipoprotein (LDL) was considered as 150, 190, 40 (50 for female) and 100mg/dL, respectively.

Results

Descriptive Analysis: After validation and cleaning, 1,129 (94%) out of 1,200 participants were eligible (having blood specimen) for analysis including men and women aged 25-70 years. The analysis was done on 1,125 records which had full information of BMI calculations, whereas four records excluded due to lacking complete BMI information. For few variables there are missing data which is reported in tables.

Out of these, 47.4% were males and 52.6% females. Mean age of this sample was 41.5 ±13.1 years. More than half of the respondents (54%) were illiterates, and 82.7% of participants had a monthly income <10,000 Afghanis (equivalent to approx. USD 150). Majority of the study participants were married (85.8%), while

more than 80% of women were housewives (table 1). Mean height, waist circumference and weight were 162, 87cm, and 66.6kg respectively. Mean and standard deviation (SD) of body mass index was 25.4 ± 5.3 kg/m^2. Descriptive statistics demonstrated that 5.6% were current smokers of which half had smoked for 10 years or more while about twice of that (10.8%) were mouth snuff users. Around 45% of respondents reported to use liquid oil for cooking. On average, the subjects were taking fruits 2.14 days per week and vegetables 2.89 days per week. Ten percent of respondents were employed at jobs that required vigorous physical activity and 21.6% at moderate levels of physical activity.

The overall prevalence of overweight was 31.8% while it was found to be 35.6% in women and 27.6% in men. Average Body Mass Index (BMI) and Standard Deviation (SD) were 26±6 in women and 24.7±4.3 in men. Moreover, obesity grade one to three in women were 12.2%, 5.2%, 1.9% and in men 10.1%, 1.3% and 0.4%. In short, the general prevalence of obesity was 15.7% with differentiation of 19.3% in females and 11.8% in males. The combined prevalence of both overweight and obesity was 47.6%. The biochemical measurements findings show that mean and SD total triglycerides, cholesterol, HDL, LDL, and fasting blood sugar were 155.3 ± 61.6, 180.7 ± 47, 45.2 ± 10, 104.5 ± 38.2, and 92.3 ± 86.2 mg/dL, respectively. In general, the central obesity was 52.3% among participants, from which 72.1% in females and 30.3% in males were reported. Almost one third (28.4%) had higher cholesterol and 45% had higher triglycerides. Moreover, high LDL level was 47.2% and high HDL level was 47% in both groups. The full description of these variables could be reviewed in table 2.

Inferential Analysis: Tables 3 and 4 show the association of main demographic and behavioral risk factors with obesity. As shown in table 3, odds of being obese are increasing as the age increased. Males were 0.56 times less obese compared to females (95%CI: 0.40-0.78). Although few reported the monthly income when questioned, available data shows that level of income as a proxy for socioeconomic status is associated with obesity (OR=2.33, 95% CI: 1.40-3.85). Categorization of taking fruits in days per week had significant positive relationship with obesity. Those who were taking fruits three or more days per week had odds of 1.68 as compared to those taking fruits less than three days per week (95% CI: 1.24-2.51). This is a surprising finding which shows taking fruits have led to obesity. It requires further investigations and analysis. We could not find any significant association of education level, marital status, physical activity and smoking with obesity. Central obesity using waist circumference was also associated with general obesity using level of BMI (OR=15.45, 95%CI: 8.66-27.58). Moreover, those who were hypertensive had 2.64 times (95% CI: 1.90-3.65) more odds of being obese. Level of blood bio-chemicals such as triglycerides, total cholesterol, HDL, LDL and fasting blood sugar were not significantly associated with obesity at bivariate level.

After running multiple logistic regressions, factors such as age, sex, blood pressure, frequency of taking fruits and level of triglycerides were independently associated with obesity after controlling for other variables. Table 5 shows further details.

Discussion

Based on findings almost 16% of adult citizens were found to be obese and by adding the overweight it raised to 47.5%. This percentage

increased as age increased in females. Although this percentage is very low as compared to other studies in Afghanistan and other countries, nonetheless overweight and obesity should be considered as a significant public health problem in urban population particularly among females in Herat City. Most of the studies have reported higher prevalence of overweight and obesity among women than men and that may be due to lower physical activity among women (16-17, 24-28). As mentioned earlier, higher age was associated with higher proportion of obesity. It could be due to lower physical activity and impact of hormonal changes by increasing age. The association of age and obesity has been studied by other studies (16-17, 29-30). Foods, for instance fruits and red meat were associated to obesity. Taking fruits as a meal could prevent gaining weight and it is mostly due to its content. Nonetheless consumption of red and fatty meat during lunch and dinner in various forms are common which has been associated with obesity in this study; however, the results are not significant. Many studies have reflected the association of food stuff and obesity (17, 31-32). Blood pressure combined with obesity has been reported in our study which is significantly associated to each other. These findings have been reported by other studies in Afghanistan (16, 17) as well as in other countries (14, 33). Level of triglyceride was associated with obesity which has been reported by another study in Jalalabad City as well (16).

The study has some limitations. First, the results cannot be generalized to all provinces in Afghanistan as the study group was from one urban setting and cannot be assumed to be representative of all adult populations in the province. Second, it was a cross sectional study, therefore, causality of the relationship between the factors reported and obesity is not possible to be ascertained. Third, we excluded the insecure areas from our study and because of fund limitation did not list all households ahead of survey. Fourth, since this was a study originally designed for NCD therefore could inadequately include full risk factors associated with obesity. However, the finding of this study is noteworthy because of being first of its kind in this city as well as sufficient sample size and a high response rate.

Conclusion

The interventions for control and prevention of obesity would contribute to avoiding most of other problems instigating from lifestyle changes. Designing interventions focusing on mentioned factors by involvement of other sectors could reduce the level of obesity in this city.

Acknowledgement

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Conflict of interest

The authors declare there is no conflict of interest in this paper.

References

1. Prentice AM. The emerging epidemic of obesity in developing countries. Int J Epidemiol. 2006; 35:93-99.
2. Lissner L, Visscher TL, Rissanen A, Heitmann BL; Prevention and Public Health Task Force of European Association for the Study of Obesity. Monitoring the obesity epidemic into the 21st century-weighing the evidence. Obes Facts 2013; 6(6):561-5.
3. Corey KE, Kaplan LM. Obesity and liver disease: the epidemic of the twenty-first century. Clin Liver Dis 2014; 18(1):1-18.
4. Ng M, Fleming T, Robinson M. et al: Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet 2014; 384:766-781.
5. Anaizi N. Measuring Obesity: Fat or Fit! Ibnosina J Med BS 2016;8(1):3-14
6. Le Petit, C. and Berthelot, J.M. 2006. Obesity-a growing issue. Health. Rep. 17, 43-50.
7. Ebbeling, C.B., Garcia-Lago, E., Leidig, M.M., Seger-Shippee, L.G., Feldman, H.A. and Ludwig, D.S. 2007. Altering portion sizes and eating rate to attenuate gorging during a fast food meal: Effects on energy intake. Pediatrics. 119, 869-875.
8. Pereira, M.A., Kartashov, A.I., Ebbeling, C.B., Van, H.L., Slattery, M.L., Jacobs, D. R. Jr. and Ludwig, D.S. 2005. Fast-food habits, weight gain, and insulin resistance (the CARDIA study): 15-year prospective analysis. Lancet 365(9453), 36-42.
9. Shayo and Mugusi. Prevalence of obesity and associated risk factors among adults in Kinondoni municipal district, Dares Salaam Tanzania. BMC Public Health 2011 11:365.
10. Wahab et al. Prevalence and determinants of obesity - a cross-sectional study of an adult Northern Nigerian population. International Archives of Medicine 2011 4:10.
11. Erem C, Arslan C, Hacihasanoglu A, et al. Prevalence of Obesity and Associated Risk Factors in a Turkish Population (Trabzon City,Turkey). Obesity Research Vol. 12 No. 7 July 2004
12. World Health Organization (WHO), "Physical status: the use and interpretation of anthropometry," WHO Technical Report Series 854, WHO, Geneva, Switzerland, 1995.
13. Musaiger AO. Overweight and Obesity in Eastern Mediterranean Region: Prevalence and Possible Causes. Journal of Obesity 2011, Article ID 407237, 17 pages. doi:10.1155/2011/407237
14. Jafar TH, Chaturvedi N, Pappas G. Prevalence of overweight and obesity and their association with hypertension and diabetes mellitus in an Indo-Asian population. CMAJ 2006;175(9):1071-7
15. Veghari GR, Sedaghat M, Joshaghani HR, Hoseini A, Niknezhad F, Angizeh AH, et al. The prevalence of obesity and its related risk factor in the North of Iran in 2006. JRHS. 2010; 10(2):116-121.
16. Saeed KMI, Rasooly MH. Prevalence and Risk Factors Associated with Obesity among Adult Kabul Citizens (Afghanistan), 2012. Iranian Journal of Diabetes and Obesity (2012); 4(4): pp152-161
17. Saeed KMI, Prevalence and associated risk factors for obesity in Jalalabad city – Afghanistan, Alex J Med (2015), http://dx.doi.org/10.1016/j.ajme.2014.12.004
18. Bonita R, deCourten M, Dwyer T, K. J, Winkelmann R. Surveillance of risk factors for non-communicable disease: the WHO STEPwise approach. Geneva: World Health Organization; 2002.

19. World Health Organization. Obesity: Preventing and managing the global epidemic; report of a WHO consultation. Geneva: World Health Organization; 2000.
20. International Diabetes Federation. The IDF consensus worldwide definitions of the metabolic syndrome. 2006; http://www.idf.org/webdata/docs/IDF_Meta_def_final.pdf.
21. Whitworth JA, World Health Organization, International Society of Hypertension Writing Group. 2003 World Health Organization (WHO)/International Society of Hypertension (ISH) statement on management of hypertension. J Hypertens. 2003; 21(11):1983-1992.
22. Epi Info [computer program]. Version 7.1.1.14-2013
23. IBM SPSS Statistics for Windows [computer program]. Version 20.0. Armonk, NY2011
24. Mojibian M, Ghilian Z. Prevalence of obesity among women in Yazd city in 2000. J Shahid-SadoughiUniv Med Sci& Health Services 2002;9(4):36-42.
25. Mirzazadeh A, Sadeghirad B, Haghdoost AA, Bahrein F, Rezazadeh M. The prevalence of Obesity in Iran in Recent Decade; A Systematic Review and Meta-Analysis Study. Iranian J Publ Health 2009; 38(3):1-11.
26. Hosseinpanah F, Barzin M, Eskandary PS, Mirmiran P, Azizi F. Trends of obesity and abdominal obesity in Tehranian adults: a cohort study. BMC Public Health. 2009;9(1):426. doi: 10.1186/1471-2458-9-426.
27. Alikhani S, Delavari A, Alaedini F, Kelishadi R, Rohbani S, Safaei A. A province-based surveillance system for the risk factors of non-communicable diseases: A prototype for integration of risk factor surveillance into primary healthcare systems of developing countries. Public Health. 2009;123(5):358–364. doi: 10.1016/j.puhe.2009.02.011.
28. Delavari A, Forouzanfar MH, Alikhani S, Sharifian A, Kelishadi R. First Nationwide Study of the Prevalence of the Metabolic Syndrome and Optimal Cutoff Points of Waist Circumference in the Middle East The National Survey of Risk Factors for Noncommunicable Diseases of Iran. Diabetes Care. 2009;32(6):1092–1097. doi: 10.2337/dc08-1800.
29. SeagleHM , Wyatt H, Hill JO. Obesity: overview of treatments and interventions. In: Coulston AM, Rock CL, Monsen ER (eds). Nutrition in the Prevention and Treatment of Disease, 1th edn. Academic Press: San Diego, CA, 2001:465–681.
30. YalçinBm, SahinEm, Yalçin E. Prevalence and epidemiological risk factors of obesity in Turkey. Middle East Journal of Family Medicine, 2004; Vol. 6 (6)
31. Bidad K, Anari S, Tavasoli S, Nazemi L, Gholami N, Zadhush S, Moayeri H. Dietary intakes of adolescent girls in relation to weight status. Iran J Public Health. 2008;37(1):114–118.
32. Bazhan M, Kalantari N, Hoshyarrad A. Diet composition and risk of overweight and obesity in Iranian adolescent girls. RMJ. 2011;36(1):26–30.
33. Brown CD, Higgins M, Donato KA, Rohde FC, Garrison R, Obarzanek E, et al. Body mass Index and prevalence of hypertension and dyslipidemia. Obes. Res. 2000;8:605–19.

Table 1: Frequency distribution of demographic characteristics of the study participants			
Variables	**Categories**	**Subjects (1129)**	
		Number	**Percentage**
Age			
	25-34	399	35.3
	35-44	288	25.5
	45-54	220	19.5
	55+	222	19.7
Gender			
	Female	594	52.6
	Male	535	47.4
Level of Education			
	Illiterate	607	54
	Primary and unofficial	380	33.8
	Secondary school	73	6.5
	High school and over	64	5.7
Work Status			
	Official Employees	100	10.2
	Private Business	89	9.1
	Worker/Farmer	184	18.8
	Jobless	51	5.2
	Housework	461	47.1
Monthly Income in AFN			
	Less than 10000	454	82.7
	More than 10000	95	17.3
Marital Status			
	Single	53	4.7
	Married	964	85.8
	Widow/Widower	83	7.4

Table 2: Frequency distribution of behavioral risk factors for obesity, among the study participants			
Variables	**Categories**	**Subjects (1129)**	
		Number	**Percentage**
Total Cholesterol			
	<190 mg/dL	808	71.6
	≥ 190 mg/dL	321	28.4
LDL			
	<100 mg/dL	596	52.8
	≥100 mg/dL	533	47.2
HDL(borderline 40 mg/dL for male and 50mg/dL for female)			
	<40 and 50mg/dL	598	53
	≥40 and 50mg/dL	531	47
Triglycerides			
	<150 mg/dL	621	55
	≥150 mg/dL	508	45
Fruit serving (days per week)			
	≤ 3	870	83
	> 3	178	17
Vegetables serving (days per week)			
	≤ 3	762	71.4
	> 3	305	28.6
Type of Kitchen Oil			
	Liquid	503	45.2
	Solid	380	34.1
	Both	221	19.8
Cigarette Smoking Status			
	No	1055	94.4
	Yes	63	5.6
Mouth Snuff Status			
	No	994	89.2
	Yes	120	10.8
Vigorous Physical Activity			

	No	1004	89.6
	Yes	116	10.4
Moderate Physical Activity			
	No	877	78.4
	Yes	241	21.6
Pedal or bicycle for 10 Minutes per day			
	No	765	68.4
	Yes	354	31.6
Reclining/siting (hours per day)			
	≤ 3	409	38.9
	> 3	642	61.1

Table 3: Bivariate analysis of bio demographic and socio-economic factors and Obesity among study participants in Herat Afghanistan

Variables	Categories	Non-obese	Obese	Odds Ratio	CI 95% LL	CI 95% UL
Age in years						
	25 - 35	354 (89.4)	42 (10.6)	1	Reference	
	35 - 45	234 (81.2)	54 (18.8)	1.945	1.258	3.007
	45 - 55	175 (75.9)	45 (20.5)	2.167	1.371	3.426
	55 and over	185 (83.7)	36 (16.3)	1.64	1.016	2.649
Gender						
	Female	478 (80.7)	114 (19.3)	1	Reference	
	Male	470 (88.2)	63 (11.8)	0.562	0.403	0.784
Level of income (monthly income in AFN)						
	< 10,000	382 (84.1)	72 (15.9)	1	Reference	
	≥ 10,000	66 (69.5)	29 (30.5)	2.331	1.408	3.859
Level of education						
	Illiterate	502 (83.1)	102 (16.9)	1	Reference	
	Literate	441 (85.5)	75 (14.5)	0.837	0.605	1.158
Smoking						
	No	883 (84)	168 (16)	1	Reference	
	Yes	56 (88.9)	7 (11.1)	0.657	0.294	1.466

Snuffing						
	No	832 (84)	159 (16)	1	Reference	
	Yes	104 (86.7)	16 (13.3)	0.805	0.463	1.4
Strong Physical Activity						
	No	840 (83.9)	161 (16.1)	1	Reference	
	Yes	101 (87.1)	15 (12.9)	0.775	0.439	1.367
Moderate Physical Activity						
	No	740 (84.6)	135 (15.4)	1	Reference	
	Yes	199 (82.9)	41 (17.1)	1.129	0.77	1.656
Sedentary lifestyle in hours daily						
	≤ 3 hours	354 (87)	52 (13)	1	Reference	
	> 3 hours	531 (83)	111 (17)	1.423	0.997	2.031
Fruits serving days per week						
	≤ 3 days	743 (85.7)	124 (14.3)	1	Reference	
	> 3 days	139 (78.1)	39 (21.9)	1.681	1.124	2.515
Vegetables serving days per week						
	≤ 3 days	647 (85.1)	113 (14.9)	1	Reference	
	> 3 days	250 (82.2)	54 (17.8)	1.237	0.867	1.765

Table 4: Bivariate analysis of pathophysiologic factors and obesity among study participants in Herat city Afghanistan

Questions	Categorization	Non-obese	Obese	Odds Ratio	CI 95% LL	CI 95% UL
Central Obesity						
	No	522 (97.6)	13 (2.4)	1	Reference	
	Yes	426 (72.2)	164 (27.8)	15.458	8.663	27.583
Diabetes Mellitus						
	No	858 (84.6)	156 (15.4)	1	Reference	
	Yes	90 (81.1)	21 (18.9)	1.283	0.775	2.126
Blood Pressure						
	No	645 (89.1)	79 (10.9)	1	Reference	
	Yes	303 (75.6)	98 (24.4)	2.641	1.906	3.659
Total Cholesterol						
	<190 mg/dL	675 (83.9)	130 (16.1)	1	Reference	
	≥ 190 mg/dL	273 (85.3)	47 (14.7)	0.894	0.622	1.284

Low Density Lipoprotein (LDL)						
	<100 mg/dL	499 (84.3)	93 (15.7)	1	Reference	
	≥100 mg/dL	449 (84.2)	84 (15.8)	1.004	0.728	1.384
High Density Lipoprotein (HDL)						
	<40 and 50mg/dL	501 (83.9)	96 (16.1)	1	Reference	
	≥40 and 50mg/dL	447 (84.7)	81 (15.3)	0.946	0.685	1.305
Triglycerides						
	<150 mg/dL	532 (86.1)	86 (13.9)	1	Reference	
	≥150 mg/dL	416 (82.1)	91 (17.9)	1.353	0.981	1.866
Taking Table Salt						
	No	708 (83.2)	143 (16.8)	1	Reference	
	Yes	211 (88.3)	28 (11.7)	0.657	0.426	1.013
Taking type of oil kitchen						
	Liquid	446 (84.8)	80 (15.2)	1	Reference	
	Solid	310 (81.8)	69 (18.2)	1.241	0.872	1.766

Table 5: Multivariable analysis of risk factors and obesity among study participants in Herat city Afghanistan					
Questions	**Categorization**	**Adjusted Odds Ratio**	**CI 95% LL**	**CI 95% UL**	**P Value**
Age groups					
	25-35	1	Reference		
	35-45	1.681	1.023	2.764	0.041
	45-55	1.845	1.095	3.11	0.021
	55 and over	1.129	0.632	2.017	0.682
Sex					
	Male	1	Reference		
	Female	1.884	1.281	2.769	< 001
Triglycerides					
	More	1	Reference		
	Less	1.003	1	1.005	0.035
Average Systolic Blood Pressure					
	No	1	Reference		
	Yes	1.025	1.015	1.036	0.000
Fruits taking in days per week					
	More		Reference		
	Less	1.108	1.007	1.218	0.035
Red meat in days per week					
	More	1	Reference		
	Less	1.191	1.04	1.364	0.012

ارزیابی اختلاطات نوزادان در حمل های دوگانگی در شفاخانه ملالی

محقق: پوهندوی دوکتور زبیده انوری ژواک
دیپارتمنت نسایی ولادی پوهنتون طبی کابل

چکیده

حمل دوگانگی یک حالت خاص حاملگی است که می تواند با اختلاطات ولادی در نزد مادر و نوزاد مترافق باشد، که بعضاً به حیات مادر و طفل خطر ساز است.

هدف: ارزیابی اختلاطات نوزادان در حمل های دوگانگی.

میتود: میتود Cross- Sectional تحلیلی در مدت زمان دو ماه (اول دلو سال ۱۳۹۴ الی ۳۰ حوت ۱۳۹۴) از تمام حمل های دوگانگی و یگانگی بالاتر از ۲۸ هفته که در شفاخانه ملالی ولادت کرده اند، شامل مطالعه گردیده است. اختلاطات نوزادان از نظر سن حمل، وزن نوزاد در زمان ولادت و مرگ نوزادان در هر دو گروپ با هم مقایسه گردیده است.

نتایج: در طی دو ماه ۴۰۳۵ خانم حامله در شفاخانه ملالی ولادت کرده اند، که از این جمله ۶۳ ولادت دوگانگی ثبت شده بود. میزان دوگانگی ها ۱۵ تن در هزار ولادت و اوسط سن در این مادران ۴.۶ ±۲۶ دریافت شد. در این تحقیق دریافت گردید که حمل دوگانکی فکتور خطر برای وزن کم زمان تولد (OR: 26.7; 95% CI: 22.6 - 31.1) ، ولادت قبل از وقت (OR: 18.7; 95%CI: 15.4-22.6) و برای مرگ نوزادی (OR: 14; 95% CI: 6.1- 34.3) است.

نتیجه گیری: در حمل دوگانگی نظر به حمل یگانگی اختلاطات در نزد نوزادان بلندتر بوده، بخصوص ولادت قبل از وقت که خطر مرگ و میر نوزادان را به شکل قابل ملاحظه یی افزایش میدهد. حمل دوگانگی از حالاتی است که ضرورت به تعقیب و مراقبت های قبل از ولادت، زمان ولادت و بعد از ولادت دارد و باید امکانات مراقبت های خاص (Intensive Care) برای مادران و نوزادان فراهم گردد.

واژه های کلیدی: دوگانگی ها؛ ولادت قبل از وقت؛ Low Birth Weight؛ مرگ نوزاد.

Assessment of Complications of Newborn in Twins Pregnancies: Malalai Maternity Hospital, Kabul, Afghanistan

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Abstract

Background: Twin pregnancy is a special condition that causes obstetric complications including life-threatening conditions.

Objective: To assess newborn complications among twin pregnancies.

Method: An analytical cross-sectional study has been done during two months, from 21 January to 20 March 2016. All twin and singleton pregnancies over 28 weeks delivered in Malalai Maternity Hospital (MMH) were included in the study. Newborn complications were studied among these two groups, and these groups have been compared for different prospective including gestation age, newborn weight and newborn death. After analysis of the data, odds ratio of the data has been calculated.

Results: Within the two months 4,035 pregnant women delivered in MMH comprises of 63 twin cases. Twins' rate was 15 in 1,000 pregnancies. Average age of mothers was 26.2±4.8. This study found that twin pregnancy was a risk factor for newborns with low birth weight (OR: 26.7; 95% CI: 22.6-31.1), premature labor (OR: 18.7; 95%CI: 15.4 -22.6) and newborn deaths (OR: 14; 95% CI: 6.1 to 34.3).

Conclusion: Newborn complication in twins is higher than singletons especially premature deliveries significantly increase newborn deaths cases.

Key words: Twins Pregnancy; Premature Labor; Low Birth Weight; Newborn Death.

پیشینه

حمل دوگانگی یک حالت خاص حاملگی است که می تواند با اختلاطات ولادی و مرحله نوزادی مترافق باشد، که بعضاً حیات مادر و طفل را به خطر مواجه می سازد.

وقوعات دوگانگی ها در سراسر جهان متفاوت است که معمولاً بین دو الی بیست در ۱۰۰۰ تولد زنده است. از نظر نژادی وقوع حمل دوگانگی در سیاه پوستان بیشترین و آسیایی ها کمترین و در سفید پوستان به حد متوسط می باشد. وقوع آن در جاپان ۳ در ۱۰۰۰ ولادت، در امریکا ۱۲ در هر ۱۰۰۰ تولد و در افریقا ۴۹ تا ۵۹ در هر ۱۰۰۰ تولد است[5]. در طی ۲۰ سال اخیر در کشور های پیشرفته وقوعات آن رو به افزایش بوده که دلایل آن استفاده از دوا های تحریک کننده تخمه گذاری، باروری کمکی Assisted Reproductive Techniques (ART) و حاملگی در سنین بالا استند.[8] حمل دوگانگی با اختلاطات، مرگ و میر قبل و زمان ولادت همراه است[۱۰،۳]. خانم ها با حمل دوگانگی شش مراتبه بیشتر از حمل های یگانگی از باعث اختلاطات حمل داخل بستر میشوند[۱۳،۲]. مرگ و میر قبل از ولادت شان چهار مراتبه بیشتر است[۱۱].

حمل دوگانگی نه تنها برای مادر بلکه برای نوزاد خالی از اختلاطات نمیباشد. برای طفل تولد شده حوادث همچو ولادت قبل از وقت، وزن کم زمان تولد و ممکن مرگ واقع گردد[8].

معلوم است که حمل های دوگانگی با خطرات بیشتر همراه بوده اختلاطات آن شامل ولادت قبل از وقت، ابنارملتی های ولادی، (IUGR) Intra-Uterine Growth Retardation تأخر رشد داخل رحمی، (LBW)Low Birth Weight، Twin to Twin Transfusion Syndrome (TTTS)، و غیره است. در حین حال وقوعات عواقب وخیم حمل برای مادر و جنین از نظر مرگ ومیر افزایش می یابد[5].

در مطالعهٔ prospective دوساله در بین جنوری ۱۹۹۹ الی دسامبر ۲۰۰۰ که در مرکز MCH- Pakistan Institute of Medical Science- (PIMS) اسلام آباد صورت گرفت نتیجه گیری شد که خانم های با حمل چند گانگی زیادتر به اختلاطات قبل از ولادت و زمان ولادت مواجه اند و نوزادان شان نیازمند مراقبت های خاص میباشند. این نیازمندی ها از قبل مشخص و شناسایی شده و توصیه های خاص جهت مراقبت های قبل از ولادت، زمان ولادت در شفاخانه صورت گیرد و باید امکانات مراقبت های خاص (Intensive Care) برای مادران و نوزادان فراهم گردد[9].

در یک مطالعه Retrospective در مدت زیادتر از ده سال که در شفاخانه تدریسی پوهنتون Gwagwalada Abuja نایجریا بالای حمل های دوگانگی صورت گرفت، دریافت شد که سرویس دهی مراقبت های قبل از ولادت و منجمنت بهتر زمان ولادت در Outcome حمل های دوگانگی با ارزش است[1].

سازمان صحی جهان تخمین کرده که سالانه در کشور های رو به انکشاف ۲۸۷۰۰ مرگ مادر و سه میلیون مرگ نوزادان واقع میشود. بنابر خصوصیات فکتور های بیالوژیک و ارثیت در حمل های دوگانگی اختلاطات ولادی و Perinatalمانند Preeclampsia و Post-partumhemorrhage افزایش می یابد[14].

بنابر مشکلاتی که در کشور های رو به انکشاف و مخصوصاً در کشور های آسیای میانه موجود است مرگ ومیر دوگانگی ها بیشتر است. نظر به اینکه حمل های دوگانگی خطرات بسیار جدی را برای مادران و نوزادان در کشور های رو به انکشاف بوجود می آورند[14] خوب است این خطرات در کشور خود ما مخصوصاً نزد نوزادان که در مراکز صحی ولادت می کنند، دانسته شود. لذا شفاخانه ملالی که از جمله مزدحم ترین عرضه کننده خدمات به مادران به سطح عالی در سطح شهر کابل است، انتخاب شد و هدف مطالعه ما ارزیابی اختلاطات نوزادان در حمل دوگانگی و مقایسه آن با حمل یگانگی ها در شفاخانه ملالی می باشد.

مواد و میتود

مطالعه Cross- Sectional تحلیلی در مدت دو ماه از اول دلو سال ۱۳۹۴ الی ۳۰ حوت ۱۳۹۴ صورت گرفت. تمام حمل های دوگانگی (موجودیت دو جنین در یک حمل را گویند) و حمل های یگانگی بالاتر از ۲۸ هفته که در شفاخانه ملالی ولادت کرده اند، شامل مطالعه گردیدند. ولی حمل های زیادتر از دو جنین، سقط ها، حمل های خارج از رحمی، آفات مولر، مریضان که بنابر سایر مشکلات حمل داخل بستر شده بودند و مریضان دوگانگی که دوسیه های نا تکمیل داشتند از مطالعه خارج گردیده اند.

اختلاطات نوزادی به طوری اخص ولادت قبل از وقت، Low Birth Weight (وزن طفل نوزاد کمتر از ۲۵۰۰ گرام) و مرگ نوزادان مورد مطالعه قرار گرفت. ارقام از کتاب راجستر OPD، ولادت خانه، عملیات خانه و بخش نوزادان جمع آوری شد و درج جدول جمع آوری ارقام گردید. ابتدا تعداد ولادت دریافت شد در نهایت اختلاطات نوزادان هم در ولادت حمل های دوگانکی و حمل های یگانگی مقایسه گردید. ارقام بدست آمده توسط Chi -Square Test تحلیل و تجزیه شده است و درین مطالعه Significance Level (P- Value) 0,05 > مدنظر گرفته شده است.

نتایج

در مدت دو ماه در شفاخانه ملالی زیژنتون، که یکی از مزدحم ترین شفاخانه های ولادی در سطح کابل است، به تعداد ۴۰۳۵ ولادت صورت گرفته است که از آن جمله ۶۳ ولادت دو گانگی بود. وقوع حمل دوگانگی در طی دو ماه ۱۵ در ۱۰۰۰ ولادت و اوسط سن مادران دوگانگی ها ۴.۶ ±۲۶ دریافت گردیده است.

جدول (۱) مشخصات مریضان دوگانگی

Variables	Groups	N(%)
Gravidity	Primigravida	24 (38%)
	Multigravida	20 (31.7%)
	Grand multigravida	19 (30.1%)
Type of Delivery	Normal vaginal delivery	42 (66.6%)
	Cesarean section	21 (33.3%)
Gestation Age	Term	47 (74.6%)
	Preterm	16 (25.4%)
Weight of baby	Low birth weight	22(34.9%)
	Normal weight	41 (65%)
Neonatal death	Yes	7 (11.1%)
	No	56 (89.9%)
Perinatal Adverse Outcome	Yes	31(49%)
	No	32(51%)

در جدول (۱) معلومات مختصر در مورد خصوصیات دیموگرافیک، ارقام در مورد طریقه های ولادت، سن حملی، وزن جنینی و مرگ در حمل دوگانگی ارایه شده است.

جدول (۲): ارتباط اختلاطات *Perinatal* با دوگانگی ها

اختلاطات Perinatal	Twins N(%)		Singleton N(%)	Total
Yes	31(49%)		215(5.4%)	246
No	32(51%)		3757(94.6%)	3789
Total	63(100%)		**3972(100%)**	4035

OR=16.7(95% CI: 9.99 - 27.8)

از تمام مریضان دوگانگی (۶۳ تن)، در نزد ۳۱ تن (۴۹فیصد) آنها اختلاط جنینی به وجود آمده بود، در حالیکه اختلاط جنینی در حمل یگانگی ها ۵.۴فیصد دریافت شده است. با درنظر داشت ارقام بدست آمده حمل دوگانگی چانس بوجود آمدن اختلاط جنینی را در مقایسه با حمل های یگانگی ۱۶ مرتبه (OR=16.7(95% CI: 9.99 - 27.8 افزایش میدهد.(P< 0.001)

جدول (۲): ولادت قبل از وقت

ولادت قبل از وقت		Twins N(%)	Singleton N(%)	Total
Yes		16(25.4%)	71 (1.7%)	87
No		47 (74.6%)	3901(98.2%)	3948
	Total	63(100%)	**3972(100%)**	4035

OR=18. (95% CI: 15.4 to 22.6)

تعداد ولادت های قبل از وقت در نزد ۶۳ مریض دوگانگی ۱۶ تن (۲۵.۴فیصد) در حالیکه در حمل یگانگی ۷۱ تن (۱.۷فیصد) دریافت شد. بنابر ارقام فوق حمل دوگانگی چانس ولادت قبل از وقت را ۱۸ مراتبه(95% CI:15.4 to 22.6) .OR=18 نظر به حمل یگانگی افزایش میدهد.P- Value <0.001

جدول (۳):*Neonatal death* و دوگانگی ها

Neonatal Death	*Twins N(%)*	*Singleton N(%)*	*Total*
Yes	*7(11.1%)*	*32(0.8%)*	*39*
No	*56(89.9%)*	*3940(99.2%)*	*3996*
Total	*63(100%)*	***3972(100%)***	*4035*

OR=14.6(95% CI: 6.19 to 34.3)

از جمله ۶۳ مریض دوگانگی تحت مطالعه ۷ تن (۱۱.۱ فیصد) نزد شان Neonatal death واقع شده در حالیکه این حالت نزد ۳۲ تن حمل یگانگی (۰.۸فیصد) ثبت گردیده است. با در نظرداشت ارقام فوق چنین استنباط میشود که حمل دوگانگی وقوع Neonatal Death را ۱۴ مراتبه (OR=14.6(95% CI:6.19 to 34.3 افزایش میدهد (P< 0.001)

جدول (۴):نوزادان با وزن کم در زمان تولد در حمل دوگانگی و یگانگی ها

Low Birth Weight	*Twins N(%)*	*Singleton N(%)*	*Total*
Yes	*22(34.9%)*	*78(2%)*	*100*
No	*41(65%)*	*3894(98%)*	*3935*
Total	*63(100%)*	***3972(100%)***	*4035*

OR=26.7(95% CI:22.6 to 31.1)

قسمیکه مشاهده میشود ۴۰۹۸ تعداد مجموعی اطفال به دنیا آمده بوده که واقعات Low Birth Weight در مریضان دوگانگی تحت مطالعه 22 تن (۵۳.۶فیصد) بوده در حالیکه در حمل یگانگی ها ۷۸ (۲%) است بناً نتیجه گیری میشود که چانس Low Birth Weight در حمل دوگانگی ۲۸ مراتبه OR=26.7(95% CI: 22.6 to31.1) بیشتر از حمل یگانگی است.(P< 0.001)

در این مدت هیچ ابنارملتی جنین در دوگانگی ها ثبت نشده بود. در حالیکه ۱۲ واقعه ابنارملتی جنینی در حمل یگانگی ها ثبت شده بود.

مناقشه

میزان دوگانگی ها در این مطالعه ۱۵ در هزار ولادت دریافت گردید در حالیکه در کشور امریکا ۱۲ در هزار، کشور جاپان ۳ در هزار و در کشور های افریقایی متفاوت از ۴۹ تا ۵۹ در هزار گزارش داده شده است[5]. از طرف دیگر، واقع شدن حمل دوگانگی در مقایسه با حمل یگانگی ۱ در ۶۴ ولادت بود و در کشور پاکستان ۱ در ۵۷ ولادت است. مطالعه ما در مطابقت به دریافت های فوق است. اوسط سن خانمها ۴.۶ ±۲۶ در این مطالعه دریافت شده که شباهت با سایر مطالعات در این مورد دارد[۶،۳].

ولادت قبل از وقت که از جمله اختلاطات معمول دوگانگی ها است در این مطالعه ۱۶ مراتبه نظر به حمل های یگانگی بیشتر دریافت گردیده است و دلیل آن هم ممکن بزرگ شدن بیش از حد رحم، فرط فشار خون توأم با حاملگی و بزرگ بودن اندازه پلاسنتا که مادر را بیشتر مواجه با انتی جن های پلاسنتایی میکند، باشد. درین تحقیق وقوع آن ۲۵فیصد بوده که با تحقیق در کشور تایلند (۲۵،۵۴فیصد) مطابقت دارد[4] و همچنان وقوع ولادت قبل از وقت دوگانگی در بین تمام ولادت های قبل از وقت ۱۸.۳فیصد که با همین تحقیق (۱۰،۱۲فیصد)

همخوانی دارد[4]. ولادت قبل از وقت خود یک دلیل برای کم بودن وزن نوزاد در هنگام تولد و باعث افزایش مرگ و میرنوزادان میگردد. در یکی از مطالعات که در امریکا انجام شده است میزان مرگ و میر نوزادان در حمل دوگانگی ۵۶.۶ در هزار گزارش داده شده است[۷]. در پاکستان ۱۰۸ در هزار ولادت[۹] و در نایجریا ۱۰۲ در هزار، در حالیکه در کشور های پیشرفته با تفاوت قابل ملاحظه طوریکه در کشور انگلستان ۴۲ در هزار است.[۹] در این مطالعه میزان آن ۱۱۰ در هزار ولادت دریافت گردید. بلند بودن ارقام در کشور ما و سایر کشور های روبه انکشاف همانا عدم موجودیت امکانات و تجهیزات طبی و مشکلات در عرضه خدمات صحی با کیفیت میتواند باشد.

اختلاط معمول دیگر در نوزادان دوگانگی ها همانا وزن کم زمان تولد (LBW) است که در ین مطالعه ۲۶ مراتبه بیشتر نسبت به یگانگی ها دریافت شد (P<0.001) و وقوع آن ۳۴.۶فیصد بوده که نظر به مطالعه دیگر (۶۲.۳فیصد) کمتر دریافت شد[۴]. زیادترین علت احتمالی آن هم ولادت قبل از وقت در دوگانگی ها است.

طوریکه افغانستان یک کشور رو به انکشاف است، وضعیت اجتماعی و اقتصادی نامناسب، کمبود و یا عدم موجودیت خدمات قبل از ولادت یا دوره Prenatal با کم بودن وزن طفل و سندروم دیستریس تنفسی میزان مرگ و میر مادران و نوزادان را در بین دوگانگی ها بلند میبرد. انجام دادن تحقیقات بعدی در سایر مراکز در سطح کشور و ولایات برای به دست آوردن نتایج ارزشمند در تعمیم تحقیقات در کشور کمک کننده خواهد بود.

نتیجه گیری

در حمل دوگانگی نظر به حمل یگانگی اختلاطات نوزادان بلند بوده بخصوص ولادت قبل از وقت که خطر مرگ و میر نوزادان را به شکل قابل ملاحظه افزایش می دهد.

پیشنهادات

افزایش امکانات برای دسترسی به خدمات صحی، آگاهی دهی و تعلیمات صحی و مشوره در زمان قبل از ولادت در منجمنت اختلاطات حمل های دوگانگی موثریت دارد که این ها نیازمند به ستراتیژی های مناسب است. تربیه متخصصین ورزیده ولادی، بخش نوزادان و انستیزی با امکانات و تجهیزات خوب در مصؤن کردن مادران و نوزدان در خطر کمک کننده خواهد بود زیرا در دوگانگی اختلاطات نوزادان بلند بوده بخصوص ولادت قبل از وقت که خطر مرگ و میر نوزادان را به شکل قابل ملاحظه ای افزایش میدهد.

References

1. Akaba, G.O.,Ahida, T.E.,Onafowokan, O. (2013). Review of twin pregnancies in a tertiary hospital in Abuja, Nigeria: J Health PopulNutr. 31(2).Pp.272-7.
2. American College of Obstetricians and Gynecologists Committee on Practice Bulletins-Obstetrics, Society for Maternal-Fetal Medicine, ACOG Joint Editorial Committee ACOG Practice Bulletin #56. (2004).multiplegestations: complicated twin, triplet, and high-order multifetal pregnancy. ObstetGynecol, 104. Pp.869–83.
3. Ashworth, M.F., Spooner, S.F.,Verkyl, D.A. et al. (1990). Failure to prevent labour and delivery in twin pregnancy using prophylactic oral salbutamol. Br. J. Obstet. Gynecol. 97: Pp.878-82.
4. Bruce, W.K., Thomas, H.K., Richard, H.P.(1989). Twin gestations: I. Antenatal care and complications. Obstet. Gynecol; 74: 313 - Pp.7-11

5. Bush, M.C.,Pernoll, M.L. (2007). Multiple pregnancy. In: DeCherny AH, Nathan L, Goodwin TM, Laufer N., editors. Current diagnosis and treatment, obstetrics and gynecology. 10th ed. New York, NY: McGraw Hill; Pp. 301–10.
6. Chohan, M.A., Bashir, S.P. (1998).Prenatal mortality in multiple gestations. Pak, J. Obstet. Gynecol. 11: Pp.50-56.
7. Honlihan, C.,Knuppel, R.A. (1996).Intrapartum management of multiple gestations. Clin. Perinatol. 23: Pp.91-116
8. Jewell, S.E., Yip, R. (1995).Increasing trends in plural births in U.S. Obstet. Gynecol; 85: Pp.229-32.
9. Mazhar, S.B.,Peerzada, A., Mahmud, G. (2002). Maternal and perinatal complications in multiple versus singleton pregnancies: a prospective two years study. J Pak Med Asso52(4): Pp. 143-7
10. Minakami, H., Sato, I. (1996). Reestimating date of delivery in multifetalpregnancies. J. Am. Med. Assoc; 275:1Pp. 432-34.
11. Mutihir, J.T., Pam, V.C. (2007). Obstetric outcome of twin pregnancies in Jos, Nigeria. Niger J ClinPract.; 10:Pp.15–18.
12. Obiechina, N.J.,Okolie, V.E.,Eleje, G.U.,Okechukwu, Z.C.,Anemeje, O.A. (2011). Twin versus singleton pregnancies: the incidence, pregnancy complications, and obstetric outcomes in Nigerian tertiary hospital.Int J Womens Health;3: Pp.227–30.
13. Omu, A.E.(2003).Multifetal pregnancy In: Okpere EE, editor. Clinical obstetrics. 2nd ed. Benin: Uniben Press; Pp. 180–8.
14. WHO (2011). World health statistics. Geneva: World Health Organization; Pp. 43–55.

A Cross-Sectional Study on Burden of Hepatitis B/C and HIV Infection among Herat adults' citizens, Afghanistan

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Abstract

Background: Hepatitis B, C and Human Immunodeficiency virus infections are important global health problems. Information for mentioned infections are lacking in Afghanistan. The objective of this study was to determine the prevalence of HBV, HCV and HIV infections and describe their risk factors among adult citizens in Herat City, Afghanistan.

Methods and Materials: This study was a descriptive cross-sectional study conducted in May-June 2015 of 1,129 adult citizens of Herat City. Demographic, socioeconomic and lifestyle factors were collected using WHO STEP wise approach. Rapid tests were conducted to identify the prevalence of HBV, HCV, and HIV infections. Statistical analysis performed Using SPSS version 20.

Results: Totally 1,129 clean records used for analysis of which 47.4% were males and 52.6 were females with mean age of this sample was 41.5 ± 13.1 years. More than half of the respondents (54%) were illiterates; majority of the study participants were married (85.8%), while more than 80% of women were housewives. Smoking prevalence was in 5.6% among study subjects and 10.8% were mouth snuff users. The prevalence of HBV using HBsAg was 3.3% (37/1,129) and the prevalence of HCV was 0.2% (2/1,129). In addition, 100 samples were sent to Ankara, Turkey for more advance testing. Four samples out of 100, which were sent to Turkey, were reactive for HIV infection while none was positive in Kabul. Being positive for all infection in one person were not reported.

Conclusion: While the burden of HBsAg and anti HCV seropositivity in the study was low as compare to other countries, however the risk of getting infection remains high. Furthermore, 4 out of 100 being positive for HIV are very high as compared to suggested burden. Public awareness and health education regarding risk factors for viral hepatitis and encouragement for vaccination is recommended.

Keywords: Hepatitis, HBV, HCV, HIV infection, risk factors, Afghanistan

چکیده

مطالعه مقطع یی عرضانی روی انتانات التهاب ویروسی کبد نوع (HBV) و نوع (HCV) و انتان ویروسی (HIV) در بین شهر نشینان کاهل شهر هرات افغانستان صورت گرفت.

پس منظر: انتانات چون التهاب ویروسی کبد نوع بی و سی و ویروس کاهش معافیتی انسانی چالش های عمده در سطح جهان اند. معلومات در ارتباط انتانات متذکره در سطح افغانستان کم است. هدف مطالعه هذا تعین شیوع انتانات التهاب ویروسی نوع بی و سی و انتان کاهش معافیتی انسانی و تشریح فکتور های مرتبط آن در بین شهر نشینان در شهر هرات افغانستان میباشد.

میتود: این مطالعه از نوع تشریحی مقطع یی و عرضانی بوده که در ماه های می و جون سال ۲۰۱۵ با شامل نمودن ۱۱۲۹ نفر افراد کاهل شهر نشین شهر هرات انجام یافته است. معلومات دیموگرافیک، اقتصادی-اجتماعی و فکتور های طرز زندگی با استفاده از روش مرحله یی سازمان صحی جهان (WHO STEPS Tool) جمع آوری گردیده است. تست های سریع لابراتواری بخاطر مشخص نمودن شیوع التهاب ویروسی نوع بی و سی و اچ ای وی روی سیروم ها صورت گرفته است. تحلیل های احصاییوی با استفاده از سافت ویر (SPSS V.20) انجام یافته است.

نتایج: در مجموع ۱۱۲۹ ریکارد تصفیه شده بخاطر تحلیل مورد استفاده قرار گرفت که ۴۷.۴% آنها مردان و ۵۲.۶% آنها زنان بودند. اوسط عمر آنها ۴۱.۵ سال با انحراف معیاری ۱۳.۱ سال بود. زیادتر از نصف آنها یعنی ۵۴% بیسواد بوده و اکثریت افراد تحت مطالعه متاهل (۸۵.۸%) بوده وحدود ۸۰% از خانم ها مصروف فعالیت های داخل منزل بودند. سطح استفاده از سگرت ۵.۶% بوده و ۱۰.۸% نصوار دهن را استفاده مینمودند. شیوع انتان التهاب ویروسی کبد نوع بی ۳.۳% (۳۷ نفر از ۱۱۲۹ نفر) و شیوع انتان التهاب ویروسی نوع سی ۰.۲% یعنی (۲ نفر از ۱۱۲۹ نفر) بودند. علاوتاً ۱۰۰ نمونه بخاطر تست (HIV) به انقره ترکیه به خاطر تست های پیشرفته ارسال شد. چهار سمپل از جمله ۱۰۰ نمونه در ترکیه عکس العمل (Reactive) مقابل انتان (HIV) داشتند در حالیکه در کابل هیچ کدام در تست سریع مقابل مرض متذکره مثبت نبودند. مثبت بودن تمام انتانات در یک فرد گذارش نشده است.

نتیج گیری: گرچه سطح انتانات و شیوع التهاب ویروسی کبد نوع بی و سی در مقایسه به سایر کشور ها کم گذارش شده است، با آنهم مصابیت به مرض در میزان بلند قرار دارد. گذشته از آن مثبت بودن چهار نفر در صد نفر در افراد کاهل در مقابل بار موجود خیلی بلند میباشد. آگاهی عامه و تعلیمات صحی راجع به فکتور های خطر التهابات ویروسی کبد تشویق میگردد و واکسین نمودن مقابل آن سفارش میشود.

Introduction

Infections due to viral hepatitis, particularly hepatitis B virus (HBV) and hepatitis C virus (HCV), present major public health problems while on the other hand, the human immunodeficiency virus (HIV) pandemic with about 34 million infected persons is another potential threat to health of community worldwide (1-2). According to World Health Organization (WHO) estimation more than 2 billion people have been infected with HBV and 350 million people continue to carry chronic HBV infection globally (3). The prevalence of HBV is ranging from below 2% in low endemic countries to more than 8% in high endemic countries (4). Hepatitis B surface antigen (HBsAg) is one of the serologic markers appearing after HBV infection and its persistence more than 6 months denotes chronic HBV infection (5). Modes of transmission and prevalence of HBV vary geographically; therefore, its burden is classified into three endemic patterns (6-8). About 45% of the world's population live in regions of high endemicity, defined as areas where 8% or more of the population are positive for HBsAg such as Southeast Asia and Sub-Saharan Africa. The moderately endemic areas, such as in Mediterranean countries and Japan, are defined

as those areas where 2–7% of the population are HBsAg positive, and around 43% of the world's population live in regions of moderate endemicity. Western Europe and North America are considered as areas with low endemicity (<2% of the population is HBsAg positive) and it constitutes 12% of the world's population (9). HCV is another public health challenge by which around 170 million people are chronically infected and 3-4 million are newly affected annually (10). Most of the patients are asymptomatic till the disease is at its terminal stage posing a serious threat to life (11). There is currently no vaccine available for HCV infection prevention due to the high degree of strain variation (12). Chronic HBV and HCV infection together resulted in an estimated 1.4 million deaths in 2010 (13-14). In the Middle East region, the prevalence of HBV carriers among adults varies from less than 2%, as in Bahrain, to more than 15%, as in the Republic of Yemen (15). In Pakistan, among healthy adults, the prevalence of hepatitis B antigen was 2.4% and for hepatitis C antibody was 3.0% (16). In a study in Lahore Pakistan, 4.9% of the subjects were confirmed with active HCV infections in adult population while hospital based study reported that 3.12% were suffering from hepatitis C and 2.02% from hepatitis B while co-infection was present in 0.12% patients (17-18). Human Immunodeficiency Virus (HIV) continues to be a major global public health issue. In 2015, around one million people died from HIV-related causes globally. There were approximately 37 million people living with HIV at the end of 2015 with 2.1 million people becoming newly infected globally (19).

In Afghanistan, there is limited epidemiological data available regarding burden of HBV, HCV and HIV. It could be due to other competing priorities and years of more than two decades of war and challenging health system. A prevalence study in Jalalabad city among adult population reported that 3.8% were seropositive for HBsAg on rapid test and 3.4% were confirmed positive after ELIZA. Totally 0.9% were seropositive for anti-HCV on rapid tests (20). The prevalence of HBV and HCV in high risk groups are higher as compared to general population. In Afghanistan, the overall prevalence of HBV and HCV among injecting drug users were 6.5% and 36.6% respectively in 2005-2006 (21). In 2005, it was estimated that 7% of the general population have chronic HBV infection (22). A meta-analysis estimates the prevalence of 1.9% for HBV and 1.1% for HCV in general population (23). The proportion of HBV in injecting drug users (IDUs) ranged from 5.8-6.5%, with an overall prevalence of 6.15% while the prevalence of HCV in same population was 36.4% (24). In addition, the prevalence of HCV and HBV in Female Sex Workers (FSWs) in three big cities in the country was 1.92%, and 6.54% respectively (25). A genotype study reported that genotype-D is the predominant genotype circulating in Afghani's population after which the genotypes C, A and B predominates (26). The burden of Hepatitis and HIV infection is poorly studied in Afghanistan. UNAIDS data indicate that the epidemic presently remains under <0.1% among the general population in Afghanistan (27). A survey of HIV in 2012 showed prevalence of HIV among people with injecting drug users was 4.4% while it was 0.4% among male sex workers, 0.3% among female sex workers and 0.7% among prisoners (28). The cumulative number of HIV infections until 2012 were reported to be 1,529 by sex ratio of 6:1 male to female (29).

Methods and materials

In 2015, a survey was designed and conducted to collect information on risk factors for non-communicable diseases in Herat City using

WHO STEP wise approach. By means of this opportunity, we included some main variables related to hepatitis and HIV infection in the questionnaires and analysis were performed separately. The basic study was a provincial cross sectional survey and the target population were all residents aged 25-70 years living in urban areas of Herat City. Temporary residents (resident <6 months) and those living in institutional settings or insecure areas were excluded. Data collection conducted in May-June 2015 and variables such as demographic, behavioral and biochemical domains were included. The Expanded Programme for Immunization (EPI) list of the clusters were used as a base for sampling which included the village/area name, population, and number of households per cluster. Using multi-stage cluster sampling, in the first stage we conventionally and randomly selected 16 out of 60 EPI clusters. In the second stage, from each selected cluster five areas (called Area/Guzar) were randomly selected, and finally the overall sample of 1,200 households distributed among these selected areas according to the proportion to the size of household number in each cluster/area. Informed consent was taken before interview. Along with demographic, socioeconomic and behavioral data, blood samples were collected for biochemical and rapid testing for HBV, HCV and HIV infections. Samples were transported in cold boxes (2-8°*C*) from field to public health laboratory, where it was processed and serum was separated and shipped to Central Public Health Laboratory (CPHL) in Kabul. Altogether 1,129 samples were fully tested for biochemical measurement and rapid testing of hepatitis B, C and HIV infections. Viral serology included HBsAg and hepatitis C antibodies (HCV-Ab) and HIV rapid tests. After rapid tests, all positive samples of HBV and HCV with negative samples (in total 100) were sent to Ankara Turkey for further procedures. Epi-info version 7 and SPSS version 20 were used for data management and analysis. Ethical approval was obtained from Ministry of Public Health Institutional Review Board (IRB).

Results

Totally 1,129 clean records used for analysis of which 47.4% were males and 52.6 were females with mean age of this sample was 41.5 ± 13.1 years. More than half of the respondents (54%) were illiterates, and 82.7% of participants had a monthly income <10,000 Afghanis (USD 146). It seems that the level of income reported by respondents was low. Majority of the study participants were married (85.8%), while more than 80% of women were housewives. Smoking was prevalence in 5.6% of study subjects and 10.8% were mouth snuff users (Table 1).

The prevalence of HBV using HBsAg was 3.3% (37/1,129) and the prevalence of HCV was 0.2% (2/1,129). All samples were tested for HBV, HCV and HIV using rapid test in central public health laboratory. In addition, 100 samples were sent to Ankara, Turkey for more advance testing. Four samples out of 100 sent to Turkey were reactive for HIV Infection while none was positive in Kabul. So it can be estimated that 4% of samples were positive for HIV infection which is a significant finding. Being positive for all infection in one person were not reported. There is the possibility of changes in results if further confirmatory tests are done on positive or negative samples using advanced laboratory technology. Full description of four cases of HIV and two cases of HCV is given in the table 2.

Table 3 shows the description of behaviors which are reported risk factors for blood borne diseases including HBV, HCV and HIV infections. Around two percent of respondents practice tattooing and 5% reported that they have been

hospitalized in last six months ahead of the study. One third of study subjects knew about hepatitis; in last six months ahead of field data collection 2.7% had blood transfusion; 3.7% had undergone surgery procedures and 8.6% undergone dental procedures. History of having jaundice was prevalence in 2.3%, while one-third of them taken injection in the last six months. Piercing was common in 44% of subjects and 5% reported had lived with hepatitis patients under one roof. Vaccination coverage for HBV was as low as 3.6% among citizens (Table 3).

Statistically analysis were conducted to know the association of factors with HBV for which there were 37 positive records while for HIV and HCV due to low number of positive cases, it was not possible to run statistical analysis to establish the relationship. As shown in table 4, the highest prevalence of HBV was reported in age group of 25-34 and later in age group of 45-54 while this difference was not statistically significant. Prevalence of HBV was more or less the same in illiterate versus literate or between male versus females.

The proportion of HBV was 70% in illiterate group while there was no case of HCV recorded in whole participants who were literate. More than half of the cases had knowledge of both HBV and HCV while this proportion was low in negative cases for HBV versus HCV. Prevalence of HBV was higher in those who had knowledge of hepatitis as compare to those who did not know the diseases (OR=2.28, 95%CI: 1.17-4.41). Furthermore, another inverse finding was double high practice of blood transfusion among negative versus positive samples of HBV which was statistically significant. History of jaundice was higher among positive versus negative but due to low number of cases the chi-square was shifted to Fischer exact test in which the relationship was not significant. Tattooing and joint living with hepatitis patients were more prevalent in positive cases but it was again not significant findings (Table 4). Due to low sample size for these factors, we were not able to establish the statistical relationship with disease while they have been proved in other findings with higher size of samples.

Discussion

Low level of information is manifest in all aspects of health sector in Afghanistan and it could be due to years of conflict in the country. Blood borne infections including HBV, HCV and HIV infections are those priorities for which less data is available. Findings of this study regarding burden of HBV (3.3%), HCV (0.2%) and HIV 4 out of hundred tested blood samples is great and significant for decision making. It seems the prevalence is low and classified the country in mild to moderated level infection, but still due to weak health system, low public awareness and considerable prevalence in high risk groups requires full attention is needed. Reactivity of four blood samples out of 100 which was tested in Turkey is a very trigger point for policy makers and program professionals in Herat City. Herat is very close to Iran to which thousands of returnees are coming back being in high risk groups and infected with HBV, HCV and HIV infections. Very concerted and intensive interventions should be planned for this province, particularly for HIV/AIDS preventive and management activities. Although being positive simultaneously for all infections were not reported in this study, but just 100 samples had confirmatory tests for HIV and this could not exclude this allegation. These findings are consistent with studies conducted in Jalalabad and Mazar-e-Sharif. The prevalence of HBV 3.8% for HBV and 0.9% for HCV in Jalalabad city

(20). In Mazar-e-Sharif the prevalence of HBV was 5.6% (69 out of 1,231) for HBsAg on rapid test and 67 (5.4%) were confirmed positive after ELIZA test. Totally, 3 subjects (0.2%) were seropositive for anti-HCV on rapid tests. By multivariate logistic regression analysis, independent predictors for HBsAg infection were sex, history of jaundice, blood transfusion and living with hepatitis patients (30). Furthermore, determination of prevalence of such infections in adult population is first of its kind in this city which requires more intensive interventions such as establishment of national programs for control and prevention of hepatitis while there is national control program of tuberculosis, HIV/AIDS and malaria in the country. Positivity of HBV and HIV in young generations is more critical that help the programmers to focus tailored interventions for this high risk groups. Yet it could be due to involvement of young groups in using of injections drugs which is a key driver of blood borne viral transmission and probably owing to sharing the needles (31-32). The departments of health should focus on occupational safety and health training to health workers as well as proper waste management at health settings (33). Returnees are another high risk groups to which specific package of interventions are needed in order to safe them as well as rest of community where they will be settled. It could be concluded that although the prevalence of HBV and HCV is low but the country is at high risk due to more burden and availability of high risky behaviors. The stakeholders and policy makers are needed to design and implement effective programs for early interventions to prevent the spread of hepatitis in Afghanistan. Screening of returnees, vaccination of health workers, raising public awareness and focusing on practical interventions will have positive impact on burden of diseases in future.

References

1. World Health Organization. Hepatitis B. WHO Fact Sheet. 2008; Available from: http://www.who.int/mediacentre/factsheets/fs204/en/index.ht ml.
2. UNAIDS. Report on the global HIV/AIDS epidemic, 2011; Joint United Nations Programme on HIV/AIDS: Geneva.
3. Navabakhsh, B., Mehrabi, N., Estakhri, A., Mohamadnejad, M. &Poustchi, H. (2011). Hepatitis B Virus Infection during Pregnancy, Transmission and Prevention, Middle East Journal of Digestive Diseases. 3(2), 92-102.
4. Burler JRG, Korda RJ, Watson KJR, Watson DAR. The impact of chronic Hepatitis in Australia: projecting mortality, morbidity and economic impact. Canberra. Australian Center for Economic Research on Health, 200
5. Morgan M, Keeffe EB. Diagnosis and treatment of chronic hepatitis B: 2009 update. Minerva GastroenterolDietol. 2009; 55(1):5–22.
6. Knipe DM, Howley P (2013) Fields virology. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.
7. Goldstein ST, Zhou F, Hadler SC, Bell BP, Mast EE, et al. (2005) A mathematical model to estimate global hepatitis B disease burden and vaccination impact. Int J Epidemiol 34: 1329–1339.
8. Kowdley KV. The cost of managing chronic hepatitis B infection: a global perspective. J ClinGastroenterol. 2004, 38: S132–S133.
9. Nicoletta P, Daniel L (2002) Hepatitis B. World Health Organization.
10. WHO. Hepatitis C fact sheet. Available from: http://www.who.int/mediacentre/factsheets/fs164/en/index.html

11. Hayashi J, Kishihara Y, Yamaji K, Yoshimura E, Kawakami Y, Akazawa K, et al. Transmission of hepatitis C virus by health care workers in a rural area of Japan. The American journal of gastroenterology. 1995;90(5):794.
12. World Health Organization, 2012. Prevention and control of viral hepatitis infection: framework for global action, 2012. Available at: http://www.who.int/csr/disease/hepatitis/GHP_Framework_En.pdf?ua=1.
13. Mortality and Causes of Death Collaborators. Global, regional, and national age–sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2015. Lancet 2013; 385(9963): 117–171.
14. Ashfaq UA, Javed T, Rehman S, Nawaz Z, Riazuddin S. An overview of HCV molecular biology, replication and immune responses. Virology journal. 2011; 8:161.
15. Qirbi N, Hall A (2001). Epidemiology of hepatitis B virus infection in the Middle East. East Mediterr Health J 2001, 7(6):1034–1045.
16. Ali SA, Donahue RMJ , Qureshi H , Vermund SH. Hepatitis B and hepatitis C in Pakistan: prevalence and risk factors. International Journal of Infectious Diseases (2009) 13, 9—19
17. Anwar MI, Rahman M, Hassan M, Iqbal M (2013). Prevalence of active hepatitis C virus infections among general public of Lahore, Pakistan. Virology Journal, 10:351
18. Khan MS, Jamil M, Jan S, Zardad S, Sultan S, Sahibzada AS (2007). Prevalence of hepatitis 'B' and 'C' in orthopedics Patients at Ayub teaching hospital Abbottabad. J Ayub Med Coll Abbottabad 2007;19(4)
19. World Health Organization. WHO/HIV/AIDS fact sheet. Updated July 2016. Available from: http://www.who.int/mediacentre/factsheets/fs164/en/
20. Saeed, Khwaja Mir Islam. Prevalence and Associated Factors of Hepatitis B, Hepatitis C and HIV Infection in Jalalabad City, Afghanistan. GMJ 2016 ;01(6): pp62-74
21. Todd CS, et al (2009). Prevalence and correlates of HIV, syphilis, and hepatitis knowledge among intrapartum patients and health care providers in Kabul, Afghanistan. AIDS Care; 21:109-1.
22. MoPH (2005). Introduction of Hepatitis B Vaccine in Afghanistan, Ministry of Public Health (MoPH), Afghanistan 2005
23. Khan S, Attaullah S (2011). Share of Afghanistan populace in hepatitis B and hepatitis C infection's pool: is it worthwhile Virology Journal, 8:216
24. Nasir A et al (2011). Prevalence of HIV, hepatitis B and hepatitis C and associated risk behaviors amongst injecting drug users in three Afghan cities. Int J Drug Policy, 22(2):145-52.
25. Todd CS et al (2010). HIV, hepatitis B, and hepatitis C prevalence and associated risk behaviors among female sex workers in three Afghan cities. AIDS, 24:S69-S75.
26. Attaullah S, Rehman S, Khan S, Ali I, Ali S, Khan SN (2011). Prevalence of Hepatitis B virus genotypes in HBsAg positive individuals of Afghanistan. Virology Journal 8:281.
27. UNAIDS HIV and AIDS Estimates 2012: http://www.unaids.org/en/regionscountries/countries/afghanistan/

28. Ministry of Public Health (MoPH). National HIV/ADS Control Program. Indicator based behavioral and biological Surveillance Report. 2012.
29. National HIV/AIDS Control Program (NACP). Country Progress Report Afghanistan. Ministry of Public Health, 2014
30. Saeed, KMI. Prevalence and associated factors of Hepatitis B, Hepatitis C and HIV infections among adult citizens in Mazar-e-Sharif city, Afghanistan. IOSR Journal of Pharmacywww.iosrphr.org. (e)-ISSN: 2250-3013, (p)-ISSN: 2319-4219 Volume 6, Issue 11Version. 2 (Nov 2016), PP. 61-72
31. United Nations General Assembly Special Session on HIV/AIDS, Country Progress Report (Reporting Period January 2008 to December 2009). Islamic Republic of Afghanistan; 2010.
32. Todd CS, Ahmadzai M, Atiqzai F, Miller S, Smith JM, Ghazanfar SA, Strathdee SA: Seroprevalence and correlates of HIV, syphilis, and hepatitis B and C virus among intrapartum patients in Kabul, Afghanistan. BMC Infect Dis 2008, 17(8):119.
33. Kitt MM, Khalid G, Rahimi S, McCarthy BJ: An Occupational Health Services Initiative at a Women's Hospital in Kabul. Afghanistan Public Health Rep 2006, 121(6):650-657.

Table 1: Frequency distribution of demographic characteristics of the study participants

Variables/Groups	Frequency	Simple %	Cum. %	95% LCL	95% UCL
Age Groups					
25-34	399	35.34%	35.34%	32.61%	38.17%
35-44	288	25.51%	60.85%	23.05%	28.13%
45-54	220	19.49%	80.34%	17.28%	21.90%
55+	222	19.66%	100.00%	17.45%	22.08%
Sex					
Female	594	52.61%	52.61%	49.70%	55.51%
Male	535	47.39%	100.00%	44.49%	50.30%
Education Level					
Illiterate	607	54.00%	54.00%	51.08%	56.90%
Primary and unofficial	380	33.81%	87.81%	31.10%	36.62%
Secondary school	73	6.49%	94.31%	5.20%	8.09%
High school and over	64	5.69%	100.00%	4.48%	7.21%
Job Group					
Official Employees	100	10.22%	10.22%	8.48%	12.28%
Private Business	89	9.10%	19.33%	7.45%	11.07%

Worker/Farmer	184	18.81%	38.14%	16.49%	21.38%
Jobless	51	5.21%	43.35%	3.99%	6.79%
Housework	461	47.14%	90.49%	44.03%	50.27%
Unable to work	93	9.51%	100.00%	7.83%	11.51%
Income Group in Afghanis					
Less than 10000	454	82.70%	82.70%	79.31%	85.63%
More than 10000	95	17.30%	100.00%	14.37%	20.69%
Residence (Districts)					
District 1	127	11.28%	11.28%	9.56%	13.26%
District 2	119	10.57%	21.85%	8.90%	12.50%
District 3	92	8.17%	30.02%	6.71%	9.92%
District 4	25	2.22%	32.24%	1.51%	3.26%
District 5	108	9.59%	41.83%	8.01%	11.45%
District 6	204	18.12%	59.95%	15.98%	20.47%
District 7	174	15.45%	75.40%	13.46%	17.68%
District 9	120	10.66%	86.06%	8.99%	12.60%
District 10	157	13.94%	100.00%	11.98%	16.50%
Use of mouth snuff					
No	994	89.23%	89.23%	87.27%	90.92%
Yes	120	10.77%	100.00%	9.08%	12.73%
Use of cigarettes					
No	1055	94.36%	94.36%	92.86%	95.57%
Yes	63	5.64%	100.00%	4.43%	7.14%

Table 2: Characteristics of HCV and HIV patients in Herat city Afghanistan, surveyed May-June 2015							
Variables	**HIV infection Reactive**					**Anti HCV Positive**	
	Case 1	**Case 1**	**Case 2**	**Case 3**	**Case 4**	**Case 1**	**Case 2**
Sex	Male	Female	Female	Male	Male	Male	Male
Age	60	26	32	25	70	70	70
Marital Status	Married	Married	Married	Single	Married	Married	Married
Work Status	Housework	Jobless	Jobless	Gov employee	Housework	Housework	Housework
Visit of Barber type	No	Simple	No	Simple	Simple	No	No
Smoking	No	No	Yes	Yes	No	No	No
Use of Snuff	Yes	No	No	No	No	No	No
Knowledge of Hepatitis	No	Yes	Yes	Yes	No	Yes	Yes
Blood Transfusion	No	No	No	No	No	No	No
Surgery procedures	No	No	No	No	No	No	No
Dental Procedures	No	No	Yes	Yes	No	No	No
History of Jaundice	No	No	No	No	No	Yes	Yes
Infection of drugs	No	Yes	Yes	Yes	No	Yes	Yes
Piercing	No	Yes	No	No	No	No	No
Tattooing	No	No	Yes	No	No	No	No
Hospitalization	Yes	No	No	No	No	No	No
Living with Hepatitis Patients	No	No	No	No	No	Yes	Yes
Vaccinations for HBV	No	No	No	No	No	Yes	Yes

Table 3: Frequency distribution of behavioral characteristics of study participants in Hirat city					
Variables/Groups	**Frequency**	**Simple %**	**Cum. %**	**95% LCL**	**95% UCL**
Tattooing					
No	1093	98.20%	98.20%	97.24%	98.83%
Yes	20	1.80%	100.00%	1.17%	2.76%
Hospitalization					
No	1062	95.08%	95.08%	93.65%	96.20%
Yes	55	4.92%	100.00%	3.80%	6.35%
Know Hepatitis					
No	705	62.78%	62.78%	59.91%	65.56%
Yes	418	37.22%	100.00%	34.44%	40.09%
Blood Transfusion					
No	1092	97.33%	97.33%	96.21%	98.12%
Yes	30	2.67%	100.00%	1.88%	3.79%
Surgery Procedures					
No	1081	96.26%	96.26%	94.98%	97.22%
Yes	42	3.74%	100.00%	2.78%	5.02%
Dental Procedures					
No	1026	91.36%	91.36%	89.58%	92.87%
Yes	97	8.64%	100.00%	7.13%	10.42%
History of Jaundice					
No	1096	97.68%	97.68%	96.63%	98.41%
Yes	26	2.32%	100.00%	1.59%	3.37%
Injection					
No	716	63.93%	63.93%	61.07%	66.69%
Yes	404	36.07%	100.00%	33.31%	38.93%
Visit of Barber/beauty parlor					
Street barbers	59	5.57%	5.57%	4.34%	7.12%
Simple shops	489	46.18%	51.75%	43.19%	49.19%
Clean/modern shops	144	13.60%	65.34%	11.66%	15.79%
Not using/no answer	367	34.66%	100.00%	31.85%	37.57%

Piercing					
No	581	55.97%	55.97%	52.94%	58.97%
Yes	457	44.03%	100.00%	41.03%	47.06%
Drug for injections					
No	1104	99.64%	99.64%	99.08%	99.86%
Yes	4	0.36%	100.00%	0.14%	0.92%
Living with hepatitis patients					
No	1036	94.96%	94.96%	93.50%	96.11%
Yes	55	5.04%	100.00%	3.89%	6.50%
Vaccination of HBV					
No	1041	96.39%	96.39%	95.10%	97.35%
Yes	39	3.61%	100.00%	2.65%	4.90%

Table 4: Hepatitis B virus infection status and its relationship to socieodemographic factors in study participants in Herat city

Variables/Groups	HBV Negative		HBV Positive		Odds Ratio	95% CI	
	N	%	N	%		LCL	UCL
Age in years							
25 - 34	386	35.30%	13	35.10%	1	Reference	
35 - 44	281	25.70%	7	18.90%	0.526	0.74	0.291
45 - 54	210	19.20%	10	27.00%	0.42	1.414	0.61
54 and over	215	19.70%	7	18.90%	0.943	0.967	0.38
Sex							
Female	572	52.40%	22	59.50%	1	Reference	
Male	520	47.60%	15	40.50%	0.75	0.385	1.461
Level of education							
Illiterate	584	53.70%	23	62.20%	1	Reference	
Literate	503	46.30%	14	37.80%	0.707	0.36	1.388
Knowledge of Hepatitis							
No	689	63.40%	16	43.20%	1	Reference	
Yes	397	36.60%	21	56.80%	2.278	1.175	4.416
Blood Transfusion							
No	1057	97.40%	35	94.60%			
Yes	28	2.60%	2	5.40%	2.157	0.494	9.415

Surgery Procedure							
No	1044	96.10%	37	100.00%	1	Reference	
Yes	42	3.90%	0		NA	NA	NA
Dental Procedure							
No	992	91.30%	34	91.90%	1	Reference	
Yes	94	8.70%	3	8.10%	0.931	0.281	3.089
History of Jaundice							
No	1062	97.90%	34	91.90%	1	Reference	
Yes	23	2.10%	3	8.10%	4.074	0.7457	14.4726 (F)
Needle Injection							
No	687	63.40%	29	78.40%	1	Reference	
Yes	396	36.60%	8	21.60%	0.479	0.217	1.057
Piercing							
No	562	56.00%	19	54.30%			
Yes	441	44.00%	16	45.70%	1.073	0.546	2.111
Tattooing							
No	19	98.20%	1	97.30%	1	Reference	
Yes	1076	1.80%	37	2.70%	1.545	0.201	11.862
Hospitalization							
No	1026	95.00%	36	97.30%			
Yes	54	5.00%	1	2.70%	0.528	0.071	3.922
Living with Hepatitis Patients							
No	1006	95.30%	30	85.70%	1	Reference	
Yes	50	4.70%	5	14.30%	3.353	0.9725	9.2380 (F)

Fatal Outbreak of Mushroom Poisoning in a Village, Yaftal, Afghanistan

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Abstract

Background: On April 25, 2016, severe cases of illness characterized by nausea, vomiting, abdominal pain, and coma were reported in a small village. An investigation was performed to identify the source of illness and institute control measures.

Methods: A descriptive study of mushroom poisoning outbreak was conducted. A case was defined as anyone in the Bagh-e-Balin village who ate dinner on April 24 and who subsequently developed ≥one symptom/sign: nausea, vomiting, abdominal pain, unconsciousness or coma. Samples of whole mushrooms were sent to Food Agriculture Organization Laboratories. An investigation was done to identify the source of illness and control measures to control the outbreak.

Results: 17 cases were identified among three families. The only food common to all families was cooked pure mushrooms or mushrooms mixed with mountain vegetables. All individuals became ill. There were eight cases in males (aged 5-55 years; median 8 years) and nine cases in females (aged 9 months-32 years; median, 12 years). Six cases (35%) were hospitalized, of which five died. The mushrooms were identified as being of a poisonous variety ("ring stem mushrooms") with Amatoxins as the likely cause of illness. Villagers were aware that some mushrooms are poisonous but were not knowledgeable to differentiate.

Conclusion: Mushrooms with a ring stem, caused this outbreak of serious illness. Amatoxins, globally, are responsible for the majority of fatalities; heating does not inactivate the toxin. We are reviewing approaches to ascertain how commonly similar outbreaks may occur in Afghanistan and how to improve the capability of the rural population to safely eat mushrooms.

Keywords: Outbreak; Food poisoning; Afghanistan; Mushroom;

شیوع واقعات کشنده تسمم با سمارق، در یکی از قریه های ولسوالی یفتل، ولایت بدخشان

چکیده

پس منظر: گزارش شیوع واقعات مهلک تسمم در سطح دنیا رو به افزایش میباشد. در افغانستان این نوع تسممات توسط سیستم ملی سرویلانس که بنام سیستم گذارشدهی فوری از امراض یاد میگردد، به ندرت گذارش داده میشود. بتاریخ ۲۵ اپریل ۲۰۱۶، در یکی از قریه جات

کوچک واقعات وصفی مریضی که با دلبدی، استفراغات، درد های بطنی که منتج به بیهوشی و کوما میگردید، توسط مسوول سرویلانس شفاخانه ولایتی فیض آباد در ولایت بدخشان گذارش داده شد. تحقیقی جهت شناسایی منبع مرض و اتخاذ تدابیر کنترولی براه انداخته شد.

میتود: یک تحقیق تشریحی شیوع تسمم با سمارق میباشد. تعریف واقعه قسمی صورت گرفت که هر شخصی که در قریه باغ بالین که غذای شب را به تاریخ ۲۴ اپریل صرف نموده، متعاقباً یک یا بیشتر ازیک اعراض و علایم مانند دلبدی، استفراغات، درد های بطنی، بیهوشی یا کوما نزدش ایجاد گردیده باشد. نمونه سمارق تازه دست نخورده که مسوول تسمم میباشد، جمع آوری و به لابراتوار های سازمان خوراکی و زراعت جهان ارسال گردید.

نتایج: ۱۷ واقعه در میان سه خانواده که به شکل جداگانه غذای شب را صرف نموده بودند، شناسایی و تثبیت گردید. یگانه غذایی که در میان این خانواده ها استفاده گردیده بود، سمارق پخته شده خالص و یا مخلوط با سبزیجات کوهی بود. تمام اشخاصیکه سمارق خورده بودند، مریض گردیدند. در این میان ۸ واقعه در میان طبقه ذکور (گروه های سنی ۵ تا ۵۵ ساله، اوسط عمر ۸ سال) و ۹ واقعه در میان طبقه اناث (گروه های سنی ۹ ماهه الی ۳۲ ساله، اوسط سن، ۱۲ سال) دریافت گردید. ۶ واقعه (۳۵٪) آنها در شفاخانه بستری، که ازین میان پنج تن آنها فوت نمودند. چنان به نظر میرسد که مقادیر صرف شده غذا درینجا تاثیر گذار بوده است. تنها خانواده اولی که سمارق را به شکل خالص طبخ نموده بودند پنج تن از آنها فوت نمودند. سمارق های نمونه برداری شده منحیث نوع زهری سمارق دارای اماتوکسین شناسایی گردیدند (سمارق هایکه دارای حلقه در ساقه خود). اماتوکسین خود دلیل ایجاد مرض درین تسممات بوده و در جهان مسوول بیشترین وفیات از سبب تسمم با سمارق میباشد. حرارت و طبخ، این زهر را غیر فعال ساخته نمیتواند. اهالی قریه از موجودیت چنین سمارق های زهری آگاه، اما انواع سمارق های خوردنی و زهری آنرا تفکیک کرده نمیتوانستند.

نتیجه گیری: سمارق های که دارای حلقه در ساقه خود بودند، مسبب این اوتبریک (outbreak) که جداً مرض ایجاد مینمایند، میباشند. در افغانستان در مورد این نوع سمارق ها معلومات کافی وجود ندارد از اینرو عدم شناسایی آنها باعث ایجاد مریضی جدی و حتی وفیات شده میتوانند. راه های مناسب جهت تثبیت و شناسایی همچون اوتبریک ها، و تقویت قابلیت روستاییان که چگونه سمارق ها را به شکل مصوون صرف نمایند جستجو و مرور گردید. همچنان در زمینه تداوی و تحقیق تسممات سمارق ها و اوتبریک های آن در حالات عاجل، کدام رهنمود و یا پروتوکول خاص وجود ندارد. جهت وقایه و تداوی، تهیه رهنمودها و پروتوکول ها، ایجاد نمودن سرویلانس موثر و آگاهی دهی عامه باید ایجاد و تطبیق گردد. ایجاد لابراتوار فعال توکسیکولوژی در سطح ملی، جداً توصیه و پیشنهاد میگردد.

Introduction

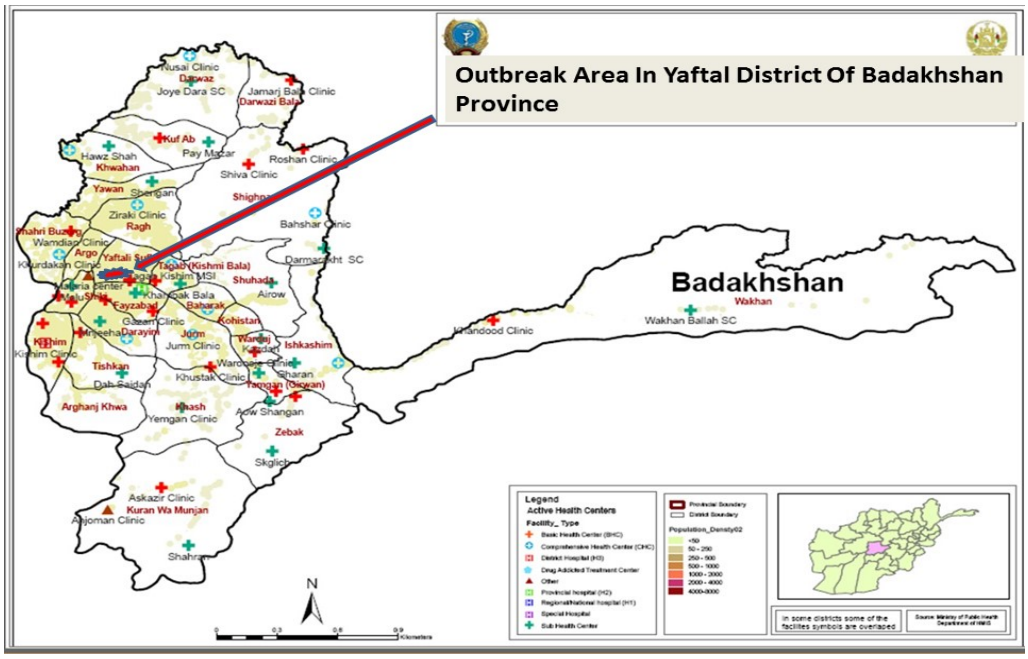
On April 25 2016, severe cases of illness characterized by nausea, vomiting, abdominal pain, and coma were reported in a small village. We performed an investigation to identify the source of illness and institute control measures. The aim of this study was to present the findings of the recent mushroom poising fatal outbreak which occurred in Badakhshan province.

Method This study was a descriptive study of mushroom poisoning outbreak investigation population. Feyzabad serves as the provincial capital. Due to availability of mountains and proper weather during seasonal rains, this

occurred in Bagh-e-Balin village, Yaftal district of Badakhshan province of Afghanistan from 23 to 27 April, 2016.

Badakhshan Province is located in the farthest north eastern part of the country between Tajikistan and northern Pakistan. It shares 91 km border with China. The province has 28 districts, over 1,200 villages, and approximately more than 1 million

province is suitable for mushrooms growth, and population are using and serving this plant.



On April 25, 2016, four severe cases of illness characterized by nausea, vomiting, abdominal pain, and coma were reported by Badakhshan provincial hospital surveillance focal point, in a small remote village in Yaftal district (with 60,000 population). A team consisted of provincial emergency preparedness & response team, including surveillance coordinator & local health facility staff was assigned to investigate and respond to this outbreak.

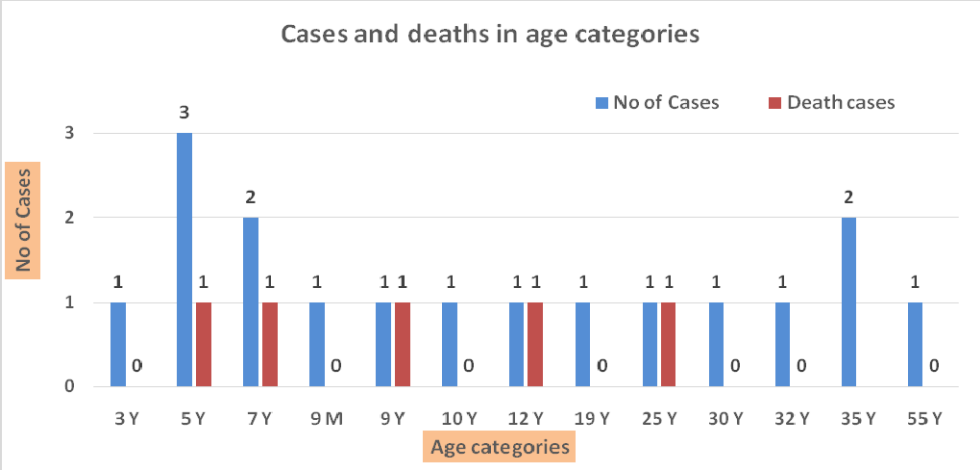
The outbreak area was a remote area and there was just three families with 24 members lived there. We performed an investigation to identify the source of illness and institute control measures.

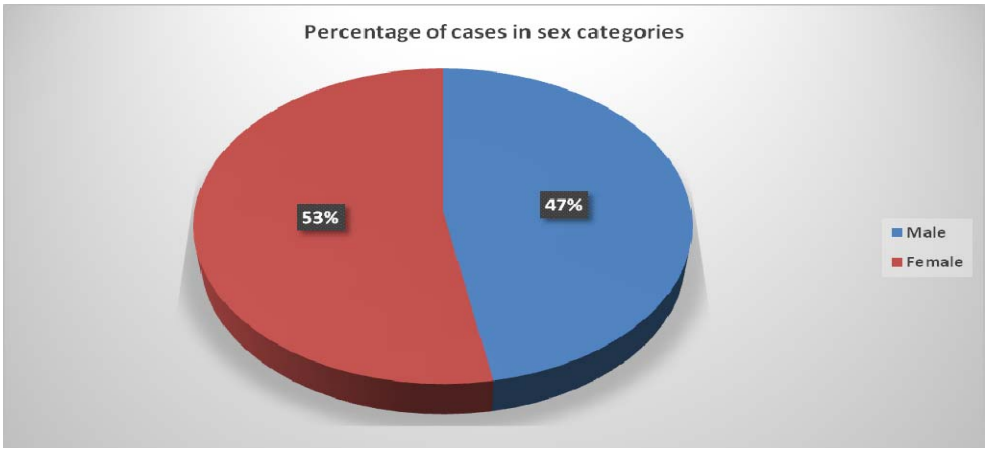
Most of the residents of this village were poor and mainly involved in agriculture and livestock with insufficient food security. The children of three mentioned families collected mushrooms from nearest mountain to the village, and all three families cooked these collected mushrooms and were eaten at the dinner. The first family cooked the mushrooms without any vegetables while the second and third families cooked with potato and some other vegetables. The first family cooked this mushrooms purely and served in dinner (except father of family which was consumed a small amount of mushrooms which is alive and other five death cases belong to this family). The mother of other two families cooked mushroom with potato and small amount of other mountain vegetables. Finally twelve cases rescued by health facilities or community and 5 cases died in different days on hospital or way. Usually during this season of year, the river water of mentioned area increasing and the people cannot go easily to health facility and it was a problem during this outbreak.

Case definition: A case was defined as anyone in the Bagh-e-Balin village who ate dinner on April 24 and subsequently developed ≥one symptom/sign: nausea, vomiting, abdominal pain, unconsciousness

Results: 17 cases were identified among three families who separately ate dinner in their

homes. The only food common to all families was cooked pure mushrooms or mushrooms mixed with mountain vegetables. All individuals who ate the mushrooms became ill. There were eight male cases (aged 5-55 years; median, 8 years) and nine female cases (aged 9 months-32 years; median 12 years). Six cases (35%) were hospitalized, of which five died.





There appeared to be a dose-response effect; out of all six cases from the family who ate pure cooked mushrooms, five of them died. The mushrooms were identified as being of a poisonous variety ("ring stem mushrooms") with amatoxins as the likely cause of illness. Amatoxins, globally, are responsible for the majority of mushroom-related fatalities; heating does not inactivate the toxin. Villagers were aware that some mushrooms are poisonous but were not knowledgeable about the differences between edible and nonedible mushrooms.

Discussion

Mushroom poisoning is divided into four types as follows:

1) Gastrointestinal; 2) Neuropsychic;
3) Haematolysis and 4) Toxic hepatitis.
Gastrointestinal poisons are the most frequently encountered mushroom toxins. Amatoxins, which are responsible for more than 95% of mushroom related fatalities, are cyclicoctapeptides that are synthesised by a number of *Amanita* species and several of their relatives.

At least five subtypes of amatoxins are known, the most significant being the alphaamatoxin and betaamatoxin. Both toxins are rapidly absorbed by the gastrointestinal (GI) tract. Alphaamanitin works by slowly attacking RNA polymerase, anenzyme in the liver. It ultimately affects the central nervous system and kidneys. Unlike many fungal toxins, it does not cause symptoms right away.

Six to 24 hour after ingestion, there may be an early feeling of nausea, followed by violent cramps, severe abdominal pain, vomiting and diarrhea. On the third day, there is mission of symptoms, but this is a false remission. During this asymptomatic period, toxins severely affect the liver, resulting in gastrointestinal bleeding, coma, kidney failure and death usually within 7 days after eating the mushrooms if aggressive medical management or a liver transplant is not performed. Children are a high-risk group for wild mushroom poisonings.

Acknowledgement

We would like to thanks Badakhshan emergency preparedness & response team, surveillance officer, provincial hospital team, Kunduz surveillance officer, regional hospital team & all the staff who worked in this outbreak.

In Afghanistan, due to lack of toxicological diagnostic facilities, all mushroom poisoning cases not diagnosing or recording for type of toxins. In this report, all the 17 patients developed GI symptoms 2–15 hour after eating wild mushrooms, followed by a period of reduced symptoms and then 5 of them died suddenly within 5 days after symptom onset. These clinical features and the identification of the ingested mushroom species suggested poisoning in this outbreak, since the existing health care system has been rarely faced to such fatal poising, therefore no specific clinical and surveillance protocol were existed. Similarly, there was no lab facility available at national level to differentiate the poisonous mushroom.

Conclusion

It is not known how commonly similar misidentifications may lead to illness and death in Afghanistan. We are reviewing approaches to ascertain how commonly similar outbreaks may occur and how to improve the capability of the rural population to safely eat mushrooms.

There are no guidelines or protocol about the treatment and investigation of mushroom outbreaks and its toxicity in the emergency situations. For prevention and treatment, development of guideline and protocols, conducting effective surveillance, public awareness and creation of active toxicological laboratory at national level are extremely recommended.

References

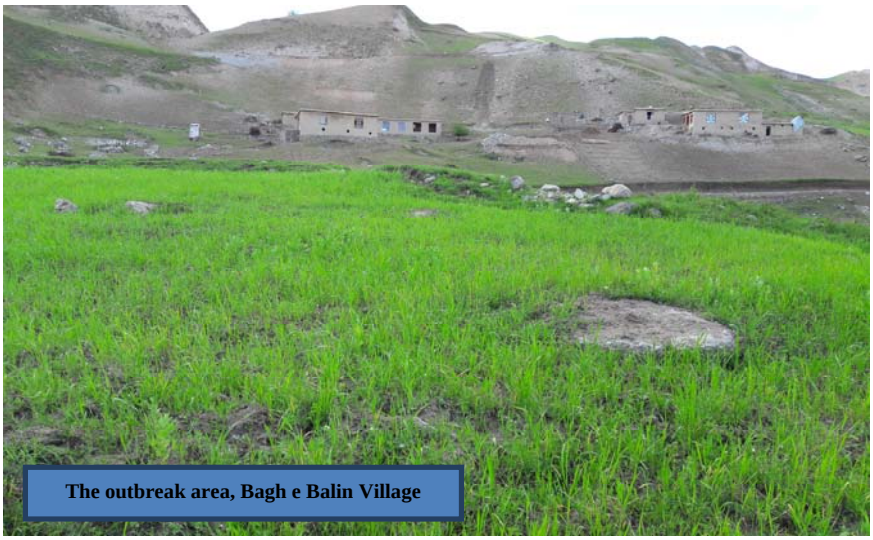
1. Gonmori K, Yoshioka N. The examination of mushroom poisoning at Akita University. Legal Medicine. 2003;5:83–6. [PubMed]

2. Oztekin-Mat A. Mushroom poisoning in Turkey. Ann Pharm Fr. 1998;56:233–5. [PubMed]
3. Alagözlü H, Sezer H, Candan F. A survey of patients with acute poisoning in the Sivas region. Turkey, between 1994 and 1998. Turk J Med Sci. 2002;32:39–42.
4. Barbee G, Berry CC, Barry J, Borys D, Ward J, Salyer S. Analysis of mushroom exposures in Texas requiring hospitalization, 2005–2006. J Med Toxicol. 2009;5:59–62. [PMC free article][PubMed]
5. Nordt SP, Manoguerra A, Clark RF. 5-Year analysis of mushroom exposures in California. West J Med. 2000;173:314–7. [PMC free article][PubMed]
6. Broussard CN, Aggarwal A, Lacey SR, Post AB, Gramlich T, Henderson JM, et al. Mushroom Poisoning-From Diarrhea to Liver Transplantation. AJG. 2001;96:3195–8. [PubMed]
7. Ishihara Y, Yamaura Y. Descriptive epidemiology of mushroom poisoning in Japan. Nippon EiseigakuZasshi. 1992;46:1071–8. [PubMed]
8. Barbato MP. Poisoning From Accidental Ingestion of Mushrooms. Med J Aust. 1993;158:842–7. [PubMed]
9. Trestrail JHIIII. Mushroom poisoning in the United States: an analysis of 1989 United States Poison Center Data. J ToxicolClinToxicol. 1991;29:459–65. [PubMed]
10. SevkiHakanEren. Mushroom poisoning. Retrospective analysis of 294 cases.Clinics (Sao Paulo). 2010 May; 65(5): 491–496. [clinics]
11. Liang Huang. Outbreak of fatal mushroom poisoning with *Amanita franchetii*and *Ramariarufescens.* BMJ Case Rep. 2009; 2009: bcr06.2008.0327. [http://casereports.bmj.com/content/2009/bcr.06.2008.0327]

Annexes:

1- Outbreak Pictures:

2- Some Pictures of poisonous Mushrooms:



The outbreak area, Bagh e Balin Village

Prevalence and Factors of Diabetes in Mazar-e-Sharif, Afghanistan

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Abstract

Background/Objective: Diabetes is a public health problem worldwide while it is a fast-growing challenge in Afghanistan. Thus, this study assessed the prevalence of diabetes and evaluated the relationship of diabetes with its main risk factors in urban citizens in Mazar-e-Sharif city, Afghanistan.

Methods and Materials: Using WHO stepwise approach a total of 1,231 men and women aged 25 to 70 years were enrolled in the study using a multi-cluster sampling method in April-June, 2015. Data were collected using a structured questionnaire for assessing non-communicable diseases and their risk factors. Fasting venous blood sample was collected to assess the lipid profile and fasting blood sugar. Anthropometric measurements of the participants were also taken. Data was analyzed using SPSS version 20.

Results: The overall prevalence of diabetes was 9.2%. Totally, 664 (53.9%) were females and 567 (46.1%) males with a mean age of 40.5±13.2 years. More than half (59.3%) were illiterates and (83.7%) were married. 9.9% were smokers and 8.3% were mouth snuff users, 79% of respondents ate fruits and 60% took vegetables 3 days or less per week. Almost 12% practiced vigorous physical activity and 21.8% of subjects reported doing moderate physical activity. Almost half (48.5%) of subjects were overweight or obese. At multivariate level, age, frequency of taking rice, systolic blood pressure, walking, BMI, total cholesterol and LDL were associated with diabetes.

Conclusion: One tenth of adult urban citizens in Mazar-e-Sharif are suffering from diabetes. Prevention, early identification, and controlling measures are needed to be taken into account.

Keywords: Prevalence; Diabetes; Risk Factors; Mazar Sharif; Afghanistan

شیوع و فکتور های مرض شکر در شهر مزار شریف افغانستان

چکیده

پس منظر: مرض شکر یک مشکل صحت عامه در سطح جهان بوده که در افغانستان نیز رو به افزایش است. بنابران در این تحقیق سطح شیوع مرض شکر ارزیابی گردید و همچنان رابطه یک سلسله فکتور ها با این مرض در میان شهریان شهر مزارشریف مورد مطالعه قرار گرفته است.

روش و مواد: با استفاده از روش مرحله یی سازمان صحی جهان یا (WHO STEP Tool) در مجموع ۱۲۳۱ نفر اعم از مردان و زنان بین سنین ۲۵ الی ۷۰ با میتود نمونه گیری خوشه یی در بین ماه های اپریل الی جون سال ۲۰۱۵ شامل این مطالعه گردیدند. ارقام با روش پرسشنامه مستقیم و ساختاری بخاطر ارزیابی امراض غیر ساری و فکتور های مرتبط به آن جمع آوری گردید. نمونه های خون در حالت

گرسنگی جمع آوری و سطح گلوگوز و شحمیات خون از روی سیروم خون تعین گردیدند. اندازه گیری های بدنی افراد تحت مطالعه نیز جمع آوری گردید. تحلیل ارقام ذریعه سافت ویر (SPPS V.20) صورت گرفت.

نتایج: سطح عمومی شیوع مرض شکر ۹.۲% فیصد بود. در مجموع ۶۶۴ نفر یعنی 53.9% خانم ها و ۵۶۷ نفر یعنی ۴۶.۱% مردان شامل مطالعه شدند که سطح اوسط عمر آنها ۴۰.۵ سال با اوسط معیاری ۱۳.۲ سال بوده است. زیادتر از نصف اشتراک کننده‌گان (۵۹.۳%) بیسواد بوده و ۸۳.۷% متاهل بودند. حدود ۹.۹% سگرت می کشیدند و ۸.۳% نصوار دهن استفاده مینمودند. ۷۹% پاسخ دهنده گان هفته سه روز یا کمتر میوه مصرف میکردند در حالیکه این سطح در مورد سبزیجات به ۶۰% محاسبه شده است. تقریبا ۱۲% در فعالیت های ثقیل فزیکی و ۲۱.۸% در فعالیت های متوسط فزیکی مصروف بودند. تقریباً نصف افراد (۴۸.۵%) چاق یا اضافه وزن بودند. در سطح تحلیل چندین متحول سن، میزان مصرف برنج، فشار خون سیستولیک، قدم زدن، اندکس کتلوی بدن، کولسترول و لیپوپروتین متراکم پایین با مرض شکر رابطه مستقلانه داشته اند.

نتیجه گیری: یک بر دهم شهریان افراد بالغ شهر مزارشریف از مرض شکر رنج می برند. وقایه، تشخیص به وقت و اقدامات کنترولی لازم است که در این راستا روی دست گرفته شود.

Introduction

Diabetes is a global public health problem and is categorized as the four prioritized noncommunicable diseases (NCDs) worldwide (WHO, 2016). Genetics, environmental factors and choice of lifestyles are contributing in development of this chronic metabolic disorder (ADA, 2003). In 2012, the deaths directly caused by diabetes was 1.5 million worldwide ranking it as eighth leading cause of death among both sexes (WHO Mortality Database, 2016). The global prevalence of diabetes has grown from 4.7% in 1980 to 8.5% in 2014 (NCD Risk Factor Collaboration, 2016).

Similarly the prevalence of diabetes is increasing faster in South Asia than in any other region in the world. India has the highest number of people with diabetes than any other country with estimation of increase of 195% from 1995 to 2025 (Gaffar A. Reddy KS. Singhi M, 2004). Studies carried out in the past two decades indicates that the prevalence of diabetes is increasing in both urban and rural India varying from 5 to 15% among urban populations, 4 to 6% in semi-urban populations, and 2 to 5% in rural population (Gupta R, Mishra A, 2007 and Mohan V, Sandeep S, Deepa R, Shah B, Varghese C, 2007). Another recent study reflected the prevalence of diabetes 9% in males and 10% in females (Prajapati D, Kedia G, 2016). In Thailand, the national prevalence of diabetes was 9.6% of which 4.8% were not diagnosed on time (Aekplakorn, W. et al, 2007). According to a study of diabetes in Kuwait, the crude prevalence of total diabetes was 21.4% and almost one-fifth of the cases were previously undiagnosed (Al-Khalaf MM. Eid MM. Najjar HA. Alhajry KM. Doi SA, and Thalib L, 2010). In Oman, the overall prevalence of diabetes was 11.6% with significant differences related to residence, marital status, educational level, smoking, obesity, cholesterol level, and systolic blood pressure (Al-Mosa S. Allin S. Jemiai N. Al-Lawati J. Mossialos M). Likewise, the prevalence of abnormal glucose tolerance was significantly greater in people having sedentary physical activity (33.8%) as compared to people having heavy physical activity (11.5%) (Kokiwar PR, Gupta S, Durge PM, 2012). The results of a national surveillance study in Iran showed that the prevalence of diabetes was higher among older age groups, females, and urban dwellers (Esteghamati A, et al. 2008). In China, the prevalence of diabetes in 35–74 year-olds was 5.5%, with differentiation of 5.8% in females and 5.2% in males (Gu D. 2003). In a study conducted in Punjab Province, Pakistan, the prevalence of diabetes was 12.1% in males

and 9.8% in females. Risk factors such as central obesity, hypertension and family history of the disease, were strongly associated with diabetes (Basti A. Fawwad A. Hakeem R. Ahmedani MY. M. Zafar M, 2010).

In Afghanistan, due to years of war and conflict, few studies have been conducted to estimate the burden of diabetes in the country. Estimation of diabetes among Afghan population of 20-79 years have been adjusted 8.6% in 2010 and for 2030 it is projected to be 9.9% (Shaw JE, Sicree RA, Zimmet PZ, 2010). Moreover, studies reported that the prevalence of diabetes was 13.2% in Kabul (age group of ≥40 years) and 11.8% in Jalalabad city and 9.9% in Herat cities (Saeed, KMI, Asghar. RJ, Sahak MN, Ansari J, 2013 and Saeed, KMI, 2013, and Saeed, KMI, 2016). This paper aimed to determine the prevalence and risk factors of diabetes among adult citizens in Mazar-e-Sharif city Afghanistan.

Methods and materials

Study Design and population: The core study was a cross-sectional survey using WHO STEPS tool (Bonita R, deCourten M, Dwyer T, Jamrozik K, Winkelmann R, 2002) which has three domains of demographic, physical and biochemical measurements. Permanent residents and adult populations who were living in city of Mazar-e-Sharif in age groups of (25-70) years were enrolled in this study. Balkh province is a big northern province of Afghanistan neighbouring to Uzbekistan in the north. The province comprises 15 districts including Mazar-e-Sharif city. The population for 2015 was estimated to be 1,353,626 of which 692,436 are male and 661,190 females. However, we have included the urban portion of Mazar-e-Sharif city which has an estimated population of 415,053 with differentiation of 202,135 females and 212,918 males. The urban population is more exposed to noncommunicable diseases due to urban lifestyle. Guests, temporary residents and those who did not consent were excluded. The field portion of the study implemented in the April-May 2015. Technical and ethical approval of study protocol was approved by institutional review board (IRB) in Ministry of Public Health, Afghanistan. Inform consent was taken from participants ahead of face to face interview.

Sampling Strategy: The statistical software program, Epi Info, was used to calculate the sample size for this study. Although the national burden of diabetes is not very clear in Afghanistan, however according to a World Health Organization (WHO) report, the estimate was assumed to be 6.6% ~ 7% (Shaw JE, Sicree RA, Zimmet PZ, 2010). At a precision level of 5%, the estimated sample size for proportion of diabetes was equal to 100. Although information is poorly available for the country, however, according to other epidemiological research, especially in developing countries, physical activity, blood pressure, dietary behavior, obesity, age, level of education, smoking status and other factors have been reported to be associated with the disease. Taking into consideration the proportion of these risk factors in diseased and non-diseased people in similar settings, the number of subject in this study raised to 600 individuals. To balance considerations of cost, resources, and time without compromising the representativeness of the sample, a two-phase cluster sampling technique were planned. Lastly, after taking into account the design effect (DE=2) of cluster sampling the final sample size reached to (2X600) = 1200 which was reasonable for achieving study objectives within limited resources and funding support. Initially we obtained the list of all existed city districts from Mazar-e-Sharif municipality

website. It includes the name, population size, number of households and its boundaries. Using the multistage cluster strategy at onset from this list we conventionally selected five districts using random number of excel sheet. In the second stage from each selected district we randomly selected the five areas (called Guzar). Later, the overall sample of 1200 household divided over areas based on their proportional to size. Within households the eligible adults counted and randomly one of them selected and interviewed.

Study Variables: From main database collected for NCDs in Mazar-e-Sharif city the dichotomous group of diabetes and without that were identified as outcome. Fasting blood sugar (FBS) of ≥126mg/dl as well as those who were under treatment irrespective of their FBS level were considered diabetic. (Diabetes. Fact sheet no. 312, 2015). The main factors such as age, sex, ethnicity, educational status, income, job categories, physical activity, tobacco use, obesity, and hypertension and blood lipids level were assessed and analyzed.

Data Collection: A structured (standardized) questionnaire was developed and translated into the official languages of the country. It was coded previously to facilitate the data entry and data analysis. Training and field tests were conducted ahead of actual data collection and questionnaires were adjusted accordingly before actual data collection (April-May 2015). Anthropometric measurement including measurement of blood pressure conducted three times with five minutes interval. Height and weight were measured using electronic scale and measurement bar to identify the body mass index. Blood samples were collected when the interview was over of the day after interview. A household was defined as a group of people who share the same food pot (not the same roof). In each household the interviewer enumerated all persons who were eligible for the study based on the inclusion criteria. In households with more than one eligible person, we used a lottery system to select the respondent for this survey. In cases of refusal, which was less than 5%, the interviewer approached the next alternate household. Various groups of targeted data including demographic, behavioural and clinical variables were collected in Mazar-e-Sharif City from April to May 2015 using the WHO STEP-wise instrument. Anthropometric measurements (height and weight) were used to calculate body mass index (BMI). A BMI of ≥30 kg/m^2 was considered as obese, 25–30 kg/m^2 as overweight and 18.5–25 kg/m^2 as normal weight (WHO, 2000). A waist circumference of 94 cm for men and 80 cm for women was considered as central obesity (IDF, 2006). Systolic blood pressure 140 mmHg and diastolic pressure 90 mmHg were considered as hypertensive (Whitworth JA, 2003).

Data Management and Analysis: Data entry was done using Epi Info 7 while data analysis was done using SPSS version 20. Central tendencies, proportions and frequencies were calculated and tabulated. The prevalence of diabetes was calculated in all subgroups of variables and different tables were developed including tables of demographic, socio-economic and behavioral data. Statistical analysis was conducted using student t test, chi-square and binary logistic regression.

Results

Descriptive Analysis: Based on case definition of fasting blood sugar (above identified level) and being under management of diabetes by a health worker the general prevalence was 9.2% with differentiation of 10.4% in males and 8.1% in females. Furthermore, 7% were undiagnosed

and identified by FBS measurement while 2.2% already diagnosed. Full analysis was done on 1231 subjects and out of them 664 (53.9%) were females and 567 (46.1%) males with a mean age of 40.5±13.2 years; two third (68.5%) of the study participants were aged less than 45 years. More than half of the respondents (59.3%) were illiterates; and 72% of the participants had income of less than 10,000 AFN (USD 150). Majority of respondents (83.7%) were married and more than 85.5% of women were housewives (Table 1).

Eighty percent of respondents ate fruits 3 days or less per week while it was increased to half with respect to vegetables. Almost 12% of the respondents practiced vigorous physical activity and 28.2% reported practicing moderate physical activity. Close to half (48.5%) of study respondents were recorded to be as overweight or obese and one third (58.9%) were suffering from central obesity. The prevalence of either systolic or diastolic hypertension was 30.9%.

Level of total cholesterol with cut off 190mg/dL and level of total triglyceride with cut off 150mg/dL were high in proportion of 33.2% and 20.4% respectively. Furthermore, high level of low density lipoprotein (LDL) with cutoff 100mg/dL were 55% and high level of high density lipoprotein (HDL) were both 36.9%. The mean level of triglyceride, total cholesterol, HDL and LDL were 161.7 mg/dL, 179.2mg/dL, 49.4 mg/dL and 113.4 mg/dL respectively. Fifty-one percent of households used liquid oil, 35.5% used solid oil and 13.1% responded to use both oils for cooking (Table 2).

Statistical Analysis at univariate level: In this stage we used chi square and binary logistic regressions for categorical variables and student t test were used for continuous variables. As we consider in table 3 there are few variables which have statistical significant relationship with diabetes. Odds of having diabetes was 1.59 (CI: 0.92 – 2.7) times, 2.07 (CI: 1.16 – 3.69) times and 3.5 (CI: 2.10 – 5.83) times higher in age group of 35-45 years and 45-55 years and ≥55 years as compare to 25-35 age categories. Males had 1.31 times more odds of afflicted with diabetes, however it was not statistically significant. Likewise, as compare to illiterate group the literate had 0.96 times lower odds of having diabetes while this association was not statistically significant. Moreover, we could not found significant association between level of income, physical activity and taking fruits and developing of diabetes mellitus at initial level of analysis. However, there was statistically significant association between frequency of taking vegetables and rice with diabetes with OR=0.65 (95%CI: 0.44 – 0.97), OR=0.48 (95%CI: 0.28 – 0.97) respectively (Table 3).

Level of metabolic disorders and blood lipids are all associated with diabetes which are shown in detail in table 4. Blood pressure and body mass index (obesity) had significant association with diabetes with OR=1.89 (95%CI: 1.27 – 2.80) and OR= 1.18 (CI: 1.15 – 2.92 respectively. Categories of total triglycerides, cholesterol, LDL and HDL were significantly associated with diabetes with OR=2.05 (CI: 1.35 – 3.13), OR=1.61 (CI: 1.08 – 2.38), OR=1.87 (CI: 1.22 – 2.79) and OR=1.77 (CI: 1.20 – 2.62) respectively.

Multivariate Analysis: Final stage for analysis was multiple logistic regressions to identify the level of significance for variables while controlling for other variables. We used the biological as well as statistical significance for inclusion of variables in our model. Table 5 shows multivariate analysis results with adjusted OR and Confidence Intervals. According to above table after controlling for other variables age (OR=1.04, 95%CI: 1.02 – 1.05), frequency of taking rice (OR=1.77, 95%CI:

1.03 – 3.06), systolic blood pressure (OR=0.98, 95%CI: 0.97 –0.99), walking in hours per day (OR=0.79, 95%CI: 0.69 – 0.90), body mass index (OR=1.05, 95%CI: 1.02 – 1.09), total glycerides (OR=1.004, 95%CI: 1.002 – 1.005) and LDL (OR=0.47, 95%CI: 0.30 – 0.74 had statistically significant relationship with diabetes.

Discussion

In this study a total of 1231 adult citizens from Mazar-e-Sharif were included as survey subjects in which males and females were almost equal. The main finding of this study is the high percentage (9.2%) of raised blood glucose in people with age of (25-70) years in this big northern city of Afghanistan. This finding is consistent national diabetic survey and other studies. The prevalence of diabetes in Kabul was 13.2 (Saeed, KMI 2013) while Pakistani studies showing the prevalence of 12.5% (Basti A. Fawwad A. Hakeem R. Ahmedani MY. M. Zafar M,2010) and 13.1% (Zafar J, et al, 2011), Indian studies by 9% and 13.9% (Aekplakorn, W. et al, 2012 and Ramachandran A, 2002) and Chinese results showed prevalence of 19.2%and 16.1% in urban areas and 14.2% and 13.8% in rural areas (Ning F, et al, 2009). At multivariate analysis age was a significant non-modifiable factor which influenced the prevalence of diabetes. This trend is shown by other studies in different parts of the world (Basti A. Fawwad A. Hakeem R. Ahmedani MY. M. Zafar M, 2010) as well. Furthermore, some studies depicts more higher prevalence of diabetes among wider ranges in Eastern Mediterranean Region such as UAE (18.7%), Saudi Arabia (16.8%), Bahrain (15.4%), Kuwait (14.6%), and Oman (13.4%) (Shaw JE, Sicree RA, Zimmet PZ, 2010). Likewise, the prevalence of diabetes was higher in men (10.4%) as compare to women (8.2%) which were not statistically significant. But other studies have supported the significant difference in Afghanistan (Saeed, KMI, 2013) and outside of the country (Ning F, et al, 2009). Analysis of dietary habits explaining that taking more frequency of rice is associated with higher proportion of diabetes. Systolic Blood pressure as quantitative variable was significantly and independently associated with diabetes which in turn combine with each other and increase the risk of other noncommunicable diseases. The level of blood pressure, frequency of taking vegetables and obesity was associated in another study conducted in Jalalabad and Kabul (Saeed, KMI, 2013 and Khawaldeh A, 1999). Total glycerides and LDP as blood lipids were risk factors for diabetes. It could seem they could have direct effect and also indirectly via increasing the obesity of the adults. It is supported by other findings as well (Saeed,KMI, 2013 and, Seftel AD, Sun P, Swindle R, 2004 and Valliyot B, Sreedharan J, Muttappallymyalil J, Balakrishnan VS, 2013). Walking as a proxy for physical activity had significant relationship with diabetes which is understandable in terms of reducing age and finally reducing the diabetes as well. In Jalalabad city the sedentary life was associated with diabetes which could support this findings (Saeed, KMI, 2013, Asgari F, Aghajani H, Haghazali M, Heidarian H, 2009 and Esteghamati A, et al, 2008 and Bener A, Zirie M, Janahi IM, Al-Hamaq AO, Musallam M, Wareham NJ, 2009). There were some other variables or their proxies under categories of socioeconomic status, demographic, lifestyle changes, physical activities, tobacco smoking and blood lipids which were not statistically associated with diabetes, howevere their relationship were reported by other studies (Satman I, et al, 2009 and Shera AS, 2010 and Amini M, Janghorbani M, 2007).

The main limitation of the study was financial constraints for covering its cost which might have affects the result of the study by not listing the households ahead of field work. In addition,

testing the blood and checking hypertension could have encouraged those who had problem of NCDs to be enrolled in the study and overestimate the findings. However, focusing on these factors certainly will be leaded to reduction of burden in urban citizens in future. The finding of this study could be used as a baseline and/or trigger point to design and implement nationwide studies to reflect the national burden of diseases with support of World Health Organization.

Conclusion

The study identified the prevalence of diabetes and assessed risk factors associated with diabetes. The burden of diabetes in Mazar-e-Sharif City could serve as a baseline for further studies in same city as well as deigning some interventions for prevention and control of the diseases. The information provided by this study can be used by policy makers, planners and politicians to focus on diabetes as a priority. It should encourage more financial support of stakeholders to design and support preventive packages. This study could not answer some questions such as establishment of causal relationship which requires advance analytical cohort or case control studies.

Acknowledgment

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References

1. World Health Organization 2016. Global Diabetes Report. WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland. ISBN 978 92 4 156525 7
2. American Diabetes Association (ADA): American Diabetes Association clinical practice recommendation 2003. Diabetes Care 2003, 26 (Suppl 1).
3. WHO Mortality Database [online database]. Geneva: World Health Organization; (http://apps.who.int/healthinfo/statistics/mortality/causeofdeath_query/, accessed 25 November 2016).
4. NCD Risk Factor Collaboration (NCD-RisC). Worldwide trends in diabetes since 1980: a pooled analysis of 751 population-based studies with 4*4 million participants. Lancet 2016; published online April 7. http://dx.doi.org/10.1016/S0140-6736(16)00618-8.
5. Gaffar A. Reddy KS. Singhi M. Burden of noncommunicable disease in South Asia. BMJ. 328(7443);897-810, 2004
6. Gupta R. Mishra A. Type 2 diabetes in India: regional disparities. Br J Diabetes Vasc Dis 2007;7(1):12–6.
7. Mohan V, Sandeep S, Deepa R, Shah B, Varghese C. Epidemiology of type 2 diabetes: Indian scenario. Indian J Med Res 2007; 125(3):217–30.
8. Prajapati D, Kedia G. Prevalence of diabetes and its risk factors: a cross-sectional study in Ahmedabad, Gujarat. Int J Med Sci Public Health 2016; 5:425-429
9. Aekplakorn, W. et al. Prevalence and management of diabetes and associated risk factors by the regions of Thailand. Diabetes Care. 30(8):2007-2012
10. Al-Khalaf MM. Eid MM. Najjar HA. Alhajry KM. Doi SA, and Thalib L.

Screening for diabetes in Kuwait and evaluation of risk scores. Eastern Mediterranean Health Journal .16 (7) July, 2010

11. Al-Mosa S. Allin S. Jemiai N. Al-Lawati J. Mossialos M. Diabetes and urbanization in the Omani population: an analysis of national survey data. Population Health Metrics. Available at: http://www.pophealthmetrics.com
12. Kokiwar PR, Gupta S, Durge PM. Prevalence of diabetes in a rural area of central India. Int J Diab Dev Ctries 2007; 27:8-10
13. Esteghamati A, Gouya MM, Abbasi M, Delavari A, Alikhani S, Alaedini F, Safaie A, Forouzanfar M, Gregg EW: Prevalence of diabetes and impaired fasting glucose in the adult population of Iran: National Survey of Risk Factors for Non-Communicable Diseases of Iran. Diabetes Care 2008, 31(1):96-98.
14. Gu D, Reynolds K, Duan X, Xin X, Chen J, Wu X, Mo J, Whelton PK, He J: Prevalence of diabetes and impaired fasting glucose in the Chinese adult population: International Collaborative Study of Cardiovascular Disease in Asia (InterASIA). Diabetologia 2003;46(9):1190-1198
15. Basti A. Fawwad A. Hakeem R. Ahmedani MY. M. Zafar M. Pakistan National Diabetes Survey: Prevalence of glucose intolerance and associated factors in the Punjab Province of Pakistan. Journal of Primary Care Diabetes Europe. Published by Elsevier Inc.4 (2);79-83, 2010
16. Shaw JE, Sicree RA, Zimmet PZ. Diabetes Atlas: Global estimates of the prevalence of diabetes for 2010 and 2030. Diabetes Research and Clinical Practice 87 (2010) 4-14
17. Saeed, Khwaja Mir Islam, Asghar. RJ, Sahak MN, Ansari J. Prevalence and risk factors associated with diabetes mellitus among Kabul citizens—Afghanistan, 2012. Int J Diabetes Dev Ctries. DOI 10.1007/s13410-014-0270-3
18. Saeed, Khwaja Mir Islam. Prevalence and Predictors of Diabetes Mellitus in Jalalabad City, Afghanistan-2013. Iranian Journal Of Diabetes And Obesity 2014: 6(1):1-8
19. Saeed, Khwaja Mir Islam, Rasooly, MH. Prevalence of Risk Factors for Non-Communicable Diseases (NCD) Using WHO STEP-Wise Approach in Herat City Afghanistan. IOSR Journal of Pharmacy 2016. 6(10):3- PP. 34-40
20. Bonita R, deCourten M, Dwyer T, Jamrozik K, Winkelmann R. Surveillance of risk factors for noncommunicable diseases: the WHO STEP-wise approach. Geneva: World Health Organization; 2002 (WHO/NMH/CCS/01.2002).
21. Diabetes. Fact sheet no. 312. Updated January 2015.Geneva: World Health Organization; 2015. http://www.who.int/mediacentre/factsheets/fs312/en/
22. Obesity: preventing and managing the global epidemic. Geneva: World Health Organization; 2000 (WHO Technical Report Series No. 894).
23. The IDF consensus worldwide definitions of the metabolic syndrome. Brussels: International Diabetes Federation; 2006 http://www.idf.org/webdata/docs/IDF_Meta_def_final.pdf
24. Whitworth JA; World Health Organization, International Society of Hypertension Writing Group. World Health Organization (WHO)/International society of

Hypertension (ISH) statement on management of hypertension. J Hypertens.2003Nov; 21(11):1983–92.
25. Zafar J, et al. Prevalence and risk factors for diabetes mellitus in a selected urban population of a city of Punjab. Journal of Pakistan Medical Association 61(1), Jan 2011
26. Ramachandran A. Urban India: a breeding ground for Diabetes. Diabetes Voice 2002: 47 (1):18-20
27. Ning F, Pang ZC, Dong YH, Gao WG, Nan HR, Wang SJ, et al. Risk factors associated with the dramatic increase in the prevalence of diabetes in the adult Chinese population in Qingdao, China. Diabetic Med 2009; 26: 855-63.
28. Khawaldeh A. Hyperlipidemia in Non-Insulin-Dependent Diabetes Mellitus. Bahrain Medical Bulletin (1999);21(4).
29. Seftel AD, Sun P, Swindle R. The prevalence of hypertension, hyperlipidemia, diabetes mellitus and depression in men with erectile dysfunction. J Urol. 2004;171(6):2341-5.
30. Valliyot B, Sreedharan J, Muttappallymyalil J,Balakrishnan VS. Risk factors of type 2 diabetes mellitus in the rural population of north kerala,india: a case control study. DiabetologiaCroatica. 2013;42-1.
31. Asgari F, Aghajani H, Haghazali M, Heidarian H. Non-communicable diseases risk factors surveillance in Iran. Iranian J Publ Health 2009; 38(Suppl 1):119-122.
32. Esteghamati A, Gouya MM, Abbasi M, Delavari A, Alikhani S, Alaedini F, et al. Prevalence of diabetes and impaired fasting glucose in the adult population of Iran: National Survey of Risk Factors for Non-Communicable Diseases of Iran. Diabetes Care 2008; 31:96-98.
33. Bener A, Zirie M, Janahi IM, Al-Hamaq AO, Musallam M, Wareham NJ. Prevalence of diagnosed and undiagnosed diabetes mellitus and its risk factors in a population-based study of Qatar. Diabetes Res Clin Pract 2009; 84:99-106.
34. Satman I, Yilmaz T, Sengul A, Salman S, Salman F, Uygur S, et al. Population-based study of diabetes and risk characteristics in Turkey: results of the turkish diabetes epidemiology study (TURDEP). Diabetes Care 2002; 25:1551-1556.
35. Shera AS, Basit A, Fawwad A, Hakeem R, Ahmedani MY, Hydrie MZ, Khwaja IA. Pakistan National Diabetes Survey: prevalence of glucose intolerance and associated factors in the Punjab Province of Pakistan. Prim Care Diabetes 2010; 4:79-83.
36. Amini M, Janghorbani M. Diabetes and impaired glucose regulation in first-degree relatives of patients with type 2 diabetes in Isfahan, Iran: prevalence and risk factors. Rev Diabet Stud 2007; 4:169-176.

Table 1: Frequency distribution of the demographic, socioeconomic characteristics and behavior factors of study participants							
Variables	**Subgroups**	**Total**		**Variables**	**Subgroups**	**Total**	
		N	**%**			**N**	**%**
Age				**Vegetables taking (days per week)**			
	25-34	560	45.5		< 3	626	50.9
	35-44	283	23		≥ 3	605	49.1
	45-54	188	15.3	**Vigorous Physical Activity**			
	55+	200	16.2		No	1078	87.6
Gender					Yes	153	12.4
	Female	664	53.9	**Moderate Physical Activity**			
	Male	567	46.1		No	884	71.8
Level of Education					Yes	347	28.2
	Illiterate	730	59.3	**Pedal or bicycle for 10 Minutes per day**			
	Primary and unofficial	270	21.9		No	770	62.6
	Secondary school	110	9.7		Yes	461	37.4
	High school and over	111	9	**Reclining/siting (hours per day)**			
	Refused	1	0.1		< 3	428	34.9
Job Categories					≥ 3	800	65.1
	Official Employees	126	10.2	**Basic Mass index (in kg/m square)**			
	Students	36	2.9		Underweight	74	6
	Private Business	128	10.4		Normal weight	549	44.6
	Worker/Farmer	190	15.4		Overweight	418	34

	Jobless	69	5.6		Obese	190	14.5
	Housework	578	47	**Central Obesity (excluding Pregnancy)**			
	Unable to work/DKN	104	8.4		No	505	41.1
Monthly Income in AFN					Yes	725	58.9
	Less than 10000	886	72	**Blood Pressure (including under treatment)**			
	More than 10000	245	19.9		Normotensive	517	42
Marital Status					Pre-hypertensive	334	27.1
	Single	121	9.8		Hypertensive	380	30.9
	Married	1030	83.7	**Total Cholesterol**			
	Widow/Widower	79	6.4		< 190 mg/dL	822	66.8
	Divorced	1	0.1		≥ 190 mg/dL	409	33.2
Cigarette Smoking Status				**LDL**			
	No	1109	90.1		<100 mg/dL	554	45
	Yes	122	9.9		≥100 mg/dL	677	55
Mouth Snuff Status				**HDL(40 mg/dL for male and 50mg/dL for female)**			
	No	1129	91.7		≥40 and 50mg/dL	454	36.9
	Yes	102	8.3		<40 and 50mg/dL	777	63.1
Fruit taking (days per week)				**Triglycerides**			
	< 3	972	79.2		<150 mg/dL	980	79.6
	≥ 3	255	20.8		≥150 mg/dL	251	20.4

Table 2: Bivariate analysis of factors and diabetes among study participants in Mazar Sharif (n=1231)							
	Non-Diabetes		Diabetes		Odds Ratio	%95CI	
Variables	N	%	N	%		lower limit	upper limit
Age in years							
25 - -35	528	94.3	32	5.7	1	Reference	
35 - 45	258	91.2	25	8.8	1.599	0.928	2.754
45 - 55	167	88.8	21	11.2	2.075	1.165	3.696
55 and over	165	82.5	35	17.5	3.5	2.101	5.83
Sex							
Females	610	91.9	54	8.1	1	Reference	
Males	508	89.6	59	10.4	1.312	0.891	1.933
High Blood Pressure							
No	788	92.6	63	7.4	1	Reference	
Yes	330	86.8	50	13.2	1.895	1.279	2.807
Obesity General using BMI							
No	955	91.7	86	8.3	1	Reference	
Yes	163	85.8	27	14.2	1.839	1.158	2.923
Triglycerides							
< 150mg%	7.8904	92.2	76	7.8	1	Reference	
≥ 150mg%	214	85.3	37	14.7	2.057	1.351	3.131
Total Cholesterol							

< 190mg%	758	92.2	64	7.8	1	Reference	
≥ 190mg%	360	88	49	12	1.612	1.089	2.387
Low Density Lipoprotein (LDL)							
< 100mg%	518	93.5	36	6.5	1	Reference	
≥ 100mg%	600	88.6	77	11.4	1.847	1.222	2.79
High Density Lipoprotein (HDL) borderline 40 mg/dL for male and 50mg/dL for female							
<40 and 50mg/dL	720	92.7	57	7.3	1	Reference	
≥40 and 50mg/dL	398	87.7	56	12.3	1.777	1.205	2.621

Table 5: Multivariable analysis risk factors associated with diabetes among participants in Mazar Sharif (n=1231)

Variables	Adjusted OR	%95CI Lower Limit	%95CI Upper Limit	P Value
Age group				
Low Age	1	Reference		
High Age	1.042	1.025	1.059	P<001
Taking Rice in days per week				
>3 hours per day	1	Reference		
≤3 hours per day	1.779	1.032	3.064	P<05
Systolic Blood Pressure				
High	1	Reference		
Low	0.986	0.973	0.999	P<05
Walking in hours per day				

Less	1	Reference		
More	0.793	0.697	0.902	P<001
BMI				
Low	1	Reference		
High	1.056	1.021	1.093	P<005
Total Glycerides				
Low	1	Reference		
High	1.004	1.002	1.005	P<001
Low Density Lipoprotein (LDL)				
High	1	Reference		
Low	0.477	0.308	0.741	P<005

Review of Measles Epidemiological Situation and Trend in Afghanistan, 2016

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Abstract

Background: Infectious diseases are the first leading cause of death in the low income countries, less than one in five of all people reach the age of 70, and more than a third of all deaths are among children under 15.

Measles is one of infectious diseases which is highly contagious and remain one of the leading causes of death among young children. In 2015, there were 134,200 measles deaths globally.

In Afghanistan, measles remain the 1st leading cause of outbreaks; there were 26,642 cases and 106 deaths in 2015.

Objective: To present measles epidemiology and trend in Afghanistan

Methods: Retrospective review of measles data was conducted, data was collected through national diseases surveillance and HMIS systems, various variables including age, sex, date of onset, place and vaccination coverage were used for analysis. MS Access and MS Excel were used for data analysis.

Results: In this study 1,692 suspected measles cases in 110 outbreaks were enrolled and analyzed in 2016. Of which 863 (51%) were male, 829 (49%) were female, and 58% were under 5 years, the mean age of the cases was 5.6 year old.

High numbers of cases (54.3%) were reported during the winter season (December-March). Vaccination coverage for the first doze of measles vaccine was 54%, geographically majority of the cases were reported from southeast and west regions. Measles mortality reduction campaigns (MMRCS) were more effective than routine immunization program.

Conclusion: Despite the availability of safe and effective vaccine, measles still remains one of the leading causes of death among young children globally.

The huge number of measles cases and outbreaks in Afghanistan indicate the weakness of preventive and control measures, therefore the improvement of vaccination coverage and strengthening of routine immunization program can reduce measles cases and outbreaks.

Keywords: Measles, Outbreak, Surveillance, Vaccination coverage

مرور وضعیت اپیدیمولوژیک و سیر مرض سرخکان در افغانستان در سال ۲۰۱۶

چکیده

پس منظر: امراض انتانی سبب عمده وفیات را در کشورهای کم درآمد تشکیل میدهد، که از هر پنج نفر کمتر از یک نفر آن به سن ۷۰ سالگی رسیده و همچنان بیشتر از یک بر سوم تمام وفیات در سنین زیر ۱۵ سال واقع میگردد.
سرخکان از جمله امراض انتانی شدیداً واگیر بوده و یکی از علت های عمده وفیات را در سنین طفولیت تشکیل میدهد، در سال ۲۰۱۵ سرخکان باعث مرگ ۱۳۴۲۰۰ تن در جهان گردیده است.
سرخکان در افغانستان عامل درجه یک اپیدمی ها و سبب بیشترین تعداد اوتبریک ها (outbreaks) میباشد، که در سال ۲۰۱۵ در حدود ۲۶۶۴۲ واقعه مریضی و ۱۰۶ واقعه فوتی ناشی از سرخکان گزارش داده شده است.

هدف تحقیق: ارائه وضعیت اپیدیمولوژیک و سیر سرخکان در افغانستان

میتود: مرور ارقام بعد از وقوع مرض سرخکان که از طریق سیستم سرویلانس ملی امراض و اداره سیستم معلومات صحی وزارت صحت عامه جمع آوری گردیده بود، اجرا گردید. برای تحلیل و تجزیه متغیر های گوناگون از قبیل سن، جنس، تاریخ وقوع، مکان و پوشش واکسین مورد استفاده قرار گرفته، پروگرام های (MS Access/MS Excel) برای تحلیل و تجزیه ارقام استفاده شدند.

نتایج: در این تحقیق ۱۶۹۲ واقعه مشکوک سرخکان در ۱۱۰ اپیدیمی در سال ۲۰۱۶ شامل این مطالعه و مورد تحلیل قرار گرفته که ۸۶۳ (۵۱٪) آن ذکور، ۸۲۹ (۴۹٪) آن اناث، و ۵۸٪ مجموع واقعات نزد اطفال سنین زیر ۵ سال بوده و اوسط سن واقعات ۵.۶ سال میباشد.
اکثریت واقعات این مرض (۵۴.۳٪) در موسم زمستان گزارش شده، پوشش دوز اول واکسین سرخکان در ساحات تحت اپیدیمی ۵۴٪ ثبت گردیده است، از نظر جغرافیایی بیشترین تعداد واقعات از نواحی جنوب شرقی و غربی کشور گزارش داده شده است.
کمپاین های واکسین جهت کاهش وفیات ناشی از سرخکان (MMRCs) نظر به پروگرام روزمره واکسین سرخکان مؤثریت بیشتر داشته است.

نتیجه گیری: مرض سرخکان با وجود واکسین مصؤن و مؤثر یکی از علل عمده مرگ سنین طفولیت در جهان میباشد، موجودیت تعداد زیاد واقعات سرخکان و اپیدیمی های آن در افغانستان نشان میدهد که تدابیر وقایوی و کنترولی فعلی بسنده نبوده، که بهبود بخشیدن پوشش واکسین و تقویه پروگرام روزمره واکسین سرخکان میتواند باعث کاهش واقعات سرخکان گردد.

واژه های کلیدی: سرخکان، اپیدیمی، سرویلانس، پوشش واکسین

Introduction

Infectious diseases such as lung infections, diarrhoeal diseases, HIV/AIDS, tuberculosis, and malaria are the first leading cause of death in the low income countries (1), where less than one in five of all people reach the age of 70, and more than a third of all deaths are among children under 15 (2).

Measles itself is one of the leading causes of death among young children, even though a safe and cost-effective vaccine is available. In 2015, there were 134,200 measles deaths globally – about 367 deaths every day or 15 deaths every hour. Measles vaccination resulted in a 79% drop in measles deaths between 2000 and 2015 worldwide. In 2015, about 85% of the world's children received one dose of measles vaccine by their first

birthday through routine health services – up from 73% in 2000.

During 2000-2015, measles vaccination prevented an estimated 20.3 million deaths; this made the measles vaccine one of the best public health product (3).

In Afghanistan, measles remains the 1st main cause of the outbreaks, this is due to low vaccination coverage against measles (4). There were 26,642 Measles cases in Afghanistan in 2015 (5). Also, Demographic Health Survey (DHS) 2015 reported the coverage of vaccination against measles 60percent for the first dose (6).

Prevention and control masseurs taken for Measles cases reduction in Afghanistan are:

- Vaccination {two doses of measles vaccine in the routine vaccination program and Measles Mortality Reduction Campaigns (MMRCS) in case of outbreaks}
- Proper case management for Measles cases including provision of Vitamin-A supplements, antibiotics if needed, and supportive care to prevents complications (7).
- Diseases surveillance is also one of the main interventions in reduction of Measles cases through early detection, investigation and response to the measles outbreaks and coordination for the MMRCs (4).

The aim of this study is to determine the epidemiology and trend of Measles cases in Afghanistan, as still Measles diseases remain the first leading cause of outbreak in Afghanistan therefore it is needed to be clarified the real causes of such huge number of Measles outbreaks/cases to enable us for implementation of the prevention and control strategies.

Methods

Disease surveillance as an active surveillance has been functioning effectively since December 2006 as a sentinel site-based surveillance system, with both Indicator Based Surveillance (IBS) and Event Based Surveillance (EBS) components.

In IBS, the weekly reporting of 16 priority diseases/events (morbidity and mortality) from public and few private health facilities is included.

In EBS the reporting of unusual events and suspected outbreaks (of any disease) is included, up to 31/Dec/2016 the diseases surveillance established 643 surveillance sentinel sites all over the country (543 in health facilities and 100 in the community).

Measles due to high priority is also included in diseases surveillance system, still it is the first leading causes of outbreaks in Afghanistan (4).

The Health Management Information System (HMIS) of ministry of public health (MoPH) as a passive surveillance also receive the data of morbidity and mortality including Measles from the all the public health facilities throughout the country, provincial HIMS department receive the data from health facilities on monthly basis and submit it to MoPH on quarterly basis (5).

For this study the retrospective review of Measles data was conducted, data was collected through national surveillance and HMIS systems of MoPH, covered from 01 January till 31 December 2016, also the cumulative data of Measles outbreaks was reviewed from 2007 till 2016. From HMIS system the data of 1394 (2015) was reviewed, various variable including age, sex, date of onset, place and vaccination coverage were used for the analysis in 29 provinces in 2016.

MS Access /MS Excel were used for the data analysis.

Results

Measles is the first leading cause of outbreaks in Afghanistan; more than 2,600 outbreaks of different diseases are detected and responded by diseases surveillance system since 2007, about 40% of these outbreaks are caused by Measles alone (4).

In 2016, there were 110 outbreaks of Measles reported and investigated by surveillance system in Afghanistan, 61 (55%) outbreaks were confirmed by laboratory. A total of 1692 cases and 31 death were associated with these outbreaks with an average of almost 15 cases per outbreak, average CFR was 1,84% ≈ 2%, The size of the outbreaks ranged from 284 cases in Badghis province to 5 cases in Panjsher province. The outbreaks distributed in 29 provinces of Afghanistan, just from these provinces (Samangan, Baghlan, Urozgan, Kapisa and Kundoz) no measles outbreak reported in 2016. Majority of the outbreak were reported from Khost province (14%) followed by Paktya (12%) and Paktika (10%) provinces, while less number of outbreak (less than1% per province) were reported from Pnajsher, Herat, Logar and Daikundi provinces.

Out of total 1692 suspected Measles cases in 2016, 863 (51%) were male, 829 (49%) were female, 355 (21%) were less than 2year old, 626 (37%) were 2-5 years old, 440 (26%) were 5-10 years old, 271 (16%) were >10 years old. The mean age of the cases was 5,6 years old (*Figure.1)*.

The seasonal pattern was also seen where there were high numbers of cases reported during the winter time (January) (*Figure.2)*. The yearly trend was also seen from 2007 till 2016, there were high numbers of cases reported during 2012 followed by 2015 (*Figure.3)*, the average vaccination coverage for the first doze of Measles vaccine in the said 110 outbreaks area was 54%. Geographical distribution of the cases was seen, majority of the cases were reported from southeast region followed by west region, while the lowest cases were reported from central east region, also at the provincial level majority of the cases were reported from Badghis province followed by Khost and Paktya provinces (*Figure.4)*. It was also noted that measles Mortality Reduction Campaigns (MMRCs) are more effective than routine immunization program, as after every MMRC the measles cases are declined amazingly. For examples after conducting MMRC in 2012 and another in 2015 (*Figure.3),* less number of measles cases were reported in 2013 and 2016.

Table 1:Frequency distribution of the socio-demographic characteristics of study participants in 110 Measles outbreak in 29 Provinces- Afghanistan in 2016 (n=1692)

Variables	Numbers (%)
Age (years)	
<2	355 (21)
02 - 05	626 (37)
05 - 10	440 (26)
> 10	271 (16)
Sex	
Males	863 (51)
Females 829 (49)	
Seasonality (months of the years)	
January	427(25.24)
February	192(11.35)
March	166(9.81)
April	76(4.49)
May	163(9.63)
June	215(12.71)
July	107(6.32)
August	50(2.96)
September	0(0.00)
October	96(5.67)
November	65(3.84)
December	135(7.98)

Geographical distribution (Regions)	
South East	533 (31.50)
West	406 (24.00)
East	234 (13.83)
South	165 (9.75)
Central West	145 (8.57)
North	141 (8.33)
North East	38 (2.25)
Central East	30 (1.77)

Figure.1- Age category of Measles cases in 2016 in Afghanistan

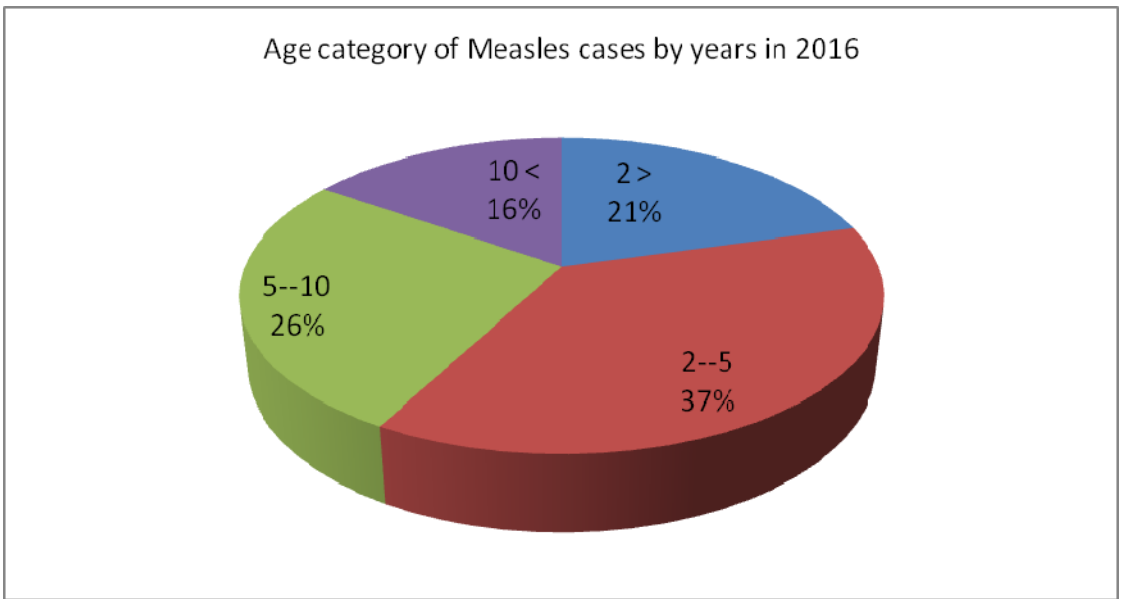


Figure.2-Measles cases by months (2016) in Afghanistan

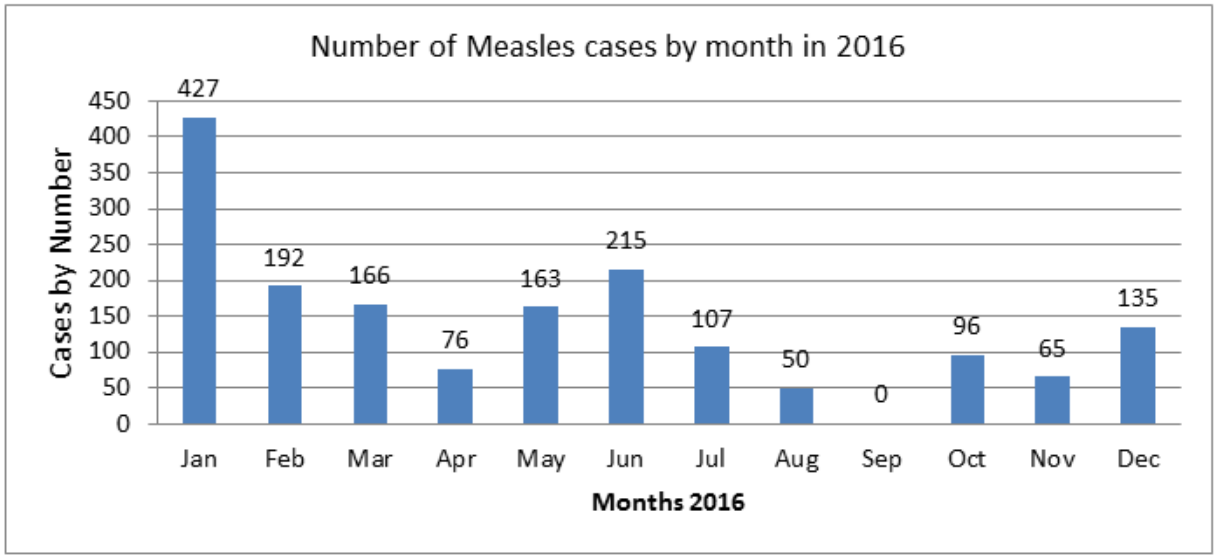


Figure.3-Trend of Measles cases by years (2007-2016) in Afghanistan

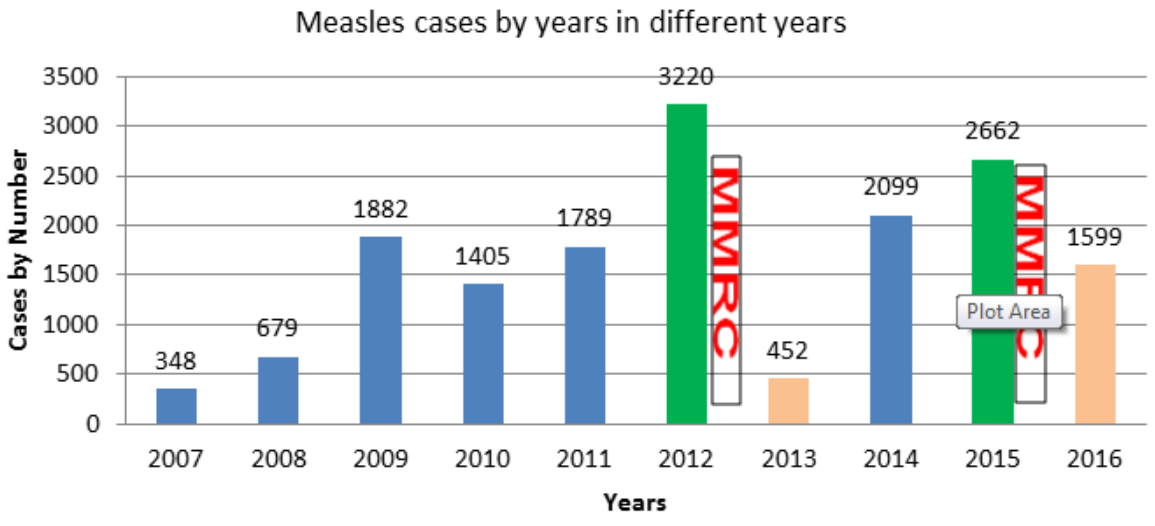
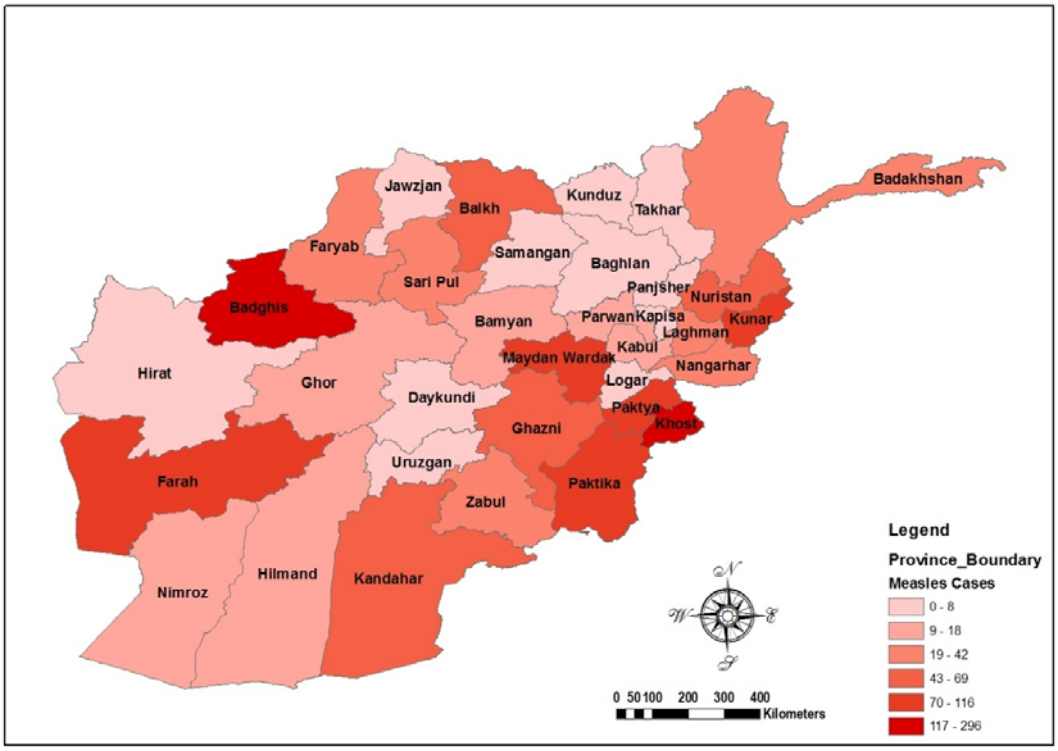


Figure.4-Measles cases geographical distribution by provinces in 2016 in Afghanistan



Discussion

Measles is one of the leading causes of death among under five children world-wide.

In Afghanistan, Measles is the first leading cause of outbreaks and epidemics.

The main reason of the huge numbers of the Measles outbreaks in Afghanistan is the low vaccination coverage against Measles.

Based on surveillance data it is clearly indicated that the Measles Mortality Reduction Campaigns (MMRCs) are more effective than routine immunization program, as after every MMRC the Measles cases are declined amazingly.

Majority of the cases (58%) are under 5 year old, geographically majority of the cases are reported from southeast followed by west regions.

Strength and weakness of the study

The result of the study was supported by Lab and the HMIS system, it can be mentionable as the strength points of this study. On the other hand, due to insecurity in some outbreak investigation the technical staff/ surveillance team was not involved, also some outbreak investigations was not fully documented, these

points can be mentioned as the weakness of this study.

Conclusion

Measles is a highly infectious viral disease that can be very unpleasant and sometimes lead to serious complications and death. Despite the availability of a safe and effective vaccine Measles still remains one of the leading causes of death among young children globally.

The huge number of measles cases and outbreaks in Afghanistan indicate the weakness of preventive and control measures, therefore the improvement of vaccination coverage and strengthening of routine immunization program can reduce Measles cases and outbreaks.

Recommendation

- To strengthening the routine immunization program to obtain the measles herd immunity
- To enhance the surveillance system for timely detection and control of the measles cases
- To promote the proper case management for all the cases to prevent the large numbers of complication and deaths due to measles.
- To increase public awareness on importance of children vaccination
- To enhance coordination among the stakeholders involved in the measles prevention and control this will increase the synergism

Acknowledgment:

At the end I would like to express my gratitude to Surveillance field staff who timely send us the outbreaks reports and measles Data, HMIS department colleagues and Mr. Wahid Ameri the data manager of surveillance department of EHIS GD for their assistance who enriched this paper by their contribution and providing invaluable and helpful comments.

References

1- World Health Organization. 2013. Mortality and global health estimates. Geneva, Switzerland: World Health Organization
2- http://psiimpact.com/2011/06/the-leading-causes-of-death-in-low-middle-and-high-income-countries
3- WHO Measles Fact sheet Reviewed November 2016
4- Diseases surveillance 2015 annual report of Ministry of Public Health Afghanistan
5- Health Management Information System (HMIS) national database 1394 data
6- Afghanistan Demographic and Health Survey 2015
7- Expanded Immunization Program national guideline of Ministry of Public Health Afghanistan
8- Unicef Child Mortality Statistics. www.childinfo.org/cmr/revis/db2.htm (accessed 17 Feb 2004).
9- Black RE, Morris SS, Bryce J. Where and why are 10 million children dying every year? Lancet 2003;361: 2226-34. [PubMed]
10- Evaluation of measles surveillance systems in Afghanistan-2010
11- World Health Organization. 2013. World health statistics. Geneva, Switzerland: World Health Organization
12- World Health Organization. 2013. Expanded Programme on Immunization (EPI). In Immunization service delivery. Geneva, Switzerland: World Health Organization

Knowledge and Attitude among Selected Religious Leaders Concerning Birth Spacing/Family Planning: A cross sectional study in Afghanistan

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Abstract

Introduction: Birth spacing/ family planning (BS/FP) can prevent more than 30% of maternal deaths and 10% of child mortality if couples space their pregnancies more than 2 years (Cleland et al, 2006). There is a flat increase (3%) in comparison to the level of 2010 in CPR over 5 years based on AfHDS 2015 (23%). Religious leaders play vital role in promotion of spacing/family planning in Afghanistan. The descriptive study was aimed to assess the knowledge and attitude of birth spacing/family planning among selected religious leaders.

Method: A cross sectional study design was applied to achieve the study objective.369selected religious leaders (Mullas) from 23 provinces were the study population. Convenient selection method was applied in our study. Data were collected using face to face questionnaire, and data management and analysis was performed using SPSS V.16.

Results: Almost 99% of respondents had knowledge of methods of birth spacing/family planning with average mean of 3.1 methods (± SD 1.6 methods). Ninety five percent of participants were agree with birth spacing/family planning. The appropriate age of marriage for girls marked <15 years, 16-20 years, 21-25 years, +26 years and after adolescent with percentage of 15.2%, 74.2%, 2.3%, 0.3% and 8% respectively. The study participants marked appropriate age for first delivery as of <15 years, 16-18 years, 19-21 years, +22 years and after adolescent with percentage of 3.3%, 38.3%, 43.4%, 12%, 2.7% and 0.3% respectively. The average mean recommended years for birth interval by participants marked 2.5 year (± SD 0.8 years). Around 90% of participants promoted birth spacing/family planning.

Conclusion: Notwithstanding high level knowledge and agreement of religious leaders with birth spacing/family planning, remarkable number believed appropriate age for marriage for girls and first delivery are less than 15 and 18 years respectively, showing still attitude is not totally changed regarding this important issues. Considering inappropriate attitude of the significant number of participants regarding birth spacing/family planning, very focused interventions on changing attitudes is needed along with awareness raising programs. Further studies required to go more in-depth regarding this issue.

چکیده:

پس منظر:هرگاه فاصله میان حمل ها بیشتر از دو سال باشد اضافه تر از 30% مرگ مادری و 10% مرگ اطفال را جلوگیری کرده میتواند (Cleland et al, 2006). به اساس سروی دیموگرافیک و صحی افغانستان ۲۰۱۵ از سال ۲۰۱۰ بدینسو یک پیشرفت جزئی (از 20% به 23%) در میزان استفاده از روش های جلوگیری از حمل گزارش داده شده است. رهبران مذهبی (ملاها) در ترویج فاصله دهی میان ولادت ها/تنظیم خانواده در افغانستان نقش متبارز را بازی میکنند. بناء یک مطالعه توصیفی برای ارزیابی دانش و طرز دید علمای دین در مورد فاصله دهی میان ولادت ها/تنظیم خانواده در بین ملا های انتخاب شده به راه انداخته شده است.

میتود: یک مطالعه مقطعی (Cross Sectional) در میان ۳۶۹ ملاامامان (علمای دینی) که نمایندگی از ۲۳ ولایت افغانستان مینمودند برای حصول هدف تعین شده به راه انداخته شد. اشتراک کننده گان به شیوه Convenientانتخاب شده بودند و معلومات از طریق پرسش نامه جمع آوری گردیده و ارقام با استفاده از سافت ویر SPSS V.16 تحلیل و تجزیه گردید.

نتایج: تقریباً تمام ملاامامان مشمول مطالعه (۹۹٪) در مورد روش های تنظیم خانواده دانش داشتند. (اوسط 3.1) (± SD 1.6 methods). در این میان 95% از ملا ها با خدمات تنظیم خانواده موافق بودند. سن مناسب برای ازدواج برای دختر ها کمتر از ۱۵ سال، 20-16 سال، 25-21 سال، بلند تر از 26 سال و بعد از نوجوانی پرسیده شده بود که بالترتیب 15.2%، 74.2%، 2.3%، 0.3% و 8% جواب دریافت شده است. برعلاوه، سن مناسب برای اولین حاملگی کمتر از 15 سال، 18-16 سال، 21-19 سال، بعد از ۲۲ ساله گی و بعد از نوجوانی بالترتیب 3.3%، 38.3%، 43.4%، 12%، 2.7% و 0.3%پاسخ دریافت گردیده است. اوسط فاصله میان ولادت ها به مدت 2.5 سال از طرف اشتراک کنندگان پیشنهاد گردیده است (± SD 0.8 years). در حدود90%اشتراک کننده گان گفته اند که آنها خدمات تنظیم خانواده را ترویج میدهند.

نتیجه گیری: با وجود سطح بلند آگاهی و موافقه ملا ها در مورد فاصله دهی میان ولادت ها/تنظیم خانواده هنوز هم یک تعداد قابل ملاحظه ملاها به این باور هستند که سن مناسب ازدواج برای دختر ها و اولین ولادت بالترتیب کمتر از ۱۵ سال و کمتر از ۱۸ سال میباشد، که نشان دهنده آنست که طرزدید ملاها در مورد این موضوع مهم کاملاً تغیر نکرده است. با توجه به مشکل در طرز دید یک تعداد قابل ملاحظه اشتراک کننده گان در مورد فاصله دهی میان ولادت ها/تنظیم خانواده، مداخلات اساسی در مورد تغیر طرز دید (سلوک) در جنب برنامه های آگاهی دهی ضرورت است. برنامه ها و مطالعات بعدی نیاز است تا این موضوع را عمیق تر مورد بررسی قرار دهد.

Introduction

Based on World Health Organization recommendations, Birth Spacing/Family Planning (BS/FP) is recognized as a key life-saving intervention for mothers and their children. BS/FP can prevent more than 30% of maternal deaths and 10% of child mortality if couples space their pregnancies more than 2 years (Cleland et al, 2006). Closely spaced pregnancies within the first year postpartum are the riskiest for mother and baby, resulting in increased risks for adverse outcomes, such as preterm, low birth weight and small for gestational age (Da Vanzo et al, 2007). If all couples waited 24 months to conceive again, under-five mortality would decrease by 13%. If couples waited 36 months, the decrease would be 25% (Rutstein, 2008).

Afghanistan has made significant achievement on maternal and child health indicators during the one and half decades. For instance, the Antenatal Care from a skilled provider increased from 16% in 2003 based on Multiple Indicator Cluster Survey (MICS 2003) to 58.6% in 2015 based on Afghanistan Demographic and Health Survey (AfDHS 2015). As well as the trends deliveries by skilled birth attendance shows an increase from 14% (MICS 2003) to 50.5% (AHDS

2015). There were a significant improvement in child health indicators, under five mortality and infant mortality are decreased from 254/1,000 LB to 55/1,000 LB, and 129/1,000 to 45/1,000 LB respectively.

However, the Contraceptive Prevalence Rate (CPR) shows an increase from 10% (MICS 2003) to 20% in 2010 (AMS 2010), and a flat increase of 3% in comparison to the level of 2010 in Contraceptive Prevalence Rate (CPR) over 5 years based on AHDS 2015 (23%). Based on Millennium Development Goal (MDG) report Afghanistan was lagging behind the target of MDG 3 in regards with CPR which estimated a target of 50% in the country. According to the Afghanistan Mortality Survey (AMS) 2010 the knowledge of any contraceptive method was 91.8% while there is a huge gap between knowledge and utilization.

Since in Afghanistan the women are not decision makers in most of occasions, there are different categories of influential at household level including but not limited to husband, mother in-law, and father in-law. One of the effective way in order to reach to male decision makers is approach through religious leaders. The role of decision makers in regards with increase the use of contraceptives is crucial.

The study objective was to assess the knowledge and attitude of birth spacing/ family planning among selected religious leaders from 23 provinces of Afghanistan.

Method

Study Design and study population: A cross sectional study design was applied to achieve the study objective. Religious leaders (Mullas) from 23 provinces were the study population. Convenient selection method was applied in this study. The sample was 369 religious leaders invited from 23 provinces in an event which was jointly conducted by MoPH and Ministry of Hajj and Religious Affairs in Kabul. A self-administered quantitative questionnaire designed and applied in the study after test.

Data collection procedure: The self-administered questionnaires distributed to all participants on second day of the conference, the participants returned back the filled questionnaires on third day of conference.

Data Entry and Management: The data was cleaned, entered and analyzed using SPSS version 16 software. Mean and standard deviations were calculated for quantitative variables.

Ethical Considerations: The participants were briefed on the objective of the study. Written informed consents were obtained from all participants before proceeding with interview.

Results

Socio-demographic characteristics: A total number of 369 subjects (100% male) with median age of 30 years (IQR24-39 years, range 18-80 years) from 23 provinces of Afghanistan were enrolled in the study. 95% of participants had Islamic education varying from *Madrasa* to *Higher Education.* Seventy percent of participants were married while the rest (30%) were unmarried.

Median of family size (family members) was 7 (IQR 4-9 members).

Knowledge of birth spacing/family planning: Ninety nine percent of respondents had knowledge on methods of birth spacing/family planning with average mean of 3.1 methods (±SD 1.6 methods). 56% of participants marked that family planning is common in their community, 25% of them responded that family planning is not common in their community,

while the rest (19%) did not know whether family planning is common in their community or not?

Attitude of birth spacing/family planning:

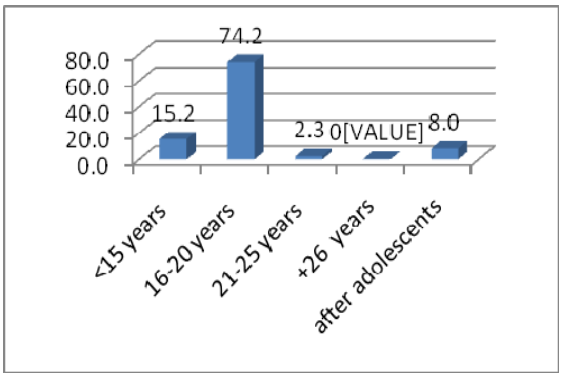
95% were agree with birth spacing/family planning.

The average mean recommended years for birth interval by participants marked 2.5 year (±SD 0.8 years).

We analyzed their attitude by measuring their perception on whether their advice regarding BS/FP is effective or not? The response of 79% of participants were positive, and 7% of them responded "No" to this question, and the rest (13%) did not know about this variable.

More information could be seen in Figure 1.

Fig 1: Appropriate age of marriage for girls



The participants were asked about appropriate age of marriage for girls and they pointed out <15 years, 16-20 years, 21-25 years, +26 years and after adolescent and the percentage were 15.2%, 74.2%, 2.3%, 0.3% and 8% respectively.

The response of participants against question regarding appropriate age for first delivery were 3.3%, 38.3%, 43.4%, 12%, 2.7% and 0.3% respectively for <15 years, 16-18 years, 19-21 years, +22 years and after adolescent.

Fig 2: Appropriate age for first delivery

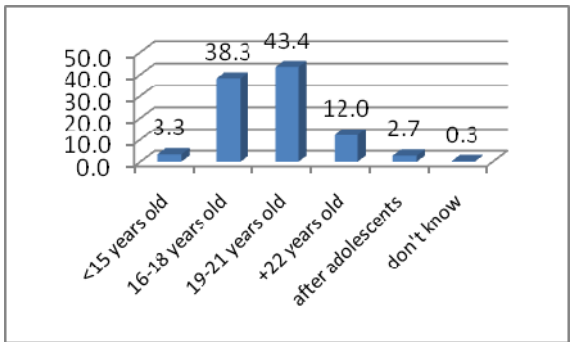
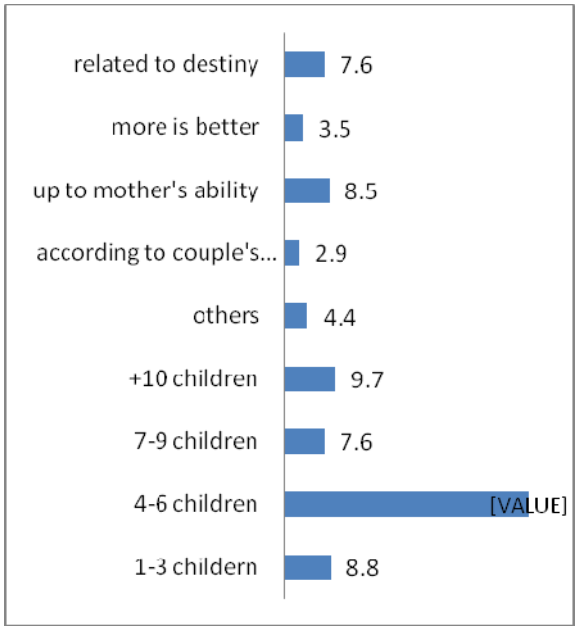
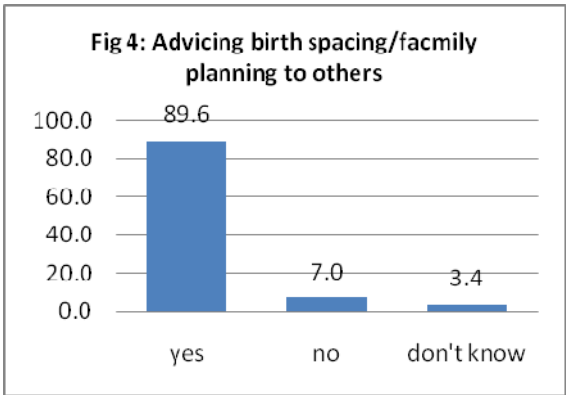


Fig 3: Number of children per mother



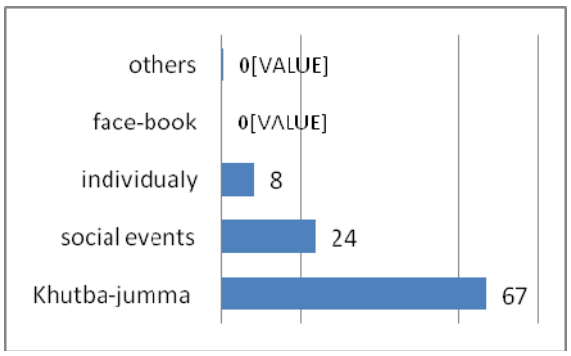
The participants were asked about number of children by a mother during her reproductive live, more than 50% of them marked less than 6 children.

In response to the question whether they advise birth spacing/family planning to others, the answer of 90% of them were "Yes". 7% did not advice (Figure 4).



In regards with way of advising birth spacing/family planning the most common means were Khutba-Jumma, social events (67% and 24% respectively).

Fig 5: Means of advising BS/FP



Discussion

The study shows almost all participants had knowledge of birth spacing/family planning methods, more than two third of study participants had knowledge of at least 3 methods of FP/BS. It indicates that the awareness raising programs for religious leaders contributed high level of knowledge. A study in Lebanon shows the same result (Karout N, Altuwaijri S 2012).

A large number of religious leaders were agree with birth spacing/family planning, a portion of study conducted in Afghanistan also support our finding (Hemat S, Morita A, Nakamura K, and Kaoruko S, 2016). As well as study in Bangladesh found that "many have become tolerant -- and someeven support -- family planning" (Chowdhury M, 1991).

Notwithstanding of high level of knowledge and agreement of religious leaders with birth spacing/family planning, a remarkable number of them believe the appropriate age for marriage of girls less than 15 years, which still shows the attitude of religious leaders regarding age of marriage is an issue of concern.

The recommended interval between deliveries was more than two years by around one third of participants, while almost half of them recommended 2 years, which is not consistent with recommended 3 years by ministry of public health. It is an indication of inappropriate birth spacing attitude.

More than one third of participants were believed that the appropriate age for the first delivery is less than 18 years, having such large proportion shows still attitude is not totally changed on delaying first delivery up to age 18.

However, there were multi response on number of children by a women during her reproductive live, but more than half of participants recommends less than six children. It can contribute to the reduction of Total Fertility Rate (TFR) in Afghanistan.

However, the majority of participants stated that they are promoting birth spacing/family planning at their communities, but with due consideration of inappropriate attitude of significant number of them the promotive activities would not be effective unless the attitude is changed.

Study limitation: The study followed the convenient sampling, which may increase the chance of selection bias, but the participants

were belong to 23 provinces representing all regions. Another limitation of the study was that the religious leaders were recently oriented on birth spacing/family planning, but their attitude shows that they have already had basic knowledge, which minimize the chance of misleading the study.

Conclusion

In order to promote birth spacing/family planning through religious leaders, with due consideration of inappropriate attitude of the significant number of them regarding birth spacing/family planning, very focused interventions on changing their attitudes with close collaboration of related ministries should be undertaken along with awareness raising programs. We recommend further studies to go more in-depth regarding this issue.

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References

Afghanistan Health and Demographic Survey (AfDHS 2015), CSO, Ministry of Public Health, Afghanistan: Kabul.

1. Afghanistan Mortality Survey (AMS, 2010), the Ministry of Public Health, 2011. Afghanistan: Kabul.
2. National Risk and Vulnerability of Afghanistan (NRVA 2011), Central Statistics Office, Afghanistan: Kabul.
3. Multiple Indicator Cluster Survey (MICS 2003), CSO, UNICEF, Afghanistan: Kabul.
4. The family planning conundrum in Afghanistan: Hemat S, Morita A, Nakamura K, and Kaoruko S, 2016
5. A comprehensive family planning need assessment in Afghanistan: UNFPA, USAID, 2016
6. Knowledge, attitudes and practices among religious students concerning family planning, Karout N, Altuwaijri S, 2012.
7. Working with religious leaders in Bangladesh. Chowdhury M, 1991.
8. Family planning and contraception in Islamic countries: a critical review of the literature, Shaikh BT, Azmat SK, Mazhar A, 2013.
9. Family planning: the unfinished agenda, Cleland et al, 2006.
10. Effects of interpregnancy interval and outcome of the preceding pregnancy on pregnancy outcomes in Matlab, Bangladesh, Da Vanzo et al, 2007.
11. Achieving success with family planning in rural Afghanistan, Douglas Huber, NikaSaeedi& Abdul Khalil Samadi, 2010.
12. Controversies in faith and health care, Tomkins et al, 2015.

Commentary: Saving the Youngest and among the most Vulnerable: Importance of Expanding Newborn Health through Home-visits in Afghanistan

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Current situation

According to the most recent national survey data, the current level of neonatal mortality is 22 per 1,000 live births, post-neonatal mortality is 23 and infant mortality is 45 deaths per 1,000 live births. At these current mortality levels, 82% of all deaths among children under five age in Afghanistan take place before a child's first birthday with 40% occurring during the first month of life (CSO et al. 2016). The portion of child deaths occurring during the neonatal period is increasing in Afghanistan which aligns with a similar global trend (WHO, UNICEF 2009).

Despite progress, about half of births in Afghanistan occur at home and without skilled care: 48% of births are delivered in health facilities; 51% of births are delivered by a skilled provider. Only one-third of women who gave birth had postnatal care within two days of giving birth.

The Islamic Republic of Afghanistan's continues to demonstrate strong commitment to improve women and children's health. In December 2013, the Government signed A Promise Renewed pledge, committing to reduce preventable deaths among women and children. In May 2015, the Government followed through on this commitment by launching the Kabul Declaration, which sets out specific targets for maternal, newborn and child health and survival for 2020, and reiterates government support for the goals of ending preventable maternal, newborn and child deaths.

The Ministry of Public Health (MoPH) finalized the Comprehensive Newborn Care Programme in Afghanistan 2016-2020, which has aligned all national newborn activities with the global Every Newborn Action Plan was in close collaboration with in-country partners. The goal of the Comprehensive Newborn Care Plan is to contribute to the country's development and progress by reducing neonatal morbidity and achieving significant reductions in mortality to achieve the Sustainable Development Goal (SDG) target for neonatal mortality of 12 deaths per 1,000 live births by 2030. The plan proposes to achieve this target through improved community-based newborn care, communication, research, provision of quality care, improved policies, access and utilization of services by mothers before, during, and after pregnancy and at child birth with special attention to care of neonates.

Home visits for care of the newborn

Home-based newborn care interventions which can prevent 30-60% of newborn deaths in high mortality settings (Bang, et al. 1999; Bhutta et

al. 2008). Continuing this new attention to the importance of newborn care, in 2016, the MoPH endorsed the recommendations of the joint global statement (2009) of WHO and UNICEF on home visits after birth as a strategy to deliver effective elements of care to newborn and increase newborn survival. This strategy has shown positive results in high mortality settings by reducing newborn mortality and improving key newborn care practices (WHO, UNICEF 2009).

The Community Health Worker (CHW) is an important member of the health system, working with the community which is in need of health services. Global evidence demonstrates that CHWs provide an instrumental role in health promotion and connecting communities to facility-based care. At present, there are over 28,000 CHWs serving rural population in Afghanistan. Trained CHWs providing health care to 45% sick children and covering 69% family planning, but some concerns are there about quality of the care they provide (MoPH 2015).

Programme components of home-based care identified in the Ministry of Public Health position paper that are required for implementation of home visits for newborn care:

Ministry of Public Health

Identifies the best channel of delivering postnatal home care based on cost effectiveness and sustainability is community health workers through Community-Based Health Care department.

Assesses the level and distribution of CHWs and their competencies to deliver the required services and care for newborn survival.

Developing regulatory and legal framework for CHWs to provide postnatal care.

Recruiting, training and deploying health workers, including community level workers, to provide newborn care through postnatal home visits.

Ensuring continued professional development and motivation of health workers, including CHWs.

Strengthening the health system to support health workers to deliver postnatal newborn services and care, including regular supplies, supervision and referral links.

Supporting communication efforts for community awareness and involvement in postnatal care.

In addition, the MoPH is in the process of introducing a Maternal, Newborn and Child Health (RMNCH) home-based handbook which is expected to increase demand for and utilization of the RMNCH services, increase community awareness of practicing a healthy lifestyle, and improve quality of healthcare services.

UNICEF, WHO and partners will support these actions by:

Advocating, assisting and investing resources for implementation of home visits for newborn care interventions.

Working with government and non-government organizations to rapidly disseminate this position paper, NGOs and communities to start implementation of this strategy.

Assisting capacity-building and functioning of health care providers and CHWs to provide home-based newborn care through development and use of guidelines, training

materials on community-based newborn care and other activities as needed.

Helping with communication efforts aimed at promoting antenatal care, skilled care at birth and postnatal care for mothers and newborns.

These important steps by the Ministry of Public Health and development partners regarding home visits for the newborn child in the public sector in Afghanistan will expand the reach of care beyond the health facilities, where many newborns are currently dying. Up to two-thirds of the current rate of neonatal mortality in Afghanistan can be prevented if mother and newborn receive known interventions that are simple and effective and delivered through health facilities and home visits. Investment in newborn health in Afghanistan must continue to improve survival rate of this vulnerable group through facility-, outreach, and community-based care of quality.

References

Afghanistan Ministry of Public Health (MoPH). Community Based Health Care Strategy (2015-2020).

Bang AT et al. Effect of home-based neonatal care and management of sepsis on neonatal mortality: field trial in rural India. Lancet, 1999, 354(9194):1955–61.

Bhutta ZA et al. implementing community-based perinatal care: results from a pilot study in rural Pakistan. Bull World Health Organ, 2008, 86(6):452–9.

Central Statistics Organization (CSO), Ministry of Public Health (MoPH), and ICF International. 2016. Afghanistan Demographic and Health Survey 2015: Key Indicators. Kabul, Afghanistan, and Rockville, Maryland USA: Central Statistics Organization, Ministry of Public Health, and ICF International.

WHO, UNICEF. 2009. Joint Statement on home-based care of newborns.

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In this section, the author should describe what his/her results mean, specifically in the context of what was already known about the subject of the investigation. The author should link back to the introduction by way of the question(s) or hypotheses posed. Author should indicate how the results relate to expectations and to the literature previously cited, whether they support or contradict previous theories. Most significantly, the discussion should explain how the research has moved the body of scientific knowledge forward. It is important not to extend conclusions beyond what is directly supported by the author's results, so avoid undue speculation. It is advisable to suggest practical applications of results, and outline what would be the next steps in the study. The author should also discuss the strengths and weaknesses in relation to other studies.

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In short the conclusion should at least talk about:

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Acknowledgment

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