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The Pakistan Medical Students Research Journal (PMSRJ), the official student-based journal published by Khyber Medical College, Peshawar, is peer-reviewed, open access. This multidisciplinary medical journal publishes scientific research articles related to public health and biomedical sciences. The target audience is medical students, graduates, post-graduates, post-doctoral, and health professionals. It publishes original papers, narrative and systematic review articles, case reports, short communication, special communication, viewpoint, research study protocols, editorials, and letters to the editors. All research articles are subject to the peer-review process. PMSRJ is a strong advocate of ethical medical journalism and promotes the integrity of science by practicing the highest standard of research and publication ethics. Any misconduct noticed during or after publication in PMSRJ will be dealt in line with the COPE guidelines.

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CASE REPORT

MESSAGE BY THE PATRON IN CHIEF

It is with immense pleasure and pride to announce the publication of the first issue of the Pakistan Medical Students Research Journal (PMSRJ). The idea was instilled in my mind when studies showed that medical students who indulged in research at college level later go on to becoming meaningful research oriented doctors in their respective fields. Success is all about harmonious team work for which I would especially like to thank Prof Bushra Iftihkar, associate Dean Research, our Director of Medical Education Professor Farooq Ahmad and the entire editorial board.

The prelude to this was a very successful "All Pakistan Medical Students Research Conference" held last year at Khyber Medical College. Its is a pleasure to present the 1st issue of the Pakistan Medical Students Research journal (PMSRJ) to our audience.

A lot of credit goes to our Editors, Reviewers, and Authors. The journal serves to provide a medium for communicating wealthy novel findings to all in the field of Medicine, Public health, and Social Science. In line with the aim of PMSRJ to interconnect all aspects of health sciences, this issue mostly covers topics related to public health.

This journal is intended to provide a platform for both undergraduate and postgraduate students in health sciences to present their research work on priority and in a cost-effective way. The editorial team has ensured a user-friendly, cost-effective, and facilitative platform for this purpose on the journal website, where the peer review process ensures transparency, and time-saving, in the meantime, ensures the editorial process is up to the mark. I hope the editorial team will try to maintain the highest research and medical writing standards in this journal.

The journal will consist of an editorial related to current topics of interest in medicine, dentistry, education, public health, and epidemiology. Guest editorials are also welcomed. It will have original articles and a case report on a mandatory basis.

The journal is also open to students' blogs, infographics, students' success stories, and other relevant material. We encourage students within our institution and outside to present their research work to this journal for speedy publication. We greatly value students' and others' inputs in the form of letters to the editor regarding critiques, feedback, and suggestions.

I thank and congratulate the authors, the editorial team, and the IT support staff for this invaluable new step towards excelling in research from the doors of Khyber Medical College.

Professor Dr. Mahmud Aurangzeb
Dean, Medical Teaching Institute, Khyber Medical College, Peshawar - Pakistan
Patron-in-Chief, Pakistan Medical Students Research Journal (PMSRJ)

MESSAGE BY THE CHIEF EDITOR

As the Editor in Chief of Pakistan Medical Students Research Journal (PMSRJ) I wholeheartedly congratulate the students & faculty of KMC on launching a health research journal dedicated exclusively to medical students. This initiative brings forth a remarkable opportunity to enrich the educational experience and intellectual growth of aspiring medical professionals. It is an endeavour that deserves our attention and support. Firstly, the creation of a health journal specifically tailored for medical students is an important step in encouraging their development as future healthcare providers. By providing a platform for students to publish their research findings, case reports, and clinical experiences, this journal will encourage their engagement in scholarly activities. It will enable them to contribute to the existing body of medical knowledge and enhance their understanding of scientific inquiry.

Moreover, the journal will serve as a valuable resource for medical students, offering a compilation of informative articles, reviews, and discussions related to various medical disciplines. This comprehensive coverage will help students broaden their understanding beyond their curriculum, exposing them to different perspectives and advancements in the field. It will encourage critical thinking, stimulate intellectual curiosity, and promote a culture of lifelong learning among future physicians. The availability of a dedicated health journal for medical students will also promote a sense of collaboration within the student and health community. It will provide a platform for them to connect, share their experiences, and learn from each other. The opportunity to engage in peer review processes and editorial roles will further enhance their skills in scientific writing, critical appraisal, and academic leadership.

Additionally, this journal can bridge the gap between students and faculty, facilitating mentorship and advancing meaningful interactions. Faculty members can contribute their expertise by serving as reviewers, editors, or advisors to the journal, guiding students in their scholarly pursuits. Such collaboration will not only enhance the quality of the journal but also strengthen the student-faculty relationship, creating a supportive academic environment. While the launch of this health journal is a promising development, it is important to ensure its sustainability and continued growth. Adequate resources, including dedicated editorial staff, peer reviewers, and technical support, will maintain the journal's standards and ensure timely publication.

Collaborations with other institutions and medical societies can help broaden its reach and increase its impact on the medical education community. In conclusion, the newly launched health journal for medical students is a significant milestone in the academic landscape. It provides a platform for students to publish their work, expand their knowledge, and strengthen collaboration. By supporting and actively engaging with this initiative, we can empower our future healthcare professionals, develop their research skills, and contribute to the advancement of medical education. Let us embrace this journal as a valuable tool in shaping the next generation of medical practitioners and promoting excellence in medical education.

Prof. Dr. Bushra Iftikhar

Associate Dean (Research) & Chairperson, Department of Community Medicine, Khyber Medical College, Peshawar

EDITORIAL

STARTING A NEW HEALTH JOURNAL- THE NEW EDITORIAL TEAMS PERSPECTIVE

Farooq Ahmad

Department of Medical Education, Khyber Medical College, Peshawar - Pakistan

This editorial may be cited as: Farooq A. Starting A New Health Journal- The New Editorial Teams Perspective . PMSRJ 2023 January;1(1):1-2

Although the Khyber Medical College Peshawar has its own Medical Journal named "the Journal of Medical Sciences Peshawar (JMS)", due to the growing number of research work being carried out in the institution, there was a dire need for starting a new journal in our institute.

This journal is primarily intended to publish the work of students` research being carried out in our institution and outside by undergraduate and postgraduate students. The following discussion highlights the challenges faced before the start and during the publishing of the first issue.

The aims of starting a new health journal in an academic medical institution are to facilitate its faculty and students in their research work, provide a platform for external researchers to publish their work, and encourage research work within the organization and outside. [1] Many medical teaching institutions in Pakistan publish their medical journals on a regular basis.

However, starting a new journal is always a challenge. Some of these challenges include; institutional, governmental, and academic staff ownership, finding like-minded and research-versed people for the editorial boards, finding research articles for publication, finding internal and external reviewers for peer review, and many others. [2] We started our journal following these steps:

1. By looking at the number of articles in our official journal (JMS), and the delays in publishing these, the editorial board felt the need to start a new journal that can cater to the need for undergraduate and postgraduate research work publishing. Moreover, with the introduction of research teaching to undergraduate students since 2018, many of them have started their research under the mentorship of different faculty members.
2. The institute's research committee discussed identifying faculty from within the institution and outside to form an editorial board. Dedicated people from within the institute were identified and notified as editorial board members.
3. The Department of IT was requested to develop a website with its own domain name (www.pmsrj.com), using the online journal system (OJS) platform.
4. The editors developed the editorial policy and reviewing process and identified the publishers and composing team.
5. In the first issue, the students were told to submit their research work for publication. At the start, many researchers were reluctant to submit articles to a journal that has no recognition by the Higher Education Commission (HEC) and Pakistan Medical and Dental Council (PMDC). However, after a lot of effort, we were successful to process 8 articles for publication.
6. After the first publication, the editorial team will apply for ISSN, HEC, and PMDC recognition and will later on proceed for the Directory of Open Access Journal (DOAJ) at the first instance.
7. The journal includes original articles review articles, editorials, case reports, infographics, and medical students` success stories from disciplines like medicine, dentistry, nursing, and allied health sciences.
8. Articles belonging to public health, epidemiological research, and clinical and social sciences are included.

The editorial team is fully aware of the challenges faced in the coming days regarding the finances, availability of articles, indexations in different scientific portals, and peer reviewers to point out a few. We have developed plans to overcome these challenges.

Starting a new journal is a challenging task and its sustainability is more taxing. It requires dedication from a competent team of experts belonging to different disciplines with an understanding of research. [3, 4] After indexation in different scientific portals, the journal will be able to survive and flourish.

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ASSESSMENT OF THE AVAILABILITY AND UTILIZATION OF ANTENATAL CARE (ANC) SERVICES FOR PREGNANT WOMEN AT PRIMARY HEALTHCARE (PHC) FACILITIES IN AN URBAN AREA OF PAKISTAN

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ABSTRACT

Objective: To assess the availability and utilization of antenatal care (ANC) services for pregnant women at primary healthcare (PHC) facilities in an urban area of Pakistan

Materials and Methods: It was a descriptive cross-sectional study conducted in Peshawar from November 2019 to April 2020. Data was collected from six PHC facilities with a sample size of 249 pregnant females selected through a convenient non-probability sampling technique. Data were recorded on a structured questionnaire having a closed-ended question and was analyzed using SPSS-23.

Results: The equipment required for antenatal checkups i.e BP apparatus, weighing machine, tetanus toxoid (TT) vaccination was available in 6/6 PHCs, urine strips in 4/6, Hemoglobin meter in 3/6, supply of basic medicines, and ultrasound facility in 5/6 PHC facilities.

Weight of 35.7% of pregnant ladies while the BP of 77.1% of pregnant females were checked. Folic acid supplements were prescribed to 74.7% of the pregnant ladies in the 1st trimester, out of which only 64.3% took them regularly. Vitamin D and calcium supplements were prescribed to 46.6% of the cases in the 2nd trimester out of which only 43% took them regularly. TT vaccination was received by 80.3% of the cases. Blood Sugar levels of 33.3% of the cases and blood Hb levels of 52.2% were checked. Anemia was assessed in 48.2% of the cases. 43.4% of anemic cases were treated. Ultrasound was prescribed to 54.7% of the cases. Eighty-one percent of the pregnant women were enrolled and visited PHCs regularly while 89.2% of the pregnant ladies confirmed the availability of doctors. Eighty-three percent of the cases were satisfied by the ANC services of PHC facilities.

Conclusion: The essential equipment for the provision of ANC services was available in almost all the six PHC facilities of Peshawar. Antenatal care services being provided to pregnant women in PHC facilities of Peshawar were found satisfactory. More than 80% of pregnant women are satisfied with the ANC services they receive.

KEYWORDS: ANC services, BHUs, Khyber Pakhtunkhwa, Pakistan

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INTRODUCTION

Antenatal care (ANC) is a vital part of pregnancy-related health care services and includes history taking, checking for sicknesses like hypertensive disorders and anemia, screening, interference, and management of infectious diseases, provision of preventive medicines, and important health education. [1] The methods of care during gestation consist of a group of easy leaflets that present the World Health Organization (WHO) valuable guidance on the delivery of maternal and infant care in health facilities, ranging from the primary level of care. For optimum health outcomes, comprehensive ANC ought to contain every component.[2,3]

The Islamic Republic of Pakistan has the world's sixth-largest population and has the best maternal mortality quantitative relation in South Asia (348 per a hundred thousand live births). This compares poorly with neighboring countries wherever maternal deaths shriveled since 1990. A situational analysis unconcealed that solely six-

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ty-five percent of pregnant girls get routine ANC, nearly forty-eight percent of deliveries occur without the help of skilled care suppliers. [4] Determinants of poor quality of ANC are poorly understood and stay restricted to lack of (human) resources and poor medical examiner information[5]. Low uptake of antenatal care is a crucial determinant of the high maternal death rate in developing countries[6].

This study aims to assess the availability of equipment for the provision of ANC Services at PHC facilities and ANC Services provided to and availed by pregnant women. This study is an attempt to not only inspect the quality of ANC services being provided to the rural population of Peshawar but also to highlight the overall gaps in the health system of Peshawar to bridge them through appropriate intervention.

MATERIALS AND METHODS

It was a descriptive cross-sectional study conducted in PHC facilities of Peshawar from November 2019 to April 2020. Data was collected from six PHC facilities after the approval of the synopsis by the Institutional Research and Ethical Review Board (IREB) of Khyber Medical College Peshawar. A total of 249 pregnant females were part of the study. A convenient nonprobability sampling technique was used. The pregnant ladies at the PHC facilities but unwilling to give interviews were excluded from the study. Informed consent was taken from the participants for the interview.

Data were recorded on a structured questionnaire which was divided into two sections. One section was dedicated to determining the availability of essential equipment i-e Blood Pressure (BP) apparatus, a weighing machine. Tetanus Toxoid (TT) vaccination, urine strips for confirming pregnancy, Hemoglobinometer for diagnosing anemia, supply of medicines to treat anemia, and ultrasound facility PHC facilities of Peshawar.

The other section was meant to assess pregnant women's satisfaction regarding ANC services. The second section included questions about the behavior of the provider, ANC examination, and the overall perception of satisfaction with the services provided. Data were analyzed using SPSS version 20 for windows. All the data was presented in the form of tables and graphs.

RESULTS

The availability of essential equipment required for antenatal checkups included BP apparatus, a weighing machine. TT vaccination, urine strips, Hb meter, supply of medicines to treat anemia, and ultrasound facility in all the 6 PHCs facilities of Peshawar. For results, see Figure 1.

Pregnant women enrolled and who visited the PHC facilities regularly were 80.7%. However, 19.3% came for the first time (Fig 2). The weight of only 35.7% of pregnant ladies was checked. The blood pressure of 77.1% of pregnant females was checked. Folic acid supplements were prescribed to 74.7% of the expectant mothers in the 1st trimester out of which only 64.3% took these supplements regularly. Vitamin D and calcium supplements were prescribed to 46.6% of the cases in the second trimester out of which only 43% took these supplements regularly. 80.3% of the cases received TT vaccination (Table 1). Blood Sugar levels of 33.3% of the cases were checked. Blood hemoglobin levels of 52.2% were checked. Anemia assessment was done in 48.2% of the cases. 43.4% of anemic cases were treated. 60.6% of the ladies were scanned in the 1st and 2nd trimesters while 41.8% of the females were scanned in their third trimester. 89.2% of the pregnant ladies confirmed the availability of doctors. 83.5% of the cases were satisfied by the ANC services of PHC facilities.

DISCUSSION

Antenatal care is a very important component of mother healthcare services. It allows pregnant women and their families to learn about the dangers associated with pregnancy. The equipment required for antenatal checkups was available in 5/6 PHC facilities which are somewhat satisfactory. Research on the assessment of antenatal care was conducted in Punjab in 2015 wherein the results show deficiencies in health facilities in Punjab as reported by the Technical Resource Facility. However, only about half of BHUs (237 out of 493) were equipped with more than 75% of the necessary supplies and 33% had more than 75% of the required drugs. According to the study conducted in Bangladesh in 2014, out of the 13 centers, only 3 (23.1%) have sufficient instruments to render ANC services[7].

The study about assessment of antenatal care in

Table 1: Doses Of Tetanus Toxoid Vaccines received by the pregnant females

Doses of Tetanus Toxoid received during pregnancy	Frequency	Percent	Cumulative Percent
1	69	27.7	27.7
2	96	38.6	66.3
3	30	12.0	78.3
4	12	4.8	83.1
0	49	16.9	100.0
Total	249	100.0	

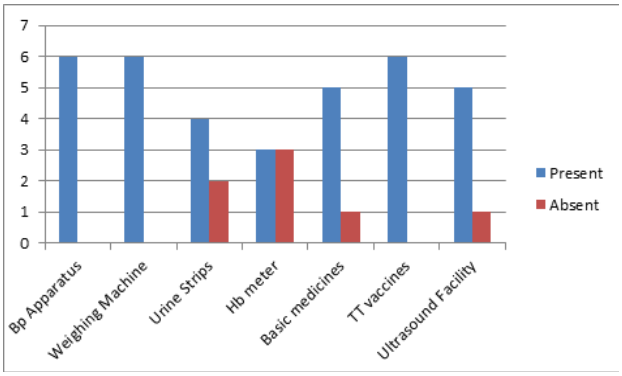

Fig 1: Availability of Equipment for Antenatal Care at Primary Healthcare Facilities of Peshawar.

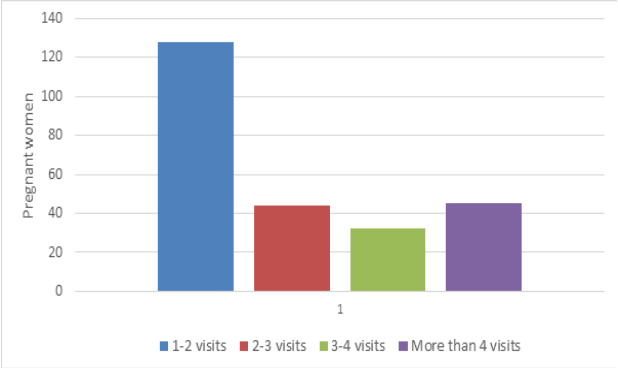

Fig 2: Number of Antenatal Visits by the Pregnant Female Population

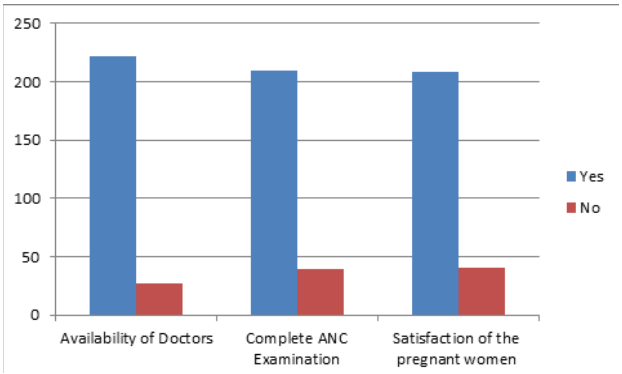

Fig 3: Satisfaction of pregnant women by ANC services

Punjab revealed that overall 51.6% of the expected pregnancies first time reported for the ANC and out of those 33% didn't return for follow-up[8]. Whereas in our study we found out that 80.7% of the pregnant ladies got enrolled for ANC in their nearby BHUs and out of those 32% did not return for follow-up. According to WHO, only 16% of pregnant women attended the recommended 4 antenatal visits and only 60% attended at least 1 visit in Afghanistan [9]. According to a study in Sindh, Women who received one or more ANC were approximately 83.5%. Only 57.3% of them made the recommended four or more visits[10]. According to a study on prenatal care in Brazil in 2006, it was found that 80.9% of antenatal care coverage with six appointments[11]. Revisit/follow-up data indicates of our study revealed that 51.4% of the females paid 1 visit while 48.7% revisited the BHU for follow up which means that a majority of the pregnant women completed two visits.

In our study, we saw that 83.5% of the pregnant females claimed that they were satisfied with the services that they received in BHUs for a safe pregnancy experience. According to a study conducted in Hyderabad, Sindh 50% of the women were satisfied with the antenatal services, 86.2% were unpleased with the fact that they had to wait for more than two hours for their checkup[12]. A study in Karachi was conducted in which out of 295 women interviewed, 152 women (51%) availed ANC services while 143 (49%) didn't receive it[13]. The reasons identified for satisfaction among pregnant women in PHCs were less waiting time, adequate medicine supply, and complete tetanus vaccination. It is evident from a study conducted in Oman that short waiting times and positive behavior providers were the most satisfying aspects of the services.

There are several PHC centers in Peshawar but we chose only 6 out of them because of the following limitations:

The limited financial resources funds led us to choose a small sample size of 249 only.

The shortage of time compelled us to choose the PHC facilities of the areas nearest to our location through a convenient nonprobability sampling technique that in cases can result in decreased external validity.

We have chosen only a few qualitative variables among many to assess antenatal care services at PHC facilities of Peshawar because of the limited time and difficulty in finding the study units during our visits.

CONCLUSION

The essential equipment for the provision of ANC services was available in almost all the six PHC facilities of Peshawar. Antenatal care services being provided to pregnant women in PHC facilities of Peshawar were found satisfactory. More than 80% of pregnant women are satisfied by the ANC services they receive.

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Babar MF:	Concept, planning, study design, study conduction, critical review, analysis, manuscript writing.
Tanveer S:	Critical review, discussion, interpretation, manuscript writing, study conduction.
Noor L :	Analysis, critical review, study conduction.
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Armaghan M:	Study design, study conduction.
Hamid H:	Study design, study conduction.
Jabeen B:	Critical review, discussion.
Ayaz H:	Planning, Study conduction, analysis
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Noor A:	Concept, planning, study design,
Afridi A:	Concept, planning, study design, supervision.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

NUTRITIONAL ASSESSMENT BY ANTHROPOMETRIC METHODS IN CHILDREN UNDER FIVE YEARS OF AGE

Ikramullah Hadi[1], Muntasha Imtiyaz[1], Aroob Idrees[1], Muhammad Saqib Zafar[1], Hayat Muhammad khan[2], Urooj Innayat Muhammad[1], Waqas Nabi[1], Nadeem Khan[1], Aurangzeb khan[1], Atif khan[1], Bilal khan[1]

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ABSTRACT

Objective: Undernutrition denotes stunting (low height for age), wasting (Low weight-for-height), or being underweight for their age while over-nutrition denotes obesity. Malnutrition is common globally, especially in the developing world. Different anthropometric measurements are used to assess the nutritional status in children naming Mid upper arm circumference (MUAC), Body Mass Index (BMI), and height for age and indirect indicators like vitamin A supplementation, deworming status, vaccination, and feeding practices.

Materials and Methods: This was a cross-sectional descriptive study carried out in Khyber Teaching Hospital, Peshawar to assess the nutritional status of children from one year to five years. Questionnaires were used to collect data from patients in Pediatric wards and Out-Patient departments, from which percentages and frequencies can be derived, based on the selected variables. Data analysis was done with SPSS-23.

Results: Seventy percent of children were malnourished based on MUAC, 56 % were under-weight on BMI, 48 % has Height for Age (HFA) below -3 z score, weaning started after six months in 45 % of children, 55 % had completed vaccination, 35.5 % had received vitamin A and 55 % had received anthelmintic.

Keywords: Mid-upper arm circumference (MUAC), Body mass index (BMI), Z score, Weaning.

This article may be cited as: Hadi I, Imtiyaz M, Idrees A, Zafar MS, khan HM, Muhammad UI, Nabi W, Khan N, khan A, khan A, khan B. Nutritional Assessment By Anthropometric Methods In Children Under Five Years Of Age. PMSRJ 2023 January;1(1):7-9

INTRODUCTION

Nutrition is defined as the process of taking in food materials by living organisms that enable them to grow, reproduce and maintain themselves. [1] Access to healthy, affordable food and quality nutritional care is deserved by every human being. [2] The term 'malnutrition' represents a deficiency, excess, or imbalance of various nutrients, resulting in serious adverse effects on body composition, function, and clinical outcome. [3] In developing countries, malnutrition is unfortunately still more common in situations of poverty, social isolation, and substance misuse. [4] Malnutrition can be caused either due to some illness or by some environmental/behavioral factors associated with decreased nutrient intake and/or delivery. [5] The terms malnutrition and undernutrition are used equivalently. [6] Globally, malnutrition is responsible for about 3.5 million deaths and 35% of the morbidities among children under five years of age which makes malnutrition one of the common causes of critical health and development disorders faced by people, mostly children in developing countries. [7] Acute malnutrition is a form of undernutrition that results from either inadequate energy or protein intake. It may be primary or secondary. Children with primary acute malnutrition are common in low and middle-income countries as a result of inadequate food supply caused by socioeconomic, political, and environmental factors. [8-10] It is estimated that the number of underweight children (weight-for-age Z score < -2) globally is 101 million (16%). The occurrence of acute and severe malnutrition among children under 5 is above the World Health Organization's target of reducing and maintaining prevalence at under 5% by 2025. Studies using various methods of assessing malnutrition show that the prevalence of acute malnutrition among hospitalized children in developed countries ranged from 6 to 51%. [11] Pakistan is among the countries in the world with the highest rates of child malnutrition, and it is progressing very slowly in children as compared to other South Asian countries. The basic components of anthropometry include height, weight, body mass index (BMI), body circumferences (waist, hip, and limbs), and skinfold thickness. [12] the present study aimed to assess the nutritional status of anthropometric measurements and factors responsible for malnutrition in children attend-

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ing the Khyber Teaching Hospital Peshawar, Pakistan.

MATERIALS AND METHODS

This cross-sectional descriptive study was carried out in the outpatient department of Khyber Teaching Hospital, Peshawar to assess the nutritional status of children less than five years of age conducted from November 2020 to August 2021. A total of 200 children were assessed through consecutive convenience sampling techniques. A self-designed questionnaire was used to collect data from patients in the pediatric wards and Out-Patient departments, from which percentages and frequencies can be derived, based on the selected variables. Data analysis was done with SPSS-23.

RESULTS

The nutritional status of a total of 200 children was assessed using anthropometric measurements. Results are compiled in the following table.1.

Table 1: baseline anthropometric measures of children

MUAC (Mid upper arm circumference)	**< 11.5 cm**	**11.5 – 12.5 cm**	**> 12.5 cm**
	140 (70 %)	41 (20.5 %)	19 (9.5%)
BMI	< 18.5	18.6 – 24.9	> 25
	112 (56 %)	47 (23.5 %)	41 (20.5 %)
Height for age (HFA) z- score	< - 3	-2 - -3	> - 2
	48 (24 %)	67 (33.5 %)	85 (42.5 %)
weaning	Before 6 months	After 6 months	After one year
	52 (26 %)	90 (45 %)	58 (29 %)
Feeding	Exclusive breastfeeding	Formula milk	Both
	81 (40.5 %)	31 (15.5 %)	88 (44 %)
Income level	< 15000/month	15000 – 30000	>30000
	68 (34 %)	78 (39 %)	54 (27 %)
vaccination	completed	incomplete	Un-vaccinated
	110 (55 %)	57 (28.5 %)	33 (16.5 %)
Deworming status	Given	Not given	Don't remember
	47 (23.5 %)	139 (69.5 %)	14 (7 %)
Vitamin A	Given	Not given	Don't remember
	71 (35.5 %)	103 (51.5 %)	26 (13 %)

DISCUSSION

In our study, we calculated the BMI and MUAC of the subjects and compared them with the Z percentile score and standard charts. According to the scores, only 9.5 % of the subjects had normal values, 70 % were severely malnourished and 20.5 % were moderately malnourished. These findings are comparable to the results of an international study. [13]

The HFA results show that 24 % were severely stunted, 33.5 % moderately stunted and 42.5 % had normal Z scores. Feeding practices were alarmingly under the target, similar to results in developing countries. [14] Weaning was started in 45 % of cases after six months while in 29 % of cases it was started after one year. In 26 % of cases, complementary feeding was started before six months of age. All these factors are responsible for the high prevalence of malnutrition. Some studies also show the same results. [15] Mothers' misconceptions about the benefits of early starting weaning were prevalent.

A study conducted in District Malir, Karachi, Pakistan showed that children for whom weaning was started at the recommended age of 4-6 months were found to be significantly less malnourished on anthropometric measurements as compared to the other set in which weaning was started at an earlier or later age. [16]

Indirect indicators for nutrition are immunization, vitamin A supplementation, and medication for Deworming. In our study, all these indicators are below fifty percent. These results are consistent with findings reported from other developing countries. [17] Economic status also plays a role in maintaining the nutritional status of children. In 73 % of children, their parents had less than 30000/month income. According to a study low socioeconomic status was highly associated with being underweight. [18]

CONCLUSION

We found that feeding a child with formula milk rather than exclusively breastfed, feeding a child with diluted milk than the standard scale provided on the bottle, delaying weaning of a child, non-satisfactory diet, improper

vaccination, not deworming the child and non-satisfactory father or guardian income directly affect child nutritional Health. Both direct and indirect factors for undernutrition in children are highly prevalent in Pakistan.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

Hadi I:	Concept, planning, study design, study conduction, critical review, analysis, manuscript writing.
Imtiyaz M:	Critical review, discussion, interpretation, manuscript writing, study conduction.
Idrees A:	Analysis, critical review, study conduction.
Zafar MS:	Critical Review, study conduction, interpretation.
khan HM:	Study design, study conduction.
Muhammad UI:	Study design, study conduction.
Nabi W:	Critical review, discussion.
Khan N:	Planning, Study conduction, analysis
Khan A:	Study design, study conduction.
Khan A:	Study conduction, critical review.
Khan B:	Critical review, facilitation of expenses.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ORIGINAL ARTICLE

EFFECTIVENESS OF AVAILABLE REHABILITATIVE SERVICES FOR PHYSICAL HANDICAPPED PEOPLE AT A LOCALITY IN PESHAWAR, PAKISTAN

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ABSTRACT

Objective: Rehabilitation helps to restore normal health, functioning, and well-being but doesn't reverse the damage caused by trauma or disease. Rehabilitation is more helpful and shows better results if started early in disability. This study aimed to check the effectiveness of available rehabilitation services provided for physically handicapped people at Umeedabad Peshawar.

Materials and Methods: A descriptive cross-sectional study was conducted from March 21 to July 21. A convenient non-probability sample of 64 patients was taken from both inpatients and outpatients of a rehabilitative center at Umeedabad Peshawar, a locality near Peshawar, Pakistan. Data were collected by questionnaire and analyzed by using SPSS version 23.

Results: A total of 64 patients participated in the study, of which 85.9 % were males and 14.1% were females. 62.5% of the patients were experiencing improvement in their health after availing of rehabilitative services in the center, and 37.5% said that their health has improved to some extent. A total of 62.5% of patients lived independently after joining the center, another 34.4% lived independently to some extent, and 3.1% still needed the help of others to perform their daily activities. Most of the patients responded positively, with 71.9% considering the quality of services as excellent and 28.1% considering it as good. 79.9% of the patients responded that they attend the follow-up sessions regularly, 17.2% of the patients sometimes miss the session and 3.1% of patients did not answer. Most of the patients had a positive inclination towards the use of therapy, 73.4% of patients considered that therapy was best while 26.6% considered assistive technology as another option.

Conclusion: It was concluded that the services provided in the center are effective and patients were satisfied with the services and showed visible improvement in their health and livelihood.

Keywords: Effectiveness, Rehabilitative services, physically handicapped,

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INTRODUCTION

Rehabilitation is defined as a set of measures that help individuals who are physically handicapped or disabled to achieve and maintain proper functioning in interaction with their environment. [1] While according to the International classification of impairments, disabilities, and handicaps define handicapped as an impairment or disability that limits or prevents the fulfillment of one or several roles regarded as normal, depending on age, sex, and social and cultural factors.[2] Rehabilitation is the care needed when a person is experiencing or is likely to experience limitations in everyday functioning due to aging or a health condition, including chronic diseases or disorders, injuries, or trauma. [3] Rehabilitation actually aids to restore the individual the optimal health, functioning, and well-being but doesn't undo or reverse the damage caused by trauma or disease. [4] Rehabilitation is more effective and has better outcomes if it is started early in disability. [5, 6] The outcome of rehabilitative services is more helpful and improves the functioning of handicapped individuals. [7] The outcome can also be measured by a change in usage of resources e.g. decrease in time duration needed per week for the support. [8] The UN General Assembly has created a standard rule on equalization of opportunity for persons with disability. These rules are Rule 1 (awareness raising),

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Rule 2 (medical care), Rule 3 (rehabilitation), and Rule 4 (support services a precondition for equal participation). [9] For a better outcome, we need an integrated approach. An integrated approach means a team of physicians, specially trained therapists, and nurse as well as psychologists, nutritionists, physiatrists, physical therapists, occupational therapists, and speech therapists. The integrated team starts rehabilitation by discussing the goal with the patient and their family. The goal is helping to improve the patient's physical and communication abilities while developing skills for any permanent disabilities. [10]

MATERIALS AND METHODS

This was a descriptive cross-sectional study conducted during the period of March 21 to July 21, 2021. A convenient non-probability sample of 64 patients with a physical disability was taken using the WHO formula from both inpatient and outpatient of the rehabilitative center at Umeedabad Peshawar. After taking the informed consent data was collected by using a questionnaire, formulated by the researchers. All the questions in the questionnaire were asked and fill in accordingly after obtaining their consent. Data was analyzed by the SPSS-23 software and presented in form of table bars and pie charts.

RESULT

A total of 64 patients participated in this survey of which 85.9% are male and 14.1% are female. The age distribution is given in Table-1. Among 64 participants, on average 48 (71.9%) of participants told that the quality of service in the center was excellent while 18 (28.1%) described the quality of services as good (figure 1). Regarding the level of improvement in the participant's health after joining the rehabilitative center, 40 (62.5%) of participants showed improvement in their health while 24 (37.5%) showed improvement in their health to a certain extent (Figure 2).

Among the 64 participants on average, 40 (62.5%) participants lived independently after joining the center, and 22(34.4%) participants lived independently to a certain extent. After joining the center 2 (3.1%) participants remained dependent on others to do their daily activities (Figure 3). While 51 (79.9%) regularly attended follow-up sessions during therapy and 11 (17.2%) sometime attended the follow up sessions and 2 (3.1%) did not do follow up sessions (Figure 4). Most of the patient had positive inclination toward the use of therapy. 73.4% of patients considered that therapy was best in the center while 26.6% considered assistive technology is an alternative option (Figure-5).

Table 1: Age and Gender distribution of participants

		Gender of participant		Total
		Male	Female	
Age of participant	1-18	10	1	11
	19-40	31	5	36
	41-60	13	3	16
	60 above	1	0	1
Total		55	9	64

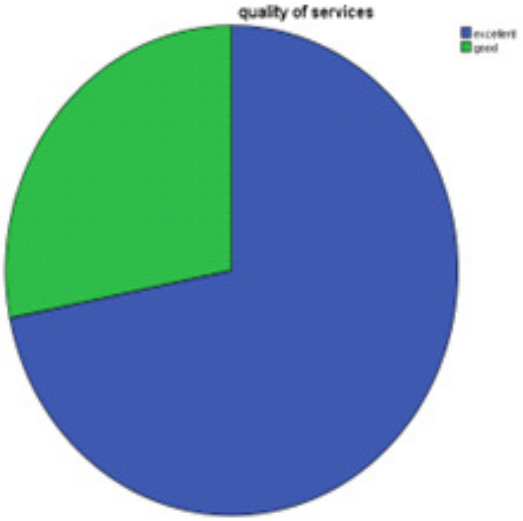

Fig 1: Quality of services

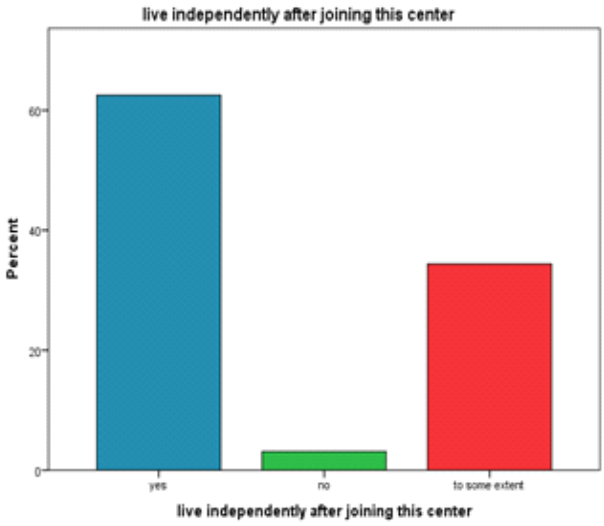

Fig 2: Percent participants living independently after joining the center

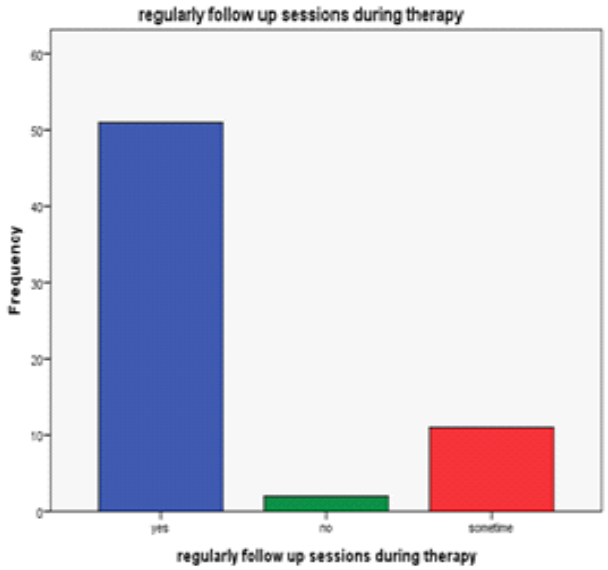

Fig 3: Regularly follow-up sessions

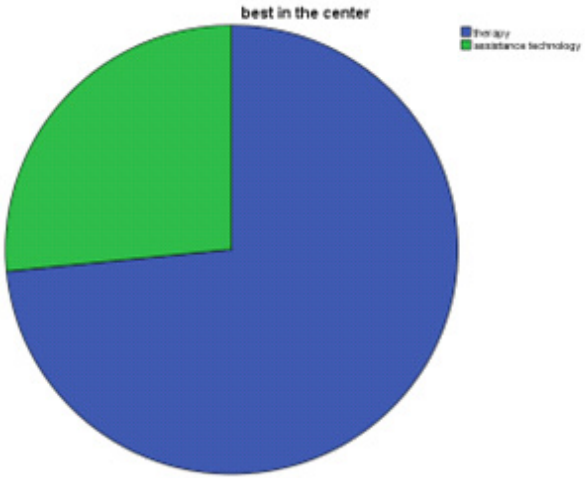

Fig 4: Best options in the rehabilitation center based on the choice of the participants

DISCUSSION

Rehabilitation defines a set of measures that help individuals who are physically handicapped or disabled to achieve and maintain proper functioning in interaction with their environment. Rehabilitation helps to restore optimal health, functioning, and wellbeing but doesn't reverse the damage caused by the disease. Rehabilitative services are mainly subdivided into rehabilitative medicine, therapy, and assistive technology. Therapy includes training, exercises and compensatory strategies, education, support and counseling, modification to the environment, and provision of resources. Assistive technology contains powerful tools that are used to increase independence and improve participation. According to a census, Pakistan is having a 3.2 million people with any disability which make up 1.5 percent of the total population. [11] In Pakistan availability of rehabilitative medicine is a major concern. There is a deficiency in rehabilitation centers and the required staff.

The aim of our research was to determine the effectiveness of available rehabilitation services at a Rehabilitation center in Umeedabad Peshawar. A total of 64 patients were interviewed. Most of the patients responded positively, with 71.9 percent considering the quality of services as excellent and 28.1 percent considering it as good. There were no patients who had a negative response. When previous studies are compared with this, these are great numbers. A study was conducted to know about the quality of rehabilitative services in Karnataka state, India.

It was shown that around 50 percent of the disabled received some kind of medical or surgical services but other rehabilitative services were poor. [12] Most of the patients were dissatisfied with the quality of rehabilitative services. Most of the patients in our study had a positive inclination toward the use of therapy. Two-thirds of the patients considered that therapy was best in the center while 1/4th considered assistive technology as best. Many researchers conducted around the globe have shown the efficacy of therapy in improving the health of the handicapped. A study was carried out in Quebec, Canada to disclose the impact of therapy on recovery during rehabilitation in patients with Traumatic spinal cord injury. [13]

It was shown that increasing therapy intensity by 50 and 100 percent resulted in average motor Functional Independence Measure efficiency gain ranging between 0.04 – 0.07 and 0.1 -0.17, respectively across injury groups. The research showed that increasing the intensity of therapy had a positive impact on the recovery of the patients during rehabilitation. During our research, we found out that 62.5 percent of the patients were experiencing improvement in health after availing of the rehabilitative services at the center. 37.5 percent replied that their health had improved to some extent. These are very good numbers that show the effectiveness of this rehabilitation center. A similar study was carried out in the Paraplegic Center Hayatabad to assess the quality of life in spinal cord injury patients undergoing rehabilitation. [14]

Half of the patients were satisfied with their health status. The majority of others either reported low capacity to work and inability to get around. Many others were

taking medicine for pain management. Some reported low energy levels and dissatisfaction with their sleep. In our research, 62.5 percent of the patients replied that they could now live independently after joining the center. Only 3.1 percent of the patients had a negative answer to living independently. This shows the effect of rehabilitative services on the functioning of individuals in society. A study was carried out in a paraplegic center in Peshawar to study the effect of physical rehabilitation in persons with post-traumatic spinal cord injuries. [15]

The result of the study indicated that the outcome in terms of functional recovery was significantly improved. The parameters of functional recovery included mobility in bed, transfers from bed to wheelchair, indoor and outdoor motilities, and transfer from wheelchair were significantly improved. Feeding, bathing, dressing, and grooming were also significantly improved. In our study, 79.7 percent of the patients responded that they attended regular follow-up sessions. These are satisfactory figures indicating that most of the participants are satisfied with the services provided to them and they are effective. Other results are not as promising.

Another research was conducted to study the awareness and utilization of rehabilitation services among physically disabled people of the rural population of a district of Uttar Pradesh, India. [16] Among the study participants, 65.8% of participants with locomotor disabilities discontinued the treatment. Unawareness was the major reason for discontinuing rehabilitation services. Financial problems, negligence, and noncooperation from family members constituted the other reasons.

The study results could have been more authentic but due to time constraints, a smaller number of patients were included. Limited availability of resources and time factors were other factors that limited the validity of the results.

CONCLUSION

It was concluded that the services provided in the center are effective and people were satisfied with services and showed improvement in their health and disability. Further research should be conducted to know about the mental health of the patients in the same institution to further explore the patients. As the said institution lies in the periphery of Peshawar therefore research should be conducted to find the degree of accessibility to the patients.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

Nasir F: Concept, planning, study design, study conduction, critical review, analysis, manuscript writing.

Safi MA: Critical review, discussion, interpretation, manuscript writing, study conduction.

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Ayub R: Study conduction, critical review.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ORIGINAL ARTICLE

ASSESSMENT OF HEALTH HAZARDS TO THE WORKERS OF PHARMACEUTICAL INDUSTRIES OF PESHAWAR, KHYBER PAKHTUNKHWA, PAKISTAN

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ABSTRACT

Objective: The purpose of our research is to assess the health hazards in the workers of different pharmaceutical Industries.

Materials and Methods: We conducted a cross-sectional study from January 2022 to July 2022 in 4 different pharmaceutical companies in Peshawar, Khyber Pakhtunkhwa, Pakistan. A sample size of 386 individuals working in 4 different pharmaceutical industries was selected using a nonprobability convenient sampling technique. Collected data were analyzed using SPSS version 23 for Windows.

Results: A total of 85 workers completed the questionnaire of which 64 (75.3%) were male and 21(24.7%) were female workers, whose ages varied from 25-50 years with the mean being 29.45 i.e. almost 30 years of age. Among them 20 had a primary education level, 19 had middle, 27 had SCC, 12 had HSSC and only 7 had a graduate level of education. The socioeconomic status of 66 participants was satisfactory and of 19 participants was unsatisfactory. The workers were symptoms free before starting the job. In the eye, the most occurred symptom was irritation or itchiness of the eyes (27.1%), in GI, burning sensation in the stomach (50.6%), in the respiratory system, shortness of breath (21.2%) and in the skin, rash on the skin (45.9%).

Conclusion: Our study suggested that workers in the pharmaceutical industry are prone to various health hazards. Effective legislation and public health measures are needed to ensure the healthy environment and health of the workers.

Key Words: Health Hazards, Chronic Cough, Shortness of Breath, Dryness of eyes.

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INTRODUCTION

Human beings are being exposed to new diseases day by day. New viruses, bacteria, and other microorganisms as well as chemicals are the source of such diseases which has made this compulsory to have proper medications for them. For these purposes, human beings are working hard to prepare effective medicines in the pharmaceutical industry.

These industries have attained prime importance due to the efforts of helping humans to face diseases and to cure them. It is accepted that these industries are doing a lot for human health but meanwhile, the workers working in these industries are at high risk of health hazards. These industries are a source of a lot of health problems like other chemical industries because pharmaceutical industries use a lot of different chemicals. [1]

Preparation of APIs (active pharmaceutical ingredients) and formulation process involving the use of many chemicals which are very dangerous such as acids, bases, oxidizing and reducing agents which are found sometimes at very high concentrations and cause damage to the health of workers during the preparation of APIs and medicines.

When these workers get exposed to these dangerous chemicals which are used in these industries, these substances enter the body through various routes such as ingestion, inhalation, and also through the skin which causes damage to many organ systems. These chemicals

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have many hazardous properties like carcinogenic, mutagenic, and teratogenic properties.

It is also a hazard that workers involved in the preparation of antibiotics are exposed to drug materials and prolonged exposure to these antimicrobials leads to the development of bacterial resistance. [2]

The safety of workers in pharmaceutical industries is not given enough importance because on the surface industry seems to be very clean. A sterile environment and lab coats worn by workers are just an illusion of safety but during drug production, they are continuously being exposed to harmful chemicals. [3, 4]

Although, a lot of research is done on the hazards to workers in pharmaceutical industries still it is not enough because development in these industries to make new medicines bring out new hazards of which workers are not aware. [5, 6] It is studied that in pharmaceutical industries, during the package of pharmaceutics workers face a long time in static work and it is a cause of musculoskeletal disorders. [7]

It is also studied that workers in pharmaceutical industries and hospital laboratories have a relation with a high risk of spontaneous abortions. [8] In Peshawar, there is no research in the field of pharmaceutical industries for the assessment of health hazards to the workers there. So, our research will play a key role in this regard and will prove beneficial.

MATERIAL AND METHODS

We conducted a cross-sectional study and data was collected from different pharmaceutical industries manufacturing drugs related to human diseases In Hayatabad, Peshawar. The total study duration was approximately 6 months. We used a convenient sampling technique for our studies.

Only those male and female workers have included who were having no symptoms before employment and had a job duration of more than six months. workers having preexisting diseases or chronic diseases were excluded from the study. The formula for sample size was $N=Z2\times PQ/d2$ and with the prevalence of 50% sample size is calculated as 384.

Data were analyzed using SPSS version 20 for Windows. Data was qualitative so it was calculated as frequency and percentage. All results were presented in the form of tables and graphs.

RESULTS

A total of 85 workers completed the questionnaire of which 64 (75.3%) were male and 21(24.7%) were female workers, whose ages varied from 25-50 years with the mean being 29.45, i.e., almost 30 years of age. Among them 20 had a primary education level, 19 had middle, 27 had SCC, 12 had HSSC and only 7 had a graduate level of education.

The socioeconomic status of 66 participants was satisfactory and of 19 participants was unsatisfactory. In the eyes, the most occurred symptom was irritation or itchiness of the eyes (27.1%), in GI, burning sensation in the stomach (50.6%), in the respiratory system, shortness of breath (21.2%) and in the skin, rash on the skin (45.9%).

Table 1: Education of participants

Education Level	Frequency	Percent
Primary	20	23.5
Middle	19	22.4
SSC	27	31.8
HSSC	12	14.1
Graduate	7	8.2
Total	85	100

Table 2: Most Common Symptoms of different symptoms

System	Most Common System
GIT System	Chronic burning sensation of stomach
Respiratory System	Shortness of breath
Skin	Rash on Skin
Eye	Irritation of eyes

DISCUSSIONS

According to the results of our studies, it was found that most of the participants responded positively to the question asked about irritation or itchiness of the eyes (27.1%), followed by dryness of eyes (22.4%), any discomfort in eyes (10.6%), excessive watering of eyes (8.2%) and experienced any eye disease during the job (8.2) respectively.

A study was conducted in Indiana in which it was concluded that irritation of the eyes was the most frequent symptom along with dryness of the eye. [9] According to another study conducted on tannery workers in the leather industry in Kanpur India, dry eyes are one of the significantly prevalent occupational hazards among them, the severity of which increases with age. [10]

It was also found that most of the participants re-

sponded positively to questions asked about a chronic burning sensation in the stomach (50.6%), followed by pain in the stomach before a meal (30.6%), frequent constipation or diarrhea (22.4%), any previous GIT disease that kept them hospitalized for 1 week (2.4%), painful bowel movements (1.2%) and hemorrhoids (1.2%) respectively.

According to a study on GIT symptoms in shift workers in Chicago published by the Scandinavian Journal of Work, environment, and Health, there is an increased risk of developing GI symptoms and peptic ulcer disease in shift workers. [11] A study conducted on occupational health problems of highway restaurant workers in Pune, India suggests that gastrointestinal symptoms such as heartburn, abdomen pain, etc, were reported by 12 (9.4%) subjects. [12]

It was also found that the majority of participants responded positively to questions asked about the rash on the skin (45.9%), followed by itching of the skin (29.4%), dryness of the skin (20%), burning sensation on the skin (14.1%), any experience of skin bleed during work(10.6%) and skin cracks during work(5.9%) respectively. A study was conducted in a rural village in Laos that concluded that 53% of study participants have a skin disease. [13] A study was conducted in India on university students of pharmacy and non-pharmacy disciplines. Results show that out of 17 students, 8 students from the pharmacy department and 9 students from the non-pharmacy departments suffered from skin rash conditions nearly every day. Similarly, out of 33 total respondents, 16 students from the pharmacy department and 17 from the non-pharmacy department stated that they suffer from skin rash conditions several times a month. [14]

It was also found that the majority of participants responded positively to the question asked about the shortness of breath while walking fast or up a slight hill (21.2%), followed by chronic cough (11.8%), chest tightness during work (9.8%), sinusitis (9.8%), nasal catarrh (2.4%) and chronic phlegm (1.2%) respectively. A study was conducted among workers of the tannery industry in Mojo Town Southeast Ethiopia according to which the prevalence of respiratory symptoms among exposed workers was 27.1% and among non-exposed workers was 8.3% respectively. [15] According to a study conducted on respiratory findings in the pharmaceutical industry, there is a significantly higher prevalence of chronic respiratory symptoms among workers in the pharmaceutical industry, the highest being for sinusitis, nasal catarrh, and dyspnea.[16]

CONCLUSION

Our study suggested that workers in the pharmaceutical industry may develop symptoms related to the eye, GIT, skin, and respiratory system. Effective legislation and public health measures are needed to ensure the healthy environment and health of the workers.

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Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

KNOWLEDGE, ATTITUDES AND PRACTICES RELATED TO DENGUE FEVER IN PESHAWAR, KHYBER PAKHTUNKHWA, PAKISTAN

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ABSTRACT

Objectives: To determine the knowledge, attitude, and practices about Dengue fever in selected communities of Peshawar, Khyber Pakhtunkhwa, Pakistan.

Materials and Methods: We conducted this descriptive cross-sectional study in selected Peshawar, Khyber Pakhtunkhwa communities. The data was collected with the help of a well-structured questionnaire and was analyzed using SPSS version 23.

Results: Forty percent of our participants had good knowledge, 39%, had average knowledge and 21% had poor knowledge. Attitude scores were good for 75%, average for 18.3%, and poor for only 6.6% of the participants. 15.8% of the participants had poor, 50% had average, and 34.2% had good practices.

Conclusion: It was concluded that people with higher levels of education and previous involvement in Dengue awareness campaigns had better scores in knowledge and practice. Level of education had a significant association with knowledge and practice scores.

Keywords: Dengue Fever, Khyber Pakhtunkhwa

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INTRODUCTION

Dengue is one of the world's biggest viral arthropod-borne infectious hemorrhagic fever. Common in tropical and sub-tropical regions of the world, it poses a risk to about 2/3rd of the world population living in the 128 countries where Dengue is endemic. It is mainly transmitted by the bite of the female mosquitoes of the species Aedes aegypti and Aedes albopictus which tend to bite at dusk and dawn. With the rapid increase in urbanization and international travel, it has exploded globally, a staggering 400 million infections and 100 million presenting cases are annually seen. Infection with the virus could lead to a spectrum of pathology that ranges from mild asymptomatic Dengue fever (DF) to severe Dengue hemorrhagic fever (DHF) and Dengue shock syndrome (DSS) that can prove fatal unless treated.[1]

Before 1970, only 9 countries had experienced severe dengue endemic. Now it's endemic in more than 100 countries and almost 40% of the population is at risk of getting it. In Pakistan around 147200 cases and over 800 deaths have been reported from 1995 to 2019. Dengue serotype 2 is the most prevalent serotype in Pakistan. Epidemics were reported in Pakistan from time to time. [2]

The current method for the prevention of dengue is the reduction and control of its vector i.e. the same as that applied for the general mosquito populations with the exception of biological control such as using community-scale mosquito repellant smoke, using nets, etc. Biological control is largely experimental and lies on biological solutions to the problem such as placing fish in water containers and water bodies to eat the larvae of the mosquito. The currently used tools for suppressing dengue vector populations are often being called ineffective and there has been an increased interest in developing new tools.[3] We conducted this study to assess the relative importance of domestic spaces for the production of dengue vectors in a public and private environment, as well as

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the effect of biological, social, and environmental factors in modifying these niches.

MATERIALS AND METHODS

This study is a descriptive cross-sectional study carried out from March 2021 to August 2021in Peshawar, Khyber Pakhtunkhwa, and included areas of Tehkal Bala, Palosi, Nauthia, Ring road, and University Canal Town using a simple random sampling technique. The participants chosen were all above 18 years of age, included both genders, were residents of the area, and gave their consent, their confidentiality was ensured.

The ethical approval was taken from the Institutional Research and ethical review board, KMC A sample size of 120 was calculated via open epi WHO sample size calculator by taking a 95% confidence interval and 5% margin of error, and a statistical power of 2.5%.

Data was collected with the help of a well-structured questionnaire based on our study objectives containing only close-ended questions. Before conducted actual study a pilot study was conducted before the actual study and the questionnaire was modified accordingly. Data were analyzed using the 23 version of SPSS software and presented in the form of tables, graphs, and charts.

RESULTS

A total of 120 participants were included in this study and their demographic characteristics are described in table 1. The results of our study concluded that 40% of our participants had good knowledge, 39% had average knowledge and 21% had poor knowledge. Attitude scores were good for 75%, average for 18.3%, and poor for only 6.6% of the participants. 15.8% of the participants had poor, 50% had average and 34.2% had good practice scores. These results are summarized in table 2.

Variables of knowledge that were analyzed showed a very significant association with the level of education of the participant. Variables of knowledge under study are shown in Table 3.

Variables of attitude after thorough analysis did not reveal any significant association with the level of education of participants or the other parameters under study. We can also see that 109 participants believed that Dengue could be effectively controlled by eradicating mosquito breeding sites, reiterating the importance of government involvement in community monitoring and timely preventive control application. The variables of attitude that were under consideration in our study are described in Table 4.

After analyzing the practice variables, it was deduced that they had a significant association with the level of education and the knowledge score of the participant. Furthermore, participants that had participated in a Dengue awareness campaign before had higher scores in the parameters of knowledge and practice when compared to other participants in their respective educational groups. The variables of practices under consideration are shown in Table 4.

Table 1: Demographic characteristics of participants under study.

Demographics	Category	Count
Age Of The Participant	10-20	22
	21-30	51
	31-40	15
	41-50	17
	51-60	11
	60+	4
Gender Of The Participant	Male	85
	Female	35
Education Level of The Participant	Illiterate	16
	Primary	25
	Secondary	29
	Higher	50

Table 2: Variables of knowledge

Knowledge about Dengue fever	Options	Frequency
Has The Participant Ever Heard Of Dengue?	Yes	118
	No	2
Does The Participant Know What Causes It?	Yes	91
	No	29
Does The Participant Know Where The Mosquitoes Reproduce?	Yes	74
	No	46
Does The Participant Know The Complications?	Yes	40
	No	80
Does The Participant Know The Transmission Route?	Yes	78
	No	42
Can The Participant Visually Identify The Mosquito?	Yes	61
	No	59
Does The Participant Know The Areas Where It Is Common?	Yes	81
	No	49
Does The Participant Know Of Any Vaccine For Its Prevention?	Yes	20
	No	100
Does The Participant Know The Time At Which The Mosquito Bites?	Yes	63
	No	57
Does The Participant Know Of The Treatment?	Yes	41
	No	79

Table 3: Variables of Attitude

Attitude regarding Dengue fever	Option	Count
Does The Participant Think It's Necessary To Take Precautionary Measures?	Yes	114
	No	6
Does The Participant Know The Precautionary Measures?	Yes	97
	No	23
Does The Participant Think Prevention Is Better Than Cure?	Yes	116
	No	4
Does The Participant Think It's Necessary To Seek Medical Advice After Getting Bitten By Mosquito?	Yes	71
	No	49
Does The Participant Think Campaigns Are Beneficial?	Yes	103
	No	17
Does The Participant Think It Can Be Effectively Controlled By Eradicating Mosquito Breeding Areas?	Yes	109
	No	11
Does The Participant Think Society Has A Role In Its Prevention?	Yes	96
	No	24

Table 4: Variables of practice

Practices related to Dengue fever	Option	Count
Does The Participant Check Mosquitoes In Flower Pots And Water Containers?	Yes	66
	No	54
Does The Participant Cover All Water Containers?	Yes	95
	No	25
Does The Participant Properly Dispose Items That Can Collect Rainwater Or Block Drain Flow?	Yes	57
	No	63
Does The Participant Use Mosquito Nets?	Yes	67
	No	53
Does The Participant Use Repellants, Coils, Mats And Vaporizers?	Yes	95
	No	25
Does The Participant Wear Long Sleeved Clothing?	Yes	85
	No	35
Has The Participant Ever Taken Part In A Campaign In His Area?	Yes	20
	No	100
Does The Participant Take Measures To Prevent Water Stagnation?	Yes	70
	No	50

DISCUSSIONS

The main finding of this study was that the level of knowledge about Dengue and its prevention in almost all communities that were selected for the study was related very closely to the level of education of the participants or their involvement in a Dengue awareness campaign. 50 of our participants that had higher levels of education, had good and average scores in all three parameters under study which is consistent with a study carried out among the teachers of Peshawar garrison that showed higher levels of education corresponded to better scores in the aspect of knowledge.[2] People that had participated in a Dengue awareness campaign before also showed higher scores than other participants of their respective educational level group. Whereas participants with a lower level of education and illiterate participants had average or poor scores in both knowledge and practice, however, the attitude of 75% of the participants fell in the good category regardless of the level of education. The study also showed that participants were much more knowledgeable about the Dengue vector and its characteristics, such as where the vector reproduced, where the vector tended to be more common, what times the vector was more likely to bite, etc. However, knowledge about the signs and symptoms of Dengue, treatment of dengue, and vaccine availability were proportionately lower.

A similar study conducted in the rural and urban areas of Peshawar concluded that knowledge and attitudes between the two groups did not show any significant difference however certain variables that pertained to practices i.e. those related to mosquito bites, water storage and frequently changing water were significant. Knowledge in the community-based study was relatively high (89.7%) and the level of education had a significant association ($p<0.05$) with the scores of attitude and knowledge which is also consistent with the results of our study.[4]

A study carried out in suburban communities of Sepang, Selangor showed that knowledge about Dengue was adequate and ranged from moderate to high as a majority of the respondents (90.5%) had received information through various media, however because of a lack of Dengue cases in the communities the attitude and practices were poor.[5]

This is also consistent with our study as communities that had previously encountered a Dengue outbreak were much more likely to have good knowledge and practice regarding Dengue prevention.

A study carried out in the adult population of rural Lahore showed low levels of knowledge and correspondingly low levels of attitude and practices toward Dengue prevention which is consistent with our findings. It was recommended that the communities be enlightened about the depletion of the vector source by group involvement and raising their awareness on the matter. [6]

A study conducted in Aceh, Indonesia showed that 50% of the participants had poor knowledge of Dengue, and the lowest knowledge average was found in localities with the fewest incidences of Dengue fever. A weak association was found between preventive practice and level of knowledge regarding Dengue i.e. 45% of the participants had good knowledge but only 32% had good preventive practice.[7] In our study 40% of the participants had good knowledge and correspondingly 34.16% had good

preventive practice. Attitudes in 75% of the participant population were categorized as good and no significant association was found with the level of knowledge about Dengue.

A study conducted in the Lower Dir District of Khyber Pakhtunkhwa concluded that knowledge about Dengue fever and its treatment was low, whereas two-thirds of the participants (66.6%) knew that it was transmitted through mosquito bites. The attitudes regarding Dengue were good however the preventive practices were found to be unsatisfactory. These results reinforce the findings of our study which showed similar trends in the communities of Peshawar.[8]

CONCLUSION

It was concluded that people with higher levels of education and previous involvement in Dengue awareness campaigns had better scores in knowledge and practice. Attitudes were good independent of education level and other parameters under study.

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Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDE & PRACTICE ON ORAL HYGIENE AMONG SCHOOL-GOING CHILDREN OF URBAN AREAS OF DISTRICT PESHAWAR

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ABSTRACT

Objective: To assess the knowledge, attitude, and behavior of school children toward oral health.

Materials and methods: School children (n=390) aged 10 to 19 years were recruited from Peshawar public and private schools and stratified according to the monthly fee structure of the schools into three strata, low SES status (fee < 1000 PKR), middle SES (fee = 1000-2500 PKR), and high socioeconomic status (SES) (fee > 2500 PKR). Two schools were selected using a stratified random technique from each stratum. A simple random sampling technique (balloting) was used to select students from each selected school. Participants completed a pre-validated questionnaire. that aimed to evaluate young school children's behavior, knowledge, and perception of their oral health and dental treatment. Data were analyzed using SPSS and percentages were calculated.

Results: The results showed that both genders had significant knowledge about oral hygiene while the female had more knowledge than boys with a p-value<0.001.

Conclusion: Majority of students had a positive attitude toward oral hygiene as they were aware of the benefits of brushing teeth, the effects of dental caries, and the effects of chocolate and sticky foods. The children preferred the use of toothpaste over miswak whereas they followed the horizontal technique of brushing. In this study, children showed that they brushed their teeth once a day.

Key Words: Oral Hygiene, Gender, KAP, Rural School Children

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INTRODUCTION

Oral hygiene education and promotion is considered as one of the main priorities for school children, since they are at high risk of developing dental problems. It is recommended by WHO those programs focusing on awareness of oral health among school children, should be planned for prevention and control of diseases. KAP study is necessary before launching oral health education programs. Knowledge is the measure of a person's ability to comprehend causes, symptoms, and preventive measures for a certain oral disease such as dental caries. The better the knowledge, the better the oral hygiene, and vice versa. Besides, dental health directly or indirectly influences the quality of life of a person, especially in children the negative impact of oral diseases on quality of life has been reported since a few years back.[1-4] There are also reports showing that a correlation does exist between increased knowledge and better oral health.[5-6] Good dental health is a state of teeth free from any diseases affecting the individual's general health and overall, well-being. Some scientists demonstrated that oral or dental health is a kind of balance between destructive factors such as sugar-rich diet, tobacco use, and poor oral hygiene versus protective factors such as good oral hygiene. [7]

A sound mouth is one of a kind and an invaluable treasure, and it is viewed as a principal option to keep up a decent oral well-being.[8] Oral health is customarily characterized as an oral status that is free of infections, which makes individuals look wonderful, yet additionally adds to the ordinary capacity of the mouth. [9]

In 2016, the Federal Dental International (FDI) Dental World Federation re-imagined oral well-being comprehensively, recognizing that oral well-being was multiplicat-

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ed and included the capacity to smell, contact taste, bite, swallow, grin, talk, and pass on a lot of feelings through outward appearances with certainty and without distress, torment, and sickness of the craniofacial region. [10] Good oral hygiene is key to good oral health which in turn promotes overall body health. Research indicates that schools can play an important role in children's health, by encouraging healthy behaviors among them. The most significant period of a child's life is spent at school. School teachers may serve as pioneer models to motivate children towards a healthy lifestyle on a regular basis. Hence oral health promotion can possibly be carried out in such settings. In the local educational sector, the promotion of health has not yet attained any importance. In public settings, school curriculum lacks integration of the importance of general as well as oral health issues. Similarly, the teachers are not trained for disseminating oral health knowledge to their students since such health education courses are not integrated into their respective degree courses. [11]

Oral hygiene is the practice to keep the mouth clean and free of disease. This study aimed to assess the knowledge, attitude, and practice of school children about it.

MATERIALS AND METHODS

The study was conducted in public and private schools in urban areas of District Peshawar. It was a cross-sectional descriptive type of study. The sample size was 390, calculated using the WHO sample size calculator and taking 50% prevalence. The study population consisted of students of grades 6 to grade 10 of the age group 10-19 years including both males and females. A questionnaire was designed and developed to measure the knowledge, attitude, and practices of experts. It had 30 items that were intended to measure all three domains. It was implemented in the study groups of both genders of 10-19 years of age. Informed consent was taken after permission from the above schools and their authorities, necessary explanation of the study to the students and the staff was in the form of a presentation. All those volunteer students of age 12-19 years, both males and females, who consented to participate in the study were included. Children having unacceptable social behaviors like chewing tobacco and smoking and those suffering from congenital oral defects were excluded from the study.

Data were analyzed by SPSS version 23. Descriptive statistics like mean and standard deviation were calculated for numerical variables like age. Frequency tables and percentages were calculated for other categorical variables like the association between age and knowledge and practice level, gender and attitude, and grade of study and attitude. $P<0.05$ was considered significant for different variables.

RESULTS

Table-1 represents knowledge about oral hygiene. There was significant knowledge in both genders, as the female response was 76.0% while the male response was 60.0% respectively. In Table-2, results revealed that there was a significant difference in attitude, <13 years with $p<0.01$. Whereas in Table 3, >13 years showed $p<0.003$ regarding practices of oral hygiene.

DISCUSSION

The worldwide age group of 10-19 has got attention for oral health-related behavior. A study conducted in India displayed that in government and non-government schools oral hygiene knowledge was low. It is important to review the oral health of adolescents, even though they are educated.[12] In Saudi Arabia the children (10-15), there was a significant difference between age and socio-economic status rather than gender. [13] Tickle et al. performed a study on children in North London, and noted that poor family children had fewer visits to the dental clinics leading higher rate of dental diseases. Gender-wise assessment of knowledge about oral hygiene, there was a statistically significant difference between males and females with ($p<0.001$). Students could understand the health effects of a healthy diet and refrain from sweet and sticky food but unluckily, didn't enter into practice.[14] It is necessary to measure efficacious oral health facilities in the community. Globally, with age, more accumulation of plaque and calculus films has been seen in the young population. Through standard evaluation of oral hygiene, dental diseases could be prevented by effective plaque removal, and that oral self-care was suggested. In this study, according to the attitude of children, the age group <13 years reported that sticky food causes cavities (53.8%), whereas >13 years reported (59.0%) with $p<0.02$. Certain international studies have reported higher consumption of sweets among children. Surveys revealed that besides desirable brushing behaviors there was gingival inflammation, plaque, and calculus accumulation in the young population, oral health attitudes, and behavior from low and middle-income countries, especially in rural areas.[15]

Table 1: Knowledge about Oral Hygiene

Gender	Yes	No	P value	Total
Male	125 (44%)	65 (59%)	P= 0.2	190
Female	155 (55%)	45(40%)	P= 0.3	200
Total	280 (71%)	110 (28%)		390

Table 2: The Attitude toward Oral Hygiene

Age	Effect of tooth brushing				Total	P value
	Prevent bad breath	Prevent caries	Whitens teeth	Other		
< 13 years	15% (60)	25 % (100)	20% (78)	0	390	< 0.01
> 13 years	7.6 % (30)	22% (87)	9% (35)	0		
	Effect of tooth brushing					
	Loss teeth.	Bad breath	Toothache	All		
< 13 years	27% (105)	8.4% (33)	20% (80)	5% (20)	390	< 0.05
>13 years	16.6% (65)	6.4 % (25)	13% (52)	25% (10)		
	Healthy food improves oral hygiene					
	Yes		No			
< 13 years	48% (190)		12.8% (50)		390	< 0.05
>13 years	30.76%(120)		7.5 % (30)			
	Effect of sugary food on teeth					
	Strength.	Make cavities	Harmful	All		
<13 years	5% (20)	35.8% (140)	9.8% (38)	7.6% (30)	390	< 0.05
>13 years	2.8 % (11)	21.7% (85)	7.6% (30)	9.2% (36)		

Table 3: Practices about Oral Hygiene

Age	Home remedy	Toothpaste	Tooth powder	Miswak	Total	P value
< 13 years	5.6% (22)	28% (110)	3% (11)	15% (60)	390	<0.003
>13 years	1% (4)	40 % (155)	2% (9)	5% (19)		
	Frequency of Tooth brushing					
	Once	Twice	Thrice			
<13 years	39% (153)	8% (31)	1.2 % (5)		390	<.001
>13 years	28% (111)	19 % (75)	4% (15)			
	Techniques for tooth brushing					
	Horizontal	Vertical	Circular	Combin		
<13 years	23% (90)	15% (58)	14% (55)	5% (20)	390	<0.003
>13 years	15% (60)	11% (43)	8.4% (33)	8% (31)		

By giving oral health education, prevention is possible at individual and community levels; hence perking up the oral health attitude and practices among the common people. In presnet study, the children preferred toothpaste (<13 years=49.6%, >13years=59.2%) over miswak (<13 years=32.1%, >13 years=32.5%).

According to the practice of oral hygiene, the current study revealed that there was variation in the different techniques of brushing teeth, most of the children followed the horizontal brushing technique and they preferred performing the practice once a day.

The published literature showed that Pakistan was among the countries where oral health was neglected and the majority of school-going children. Oral hygiene particularly with a general awareness of dental problems needs to be generated. Education and motivation in rural schools through regular visits will improve the prevention and promotion of oral hygiene.

CONCLUSION

The knowledge of the girls was more than the boys in the rural area regarding oral hygiene. The girls were using more oral hygiene aids. According to this study, the attitude varied in age groups whereas there was variation in practices of oral hygiene. Moreover, boys needed more education regarding this topic and there is a need for dental services in rural areas.

Oral hygiene particularly with a general awareness of dental problems needs to be generated. Education and motivation in rural schools through regular visits will improve the prevention and promotion of oral hygiene.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

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Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ORIGINAL ARTICLE

ASSESSMENT OF INFANT MORTALITY RATE (IMR) IN RURAL AREAS OF DISTRICT PESHAWAR: A CROSS-SECTIONAL STUDY

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ABSTRACT

Objective: To assess infant mortality and to find the burden of infant deaths due to infectious diseases, maternal factors, and vaccination in rural areas of district Peshawar.

Materials and Methods: We conducted a cross-sectional study from April 2021 to September 2021 in which 370 women of reproductive age (15-45 years) were selected using structured and open-ended questionnaires through convenient sampling. Results were analyzed using SPSS version 23 for Windows.

Results: Thirty-one infants died in the year 2021 out of 370 giving us an IMR of 83.7 per 1000 live births. Breastfeeding was associated with lower mortality than bottle feeding; exclusive breastfeeding during the first 6 months was quite higher among alive infants (85.5%) as compared to that in the dead (64.5%), while bottle feeding was lower among living infants (14.5%) as compared to the dead (35.5%). Meanwhile, among infectious diseases, ARIs resulted in the most deaths in infants (25.8%), followed by Diarrhea (12.9%) but overall most of the causes were other than these two (seizures, sudden infant death, etc.) accounting for 61.3% of infant deaths. Among the 31 infant deaths, only 8 (25.8%) were fully vaccinated and 23 (74.2%) were non-vaccinated, whereas, out of the 339 alive infants, 229 (67.6%) were fully vaccinated and 110 (32.4%) were not vaccinated at all. Among 31 infants who died, 8 (25.80%) were pre-term and 23 (74.20%) were at-term whereas, out of the 339 alive children, 274 (80.80%) were at-term and 65 (19.20%) were pre-term. The mean age of mothers whose infants were alive was 28.18 years while the mean age of mothers of dead infants was 24.45 years.

Conclusion High IMR in rural areas of Peshawar is mostly due to preventable causes. With access to Primary Health Care (PHC), Mother Child Health (MCH), and Family planning, it can be significantly reduced

Key Words: IMR, Maternal age, Breastfeeding, Bottle feeding, Infectious diseases, and Vaccination.

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INTRODUCTION

An infant's first year of life is undoubtedly the most paramount phase in cementing the foundations of a healthy life and establishing a proper health structure.[1] The death of young children under the age of 1 year is termed Infant Mortality and this death toll is measured as the Infant Mortality Rate (IMR), which is deaths per 1000 live births.[2] Infant mortality outlines the effects of different factors such as social, economic, and environmental on general lines both on infants' and mothers' health and also define the effectiveness of a country's health care system.[3] It has been a global public health concern that consequently results in affecting millions of people across the world. [4] IMR is a measure of infant mortality that is accepted as a global indicator of the health and socioeconomic status of a given population. [1]

In 2018, around 4 million infants died, accounting for almost 75% of all deaths under the age of 5. [5] The importance of this subject can be emphasized by knowing the fact that Child Mortality has been included in the Millennium Development Goals, adopted by United Nations in the year 2000, the Goal 4 of which is "Reducing Child Mortality" by two thirds among children under 5 years by 2015. [6] Reduction in the child mortality is still a target of Sustainable Development Goals (SDGs), under the heading of Goal 3 "Good health and well-being". [7]

This study focuses more specifically on Infant mortality which differs from Child mortality, which is death below the age of 5 years. Following the Fourth Millennium Development Goal, globally the infant mortality rate has decreased from an estimated rate of 65 deaths per

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1000 live births in 1990 to 29 deaths per 1000 live births in 2018. Annual infant deaths have declined from 8.7 million in 1990 to 4.0 million in 2018. [5] According to the studies, IMR in the United States fell from 6.2 per 1000 births in 2010 to 5.7 per 1000 births in 2017, and in India, it fell from 45.1 per 1000 births in 2010 to 32 deaths per 1000 births in 2017 but in Pakistan, IMR was 70.4 per 1000 births in 2010 and it decreased to only 58.8 per 1000 births in 2017 which is not a significant change as compared to other neighboring countries. [8, 9, 10] The low status of women's education, poor economic conditions, and low level of using public health care services are closely tied to higher infant death rates in Pakistan. [10]

As per the CIA World Factbook, a global comparison of the Infant Mortality Ratio shows that Afghanistan has the highest IMR in the world which is 106.75 deaths per 1000 live births. Afghanistan is followed by Somalia, Central African Republic, Niger, Chad, Sierra Leone, The Gambia, South Sudan, Equatorial Guinea, and Mozambique. As per the Factbook, Pakistan is ranked at number 18 with an IMR of 55.26.[11] As for IMR in Pakistan, there are large variations by regions in childhood mortality. For example, childhood mortality is highest in Punjab, where the neonatal, infant and under-5 mortality rates are 51, 73, and 85 deaths per 1,000 live births. FATA has the lowest at 18, 29, and 33, respectively.[12]

Infant mortality can be reduced by accomplishing cost-effective and suitable interventions. This includes sole breastfeeding for about six months to ensure infants' proper nutrition along with immunity. On the other hand, it also includes proper management and treatment of neonatal infections such as diarrhea and pneumonia (ARI). [2] The rationale of this study was to find out how infectious diseases, maternal factors, and vaccination is affecting infant mortality in rural areas and to give a preliminary idea to healthcare authorities for the initiation of healthcare projects in particular areas for infant care.

MATERIALS AND METHODS

It was a community-based descriptive, cross-sectional study conducted in two rural areas (Tehkal Bala and Palosi) of district Peshawar from April 2021 to September 2021. Using the WHO sample size calculator, 370 women of low socioeconomic status who had a live birth this year were included. Informed verbal consent was taken and those willing to participate were included.

Those who were not permanent residents and those not willing to participate were excluded. These mothers were selected through a convenient sampling technique. Semi-structured and open-ended questionnaires were used and conducted face to face interviews for the collection of data which was analyzed using SPSS version 23.

RESULTS

Out of 370, 144 participants were selected from Tehkal Bala and 226 samples from Palosi which accounted for 38.90% and 61.10% of the total sample respectively. Among the observed sample, 31 infant deaths were reported while 339 infants remained alive during the study period.

IMR came out to be 83.7 per 1000 live births. Out of 370, 219 (59.20%) were males and 151 (40.80%) were females and among 31 infant deaths, 12 were females (39%) while 19 were males (61%). Mode of feeding also affected the IMR greatly, sole breastfeeding during the first 6 months was quite higher among alive infants (85.5%) as compared to that in the dead (64.5%), while the frequency of bottle feeding was lower among living infants (14.5%) as compared to that in the dead (35.5%) as shown in Figure 1.

The age of the mother was also an important factor; the mean age of mothers whose infants died was 24.45 years and those whose infants were alive had a mean age of 28.18 years, so, babies born to younger mothers were at a greater risk of dying in their first year of life. Infectious diseases were another significant factor, out of 339 alive infants, 179 (53%) were not infected at all, while 70 (20%) suffered from ARI, 50 (15%) from diarrhea, and 40 (12%) suffered from some other infections at some point in their life before the study while among the 31 Infants deaths reported, 8 (26%) died of ARI, 4 (13%) died of Diarrhea while 19 (61%) died of other causes as shown in Figure 2.

Vaccination status was also observed, among the 31 reported infant deaths only 8 (25.8%) were fully vaccinated and 23 (74.2%) were non-vaccinated, whereas, out of the 339 alive infants 229 (67.6%) were fully vaccinated and 110 (32.4%) were non-vaccinated as shown in Figure 3, indicating that vaccination rate was much higher in alive infants. The term of birth was also taken into account, among the 31 infants who died 8 (25.80%) were pre-term and 23 (74.20%) were at-term whereas, out of the 339 alive children 274 (80.80%) were at-term and 65 (19.20%) were pre-term.

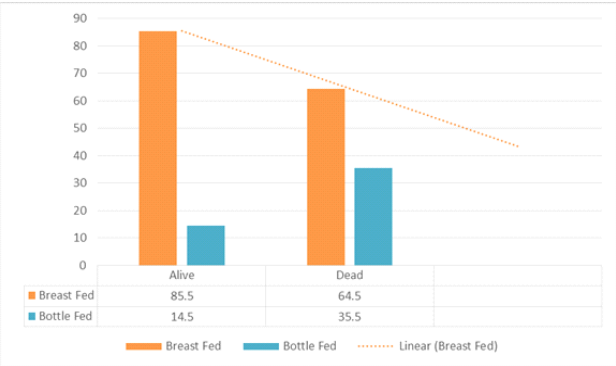

Fig 1: Feeding Mode among alive and dead infants

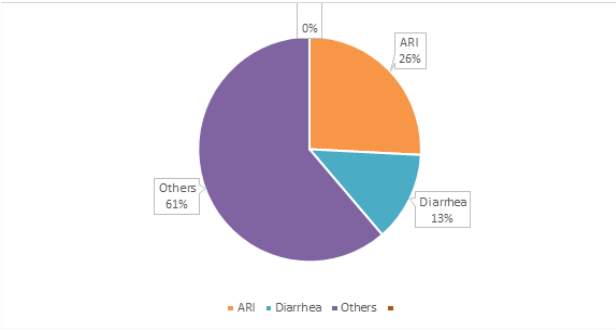

Fig 2: Infectious causes among dead infants

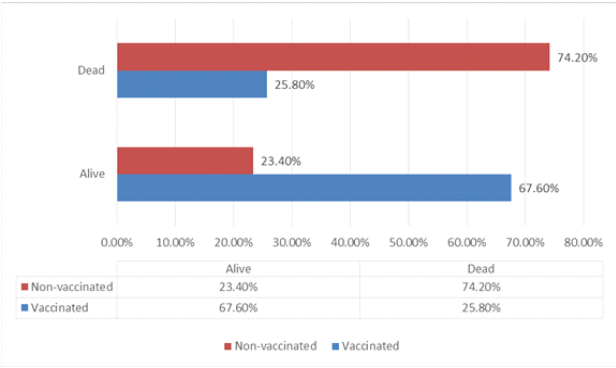

Fig 3: Vaccination status among alive and dead infants

DISCUSSION

In 2019, the infant mortality rate in the United Kingdom was at about 3.7 deaths per 1,000 live births, in China was at about 6.8 deaths per 1,000 live births, in India was about 28.3 deaths per 1,000 live births and in Pakistan, it was about 55.7 deaths per 1,000 live births. [22-25] From the above statistics, it is quite clear that the infant mortality rate is quite higher in Pakistan as compared to other countries. Our team visited two villages of district Peshawar named Tehkal Bala and Palosai and collected 327 samples through interview-based written questionnaires from the mothers. Out of the total 370 live births, 31 infant deaths were reported while 339 infants remained alive during the study period.

According to our study, the calculated IMR for 6 months was 83.7 per 1000 live births in rural areas of district Peshawar. This is quite high even if compared to Pakistan's overall IMR. Gender-wise, 12 (39%) were females and 19 (61%) were males. A previous study conducted in the district of Peshawar showed a male-to-female ratio of 1.9:1. [17] Further studies should be conducted to sort out gender-based infant mortality in these areas.

Out of the total 31 infant deaths reported, 8 died due to acute respiratory infections, 4 died of diarrhea and 19 died due to some other causes. Two other studies conducted in the district of Peshawar clearly demonstrate acute respiratory infections and diarrhea as the major causes of infant mortality.[17, 26] Similar findings were noted in the present study which indicates that these preventable diseases are still the major causes of infant mortality in peripheries of Peshawar. Sole breastfeeding during the first 6 months was quite higher among alive infants (85.5%) compared to that in the dead (64.5%), while the frequency of bottle feeding was lower among living infants (14.5%) as compared to the dead (35.5%).

Our study indicated that preterm babies were less likely to survive as compared to at-term babies. A study published in the 'Social Science and Medicine journal stated that "nearly 71.1% of all neonatal deaths occurred in the early neonatal period, with small size for gestational age or low birth weight (17.7%)". [27] This can be extrapolated to our study which suggests a positive correlation of IMR with early birth. Regarding the vaccination status, among the 31 reported infant deaths, only 8 were fully vaccinated and 23 were non-vaccinated whereas out of the 339 alive infants 229 were fully vaccinated and 110 were not vaccinated indicating that the vaccination rate was much higher in alive infants.

CONCLUSION

It is concluded that in rural areas infant mortality is high in our study. Effective strategies are needed to address the causes associated with infant mortality. Studies should be done in all areas of district Peshawar to find the exact mortality rate of the whole province.

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Following authors have made substantial contributions to the manuscript as under

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Saeed A:	Analysis, critical review, study conduction.
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Zia L:	Study design, study conduction.
Nawab S:	Critical review, discussion.
Haris M:	Planning, Study conduction, analysis
Hamza MS:	Study design, study conduction.
Junaid N:	Study conduction, critical review.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

EFFECT OF PHYSICAL EXERCISE AS A RELIEVING FACTOR IN STRESS IN UNIVERSITY STUDENTS OF DISTRICT PESHAWAR, KPK, PAKISTAN

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ABSTRACT

Objective: Stress is an emotional and physical disturbance that makes a person feel angry and

frustrated. Physical activity reduces stress symptoms and makes one feel better mentally. The main aim of our study was to find out the relationship between physical activity and stress.

Material and Methods: An analytical cross-sectional study was conducted to collect the data from students of 5selected universities in Peshawar through a structured questionnaire. A sample size of 374 was obtained using epi-info software. Informed consent was obtained and data were analyzed through SPSS version 20 for Windows and presented primarily in the form of frequencies, percentages, graphs, and tables.

Results: Our study showed that out of a total of 354 participants who were included in the research, 49% of them were males and 51% were females. The age group of participants was 18-25 years with a mean age of 21 years. Among the total 354 participants, 28.2% were reported to have low-stress levels, 41% with moderate, and 30.8% with high-stress levels. 22% of participants do physical exercise to relieve their stress and 58.8% do it for body fitness. There was a high % of participants with high-stress levels who weren't doing physical activity while a high % of low-stress levels are reported in students doing regular physical activity. The majority of students have the opinion that exercise is beneficial in reducing physiologic, behavioral, and psychological stress symptoms.

Conclusion: Physical exercise is significantly effective in relieving stress. Doing exercise helps to achieve stable mental health status and improves a person's body, mind, and attitude.

Key Words: Stress, Physical exercise, Mental health, university students, Awareness.

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INTRODUCTION

Stress is an emotional and physical tension that makes one feel frustrated, angry and nervous. It's the body's reaction to a harmful situation. [1] Today stress is a prevailing problem in human society. Stress is taking a toll on people contributing to health problems, poor relationships and lost productivity at work, according to a national survey released by the American Psychological Association (APA). [2] There are many stress-coping methods and one of the effective methods is physical exercise.

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According to WHO (2004), physical exercise is defined as; "Any bodily movement produced by skeletal muscles that require energy expenditure.[3] There is a vast correlation between physical exercise and relief of stress as proved by many surveys. Exercise increases overall health and sense of well-being which puts more activeness in your step every day. Physical exercise pumps the brain's feel-good neurotransmitter called endorphins. It reduces the negative effects of stress, increases self-confidence and improves mood. [4] Physical activity and exercise when undertaken regularly are highly beneficial for health and for both physical and psychological well-being[5]. Also, the survey conducted for the article found that only 17% of adults report exercising daily, and 30% of adults who exercise regularly report feeling less stressed. 53% of adults say that they feel good about themselves after exercising and 35% see it puts them in a good mood. So physical exercise has a positive influence on mental health. There is a study conducted by De Moore and Associates (2006) suggests that regular exercise is cross-sectional and associat-

ed with lower anxiety and depression. A study in the United States showed that individuals that spend 60% of their day in physical activity were observed with fewer complications in their life relating to psychological effects. In Pakistan, most of our population including every age group is under stress due to increased workload, low socioeconomic status, and people living in substandard conditions. According to research conducted "Young studying population is under stress due to study burden. There is also a low exercise ratio in Pakistan in Dow University of Health Sciences Karachi; "Individuals who perform regular exercise had a lower frequency of depression. The rationale behind conducting this study is to find a correlation between physical exercise and stress. This research mainly aims to create general awareness about the beneficial effect of physical exercise as a stress reliever and guide the general population about it.

MATERIAL AND METHODS

A cross-sectional study was conducted from Nov 2019 to Jul 2021. A total sample of 384 was collected by convenience non-probability sampling. The age group of students included was 18-25 years. The students from 5 selected universities were recruited for the research. Data was collected after the ethical approval of the synopsis by the Institutional Research & Ethical Committee at Khyber Medical College Peshawar. Before collecting the data, the participants involved in our study were informed about the study, and consent was taken. A well-structured questionnaire was used to gather information about their stress level, physical activity level, and their opinion about exercise relieving stress symptoms. Data were analyzed using SPSS version 20 for Windows. Quantitative variables were calculated as mean and +-SD. Qualitative variables were presented in the form of percentages and frequencies. All the data was presented in the form of tables and graphs.

RESULTS

We interviewed 354 participants from 5 selected universities in Peshawar. Out of these 354, 48.87% were males and 51.13% were females. The age group of participants involved in the study was 18-25 years. The mean age of participants was 21 years. Table 1 shows the effect of exercise and perceived stress level and Table 2 shows the effects of exercise on various symptoms associated with stress and participants' opinion.

Table 1: Physical Exercise and Perceived Stress of the Participant

Physical Exercise done by Participants in Days per Week	Perceived Stress of the Participant (PSS)			Total
	Low Stress (0-13)	Moderate Stress (14-26)	High Stress (27-40)	
No Physical Activity	15	85	86	186
	8.1%	45.7%	46.2%	100.0%
	15.0%	58.6%	78.9%	52.5%
Irregular Physical Activity	31	32	15	78
	39.7%	41.0%	19.2%	100.0%
	31.0%	22.1%	13.8%	22.0%
Regular Physical Activity	54	28	8	90
	60.0%	31.1%	8.9%	100.0%
	54.0%	19.3%	7.3%	25.4%
Total	100	145	109	354
	28.2%	41.0%	30.8%	100.0%
	100.0%	100.0%	100.0%	100.0%

Table 2: Opinion of participants about the relieving effect of exercise on stress

EFFECTS OF EXERCISE ON STRESS SYMPTOMS and PARTICIPANTS OPINION	Strongly disagree f (%)	Disagree f (%)	Neutral f (%)	Agree f (%)	Strongly agree f (%)
Q-1 Exercise improves normal sleep 6-8 hours	22(6.2%)	17 (4.8%)	44(12.4%)	123 (34.7%)	148 (41.8%)
Q-2 Exercise improves normal appetite habits	19(5.4%)	25(7.06%)	45 (12.7%)	140(39.5%)	125(35.3%)
Q-3 Exercise reduces digestive problems	30 (8.4%)	26 (7.3%)	65(18.3%)	124 (35%)	109(30.7%)
Q-4 Exercise reduces need of antidepressant medications	18 (5.1%)	30 (8.4%)	68 (19.2%)	126(35.5%)	112(31.6%)
Q-5 Exercise improves work efficiency	20 (5.6%)	13 (3.67%)	55 (15.53%)	143 (40.3%)	123 (34.7%)

DISCUSSIONS

To assess the stress level of students, the Perceived Stress Scale was used. 28.2% of 354 participants were reported to have low levels of stress, 41% were having moderate and 30.8% were having high stress among university students of Peshawar. Our results are consistent with another study done on 471 students of Tafila Technical University, Jordan. The results showed that the stress levels experienced by students were of moderate intensity (3.15 out of 5). [6] Similarly, another study was done by Educational Psychology on undergraduate students to assess their stress. The results indicated that 77.6% and 10.4% of the students fell into the moderate and serious stress level categories, respectively. The results also claimed that study burden, examinations, and results were the highest causes of stress among students. [7] In a nutshell, perceived stress levels were an important factor that need university administration, teachers, and parents to focus on effective psychoanalysis services along with stress management interventions that could be useful for achieving academic success and balanced life.

In the current study out of 354 participants, 25.4% were doing regular physical exercise, 22% were doing exercise irregularly and 53.5% were not following any physical exercise routine. These results show that a very less proportion of our students have a regular physical activity routine. Another study was conducted by the University of Ankara, Turkey to find out the physical activity levels of university students. Data revealed that 15% were physically inactive, 68% minimally active, and 18% sufficiently active. Physical activity levels of male students were significantly higher than those of female students ($p<0.05$). [8] From the results, it was concluded that physical activity was below recommended levels in a substantial proportion of students.

Our results and applied chi-square test with a significance of 0.00 (<0.05 standard p-value) help us to conclude that physical exercise is related to stress. The correlation coefficient value -0.501 shows that the correlation between two variables is indirect which means increasing exercise levels reduces stress as indicated above. Likewise, a cross-sectional study was conducted in the USA to find out the relationship between physical exercise and mental health in a large population of 1.2 M belonging to the age group of 18 years or older, between 2011 to 2015. Results showed that respondents who did exercise had experienced fewer days (1.49 times) of poor mental health than those who didn't exercise, whereas these respondents were otherwise the same for most of their demographic data including physical health and socioeconomic status. This research also concluded that doing physical exercise of any type lowers mental health burden with a minimum reduction of stress by 11.8% and a maximum reduction of 22.3%. [9] These results clearly signify the importance of physical exercise in stress reduction.

People do physical exercise for multiple purposes i.e., weight loss, stress relief, body fitness, good health, bodybuilding, as per doctor's advice, etc. In our study, 22% were doing it to relieve their stress while the majority (58.8%) did it for body fitness. A study was done to find out the UK university students' motives for engaging in physical activity, sports, or exercise. The motives of 736 participants (± 20.45 years of age, SD=3.50) regarding participation or non-participation in exercise, sports, and physical activity were measured using the Exercise Motivation Inventory-2 (EMI-2) Overall, the largest motive for engaging in physical activity was attributed to health-related reasons (i.e. positive health and weight management. It is clear that the majority of students do exercise for their body fitness.

In our study, we intended to know the awareness level of students about the effect of exercise on relieving stress symptoms. The majority of students opined for positive effects of physical activity on reducing stress and anxiety levels as shown by results in table 1.2. Due to limited time and resources this study was conducted only at five selected universities so it cannot be generalized. The sample size calculated was 384 but due to the limitation of time, we collected data from 354 participants.

CONCLUSION

Based on the results of this research, it can be concluded that physical exercise significantly reduces stress levels. Our results indicate that doing exercise helps to achieve stable mental health status and improves a person's body, mind, and attitude. We also conclude that 22% do exercise for stress reduction and 58.8% do it for fitness purposes. Most students believed in exercise's positive effects in reducing stress symptoms.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

Mustafa M: Concept, planning, study design, study conduction, critical review, analysis, manuscript writing.

Farooq Y: Critical review, discussion, interpretation, manuscript writing, study conduction.

Billah MM: Analysis, critical review, study conduction.

Ahmad A: Critical Review, study conduction, interpretation.

Asghar A: Study design, study conduction.

Burki MN: Study design, study conduction.

Iftikhar B: Critical review, discussion.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

BLUE RUBBER BLEB NEVUS SYNDROME- A RARE CASE

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INTRODUCTION

Blue Rubber Bleb Nevus Syndrome (BBRNS) is a rare angiomatosis characterized by distinctive cutaneous and gastrointestinal venous malformations that result in gastrointestinal hemorrhage and iron deficiency anemia secondary to bleeding episodes. The causes of this syndrome are unknown. Its most common presentation is in the form of sporadic cases but dominant autosomal inheritance has been also described specifically with a locus found on chromosome 9p.

Approximately 250 cases have been reported in the literature to date. The syndrome affects both males and females with equal frequency. Blue rubber bleb nevus syndrome (BRBNS or Bean's syndrome) was first recognized by Gascoyen in 1860. [1] Hundred years later Bean described BRBNS in detail and coined the term Blue rubber bleb nevus syndrome. [2] The most common symptoms are gastrointestinal bleeding and secondary iron deficiency anemia. The syndrome may also present with severe complications such as rupture, intestinal torsion, and intussusception, and can even cause death. Cutaneous malformations are usually asymptomatic and do not require treatment. The treatment of gastrointestinal lesions is determined by the extent of intestinal involvement and the severity of the disease.

CASE REPORT

A 22-year-old female came to the accident and emergency with complaints of increased fatigability and shortness of breath for 1 month. It was associated with episodes of nausea and vomiting for the last two days. The vomiting was sudden in onset with coffee ground color. She denied having melena, hematochezia, menorrhagia, dyspnea, and stomach ache.

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There was no history of NSAID intake, peptic ulcer, and chronic liver disease. On examination, the patient had an extremely pale face and pale conjunctiva with multiple bluish swellings on her hands and feet. After initial resuscitation in A and E, baseline investigations were done. Her blood reports showed Hb= 2.2g/dl (MCV: 60; MCH: 24; HCT: 26; TLC: 13,000/cmm; Platelets: 2,27,000/cmm. Detailed examination and history taking revealed that the patient had been suffering from the presenting symptoms since the early age of 4 years. She was born as a result of consanguineous marriage with the rest of her 5 siblings disease free. However, she had episodes of epistaxis and hematemesis since early childhood. She had been admitted multiple times for blood transfusions at an early age.

On examination, the patient had a pale face with pale conjunctiva and a bluish swelling on the lower lip. The swelling was about 1x1cm, tender with a rubbery consistency. The edges were well-demarcated with no ulceration.

The same kinds of lesions were present all over the body with a higher concentration on all four limbs and the lower abdomen (Fig:01, 02). Further workup revealed: S. ferritin: 4.2ng/ml; Peripheral smear: Hypochromic microcytic anemia; Hb electrophoresis was normal, Stool for occult blood was positive, and a Bone marrow biopsy revealed absent iron stores.

Invasive testing as of endoscopy revealed vascular hemangioma-like lesions seen in the Esophagus, the whole of the stomach involved with multiple vascular hemangioma lesions extending to the duodenum (FIG:03). Colonoscopy revealed several hemangioma lesions seen in the colon up to the splenic flexure. Histologic staining of skin biopsy showed Angiokeratoma. Colonic biopsy revealed acute self-limited colitis with Angiokeratoma circumscription. Hence the diagnosis of Blue Rubber Bleb Nevus Syndrome was made and the patient was treated by a multidisciplinary team involving a hematologist, gastroenterologist, endocrinologist, and dermatologist. As the patient had no dyspnea, dysphagia, or blurred vision, she was given iron supplementation and blood transfusions. Two weeks later, a routine blood test showed that the he-

moglobin was 7.7 g/dL. A fecal occult blood test was negative. She was discharged and asked to attend outpatient follow-up monthly.

DISCUSSION

BBRNS also known as Bean syndrome belongs to a group of disorders "BENGAL". Rare congenital vascular anomaly in which malformed veins or blebs appear on the skin and surfaces of internal organs. Patients present with multiple venous malformations in various organ systems including the liver, spleen, heart, eye, and central nervous system. It is usually a sporadic disorder; however, autosomal dominant modes of inheritance are also reported, specifically with a locus found on chromosome 9p. [3] The clinical manifestations vary according to the different organ involvement. The cutaneous lesions are asymptomatic but some of the patients complain of painful lesions (5%). [4] The condition presents at birth or in early childhood with multiple blue to violaceous soft compressible nodules on the skin or mucous membranes. They are often born with a "dominant" lesion and develop numerous venous malformations over their lifetime which are rubbery in consistency and may be painful or tender when compressed. Pain is especially prevalent at night time. They range in size from only a few millimeters in diameter to up to 4 to 5 cm in diameter. They can increase in size with time, and more lesions may develop in the skin or gastrointestinal tract. Large blue marks and disfiguring may appear as well. Uniquely, lesions tend to swell in gravity-dependent positions, and patients have focal areas of hyperhidrosis overlying these lesions. Venous malformations may be located in the heart, spleen, liver, central nervous system, and gastrointestinal tract. The small bowel is the most common site of gastrointestinal involvement. The patient may present with severe iron deficiency anemia from recurrent intestinal hemorrhages. Rare complications of BRBNS have been reported such as blood coagulation disturbance (four cases), thrombocytopenia (three cases), and disseminated intravascular coagulopathy (two cases) and the reasons for these complications are unclear.

Fig 1: BBRNS lesions on hands

Fig 2: BBRNS lesions on feet

Fig 3: Vascular malformations in the Esophagus on endoscopy

The diagnosis of BRBNS is based on the presence of characteristic cutaneous lesions with or without GI bleeding and/or the involvement of other organs. [5]

For GI lesions, a push endoscopic examination is the most important diagnostic method and mucosal resection, Argon plasma coagulation, Laser photocoagulation, Sclerotherapy, or Ban d ligation are often necessary. [6] Initial diagnostic study of choice include: a) Endoscopic ultrasound: gastrointestinal venous malformation b) MRI with intravenous contrast, arterial and venography c) CT, barium studies, and skin biopsy. Blue rubber bleb nevi can be examined under Dermoscope with features of superficial, light red arborizing veins, maculae with undefined borders on the palms and soles, and blue-purple nodules with lacunae divided by white linear structures. The treatment is largely symptomatic. The most important step is the evaluation of gastrointestinal lesions and preventing severe bleeding and Iron replacement or blood transfusion for anemia. Vascular malformations require endoscopic sclerotherapy, band ligation, or laser photocoagulation. Somatostatin analog-subcutaneous Octreotide can be used to decrease splanchnic blood flow in patients

with gastrointestinal hemorrhages. Corticosteroids, Interferon-alpha, IVIG, and vincristine are also modalities of choice. The most concerning complications of blue rubber bleb nevus syndrome are severe gastrointestinal hemorrhages or intestinal intussusception. As a result, patients often require multiple blood transfusions throughout their lifetime.

CONCLUSION

It is important to counsel patients and parents about the risk of severe gastrointestinal bleeding and intussusception in blue rubber bleb nevus syndrome. There should be a low threshold for patients to present for medical evaluation if they have abnormal bowel function or abdominal pain. Patients with blue rubber bleb nevus syndrome will require a multispecialty approach to management. They require an interprofessional team approach with Hematology, dermatology, gastroenterology, surgery, nurse practitioners, and other specialties caring for the patient. There is no cure for the disorder and treatment is supportive. Patients do need to be monitored as they are prone to potential complications such as volvulus, intussusception, infarction, and gastrointestinal bleeding.

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INSTRUCTION TO AUTHORS

INSTRUCTIONS FOR AUTHORS

The **"PAKISTAN MEDICAL STUDENTS RESEARCH JOURNAL (PMSRJ),** is the official student-based journal of Khyber Medical College, Peshawar. The PMSRJ started its publications in 2023. The PMSRJ is a triannually, peer-reviewed medical journal. It follows the uniform requirements for Manuscripts (URM) submitted to Biomedical journals as approved by the International Committee of Medical Journal Editors (ICMJE) as revised in 1997 and published in N Eng J Med 1997; 336:309-15. Detailed information about updated URM can be downloaded from www.icmje.org. The PMSRJ follows the Committee on Publication Ethics (COPE) guidelines regarding publication ethics.

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The PMSRJ is one of the Pakistani medical journals that provides you with easy and user-friendly ONLINE SUBMISSION OF ARTICLES on its website. Visit www.pmsrj.com and REGISTER yourself as an AUTHOR by filling out a form. Log in with your "username" and "password". A web portal will be on the screen with a block of NEW SUBMISSION and follow the following 5 steps of manuscript submission as per online instructions.

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The journal will accept (a) Original research articles (b) Review articles (c) Case reports (d) Editorials (f) Special communication (g Short communications (h) a Letter to the Editor.

It should be typed in single or double space with clear margins on both sides. Begin each section or component on a new page.

Review the sequence: title page, abstract and keywords, text (Introduction to conclusion), acknowledgments, references, tables (each on a separate page), and legends. Illustrations, unmounted prints, should not be larger than 203 × 254 mm (8 × 10 inches).

The manuscript should not exceed 20 pages excluding tables and references. There should be no more than 40 references in the original article, <10 references in the case report, and no more than 100 references in a review article.

Include permission to reproduce previously published material or to use illustrations that may identify human subjects. Keep copies of everything submitted.

Approval certificate from Institutional review board for bioethics (IRBB)/ research ethical committees. From July 2015 onward no article will be processed without IRBB approval certificate.

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All manuscripts of original research should contain following sections:-

5- Title Page

- The title of the article should be concise, specific, and informative. Authors should include all information in the title that will make electronic retrieval of the article sensitive and specific.
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The second page should carry structured abstract of not more than 250 words.

Objectives: The abstract should state the Objective: the purpose of the study or investigation;

Materials and Methods: Study design, place and duration of the study, basic procedures such as selection of study subjects or laboratory animals, observational and analytical methods;

Results: Main findings giving specific data and their statistical significance, if possible and

Conclusion: It should emphasize new and important aspects of the study or observations. Below the abstract authors should provide, and identify as such, 3 to 10 keywords or short phrases that will assist indexers in cross-indexing the article and may be published with the abstract. Terms from the Medical Subject Headings (MeSH) list of Index Medicus should be used. If suitable MeSH terms are not yet available for recently introduced terms, present terms may be used.

Keywords: About 3-5 keywords are mandatory to mention

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The rest of the article should follow the same rules of abstract but in greater detail. The article must contain between 2000-3500 words.

Executive Editor,

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FOR DETAILS, SEE OUR EDITORIAL POLICY IN THE NEXT SECTIONS

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Pakistan Medical Students Research Journal (KMC Peshawar pISSN - Under-process)

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I certify that

A) None of the material in the manuscript has been published previously/currently under consideration for publication elsewhere.

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EDITORIAL & RELEVANT POLICIES

OVERVIEW

This text highlights the mission, objectives, and editorial policy of PMSRJ regardingthe publication process by adhering to the guidelines by COPE (Committee in Publication Ethics) and ICMJE (International Committee of Medical Journals Editors). Each component of the editorial policy is explained in the next sections.

A THE MISSION OF THE PMSRJ

To provide a platform for medical students (both undergraduate and postgraduate) to publish scientific material to help them in their practice, teaching and learning, and career development

B OBJECTIVES OF PMSRJ

a. To publish clinical, epidemiological, public health, educational, translational, and allied sciences research to enable the scientists, clinicians, and researchers to learn about developments and innovations in these disciplines

b. To publish high quality descriptive and experimental research, review articles, editorials, and case reports enhancing the understanding of the scientific community regarding clinical practice and education

c. To provide a platform formedical studentsin promoting their career development through publishing quality research

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PMSRJ is an Open access scholarly literature source that is free of charge and often carries less restrictive copyright and licensing barriers than traditionally published works, for both the users and the authors. However, it complies with well-established peer review processes and tries to maintain high publishing standards.

2- PEER REVIEW PROCESS

The review process of PMRJS is following a “triage approach”. Upon submission of a manuscript, either online or physical, the document undergoes a preliminary open (un-blinded) review in the office of the chief editor. The document is either accepted for further review, sent for revision back to the authors, or rejected at that time. Further review of PMSRJ is following a blinded approach, where the article is sent to 2 reviewers, local and international. During this process, all the relevant information about the authors and reviewers is kept confidential. However, we encourage to share reviewers’ comments with co-reviewers of the same paper in a blinded manner, so reviewers can learn from each other in the review process. We also encourage the readers to send us the post-publication reviews about research work in the form of letters to the editors, which are then published and shared with the authors of relevant articles. The editorial board has the authority to retract an article if a serious violation of credibility or quality of research is found after the article is published.

The journal is under no obligation to send submitted manuscripts for review, and under no obligation to follow reviewer recommendations, favorable or negative at all times. The editor of a journal is ultimately responsible for the selection of all its content, and editorial decisions may be taken by issues unrelated to the quality of a manuscript, such as suitability for the journal. An editor can reject any article at any time before publication, including after acceptance if concerns arise about the integrity of the work.

3-AUTHORSHIP

According to the ICMJE criteria, authorship is based on 4 criteria; (1) conceptualization and designing, (2) AND, data collection, (3) AND, writing and critical review, (4) AND, taking responsibility for the authenticity and integrity of all the researchprocess. All those designated as authors should meet all these 4 criteria. The co-authors should declare their roles and contributions in the research process explicitly. Those who do not meet all 4 criteria should be ACKNOWLEDGED only. If agreement cannot be reached about who qualifies for authorship, the institution(s) where the work was performed, not the journal editor, should be asked to investigate. If authors request removal, addition, or change in the sequence of an author after manuscript submission or publication, journal editors should seek an explanation and signed statement of agreement for the requested change from all listed authors and from the author to be removed or added. The corresponding author is the one individual who takes primary responsibility for communication with the journal during the manuscript submission, peer review, and publication process. The corresponding author typically ensures that all the journal’s administrative requirements, such as providing details of authorship, ethics committee approval, clinical trial registration documentation, and disclosures of relationships and activities, are properly completed and reported.

4-SUBMISSION OF MANUSCRIPT

The manuscript should be submitted through

the journal website which is using the Online Journal System (OJS) along with the Institution research and ethics board (IREB) certificate. The article should have the following format:

4.1: The abstract should be structured with a word count of not more than 250 words.

4.2: The fonts should be Calibri, with size 12, and spacing of 1.5, with justified margins in MS office format.

4.3: The whole document should not be more than 3000 words (excluding references and appendices).

4.4: The number of figures and tables should not exceed 5 in the whole

4.5: The pictures and tables should be black and white.

4.6: Copied pictures and tables from other sources will not be entertained unless written approval from the original researcher and publisher is provided

The guidelines for correction and retraction of articles are as follows:

5- INSTITUTIONAL RESEARCH AND ETHICS BOARD (IREB) CERTIFICATE

Under no circumstances, an article will be accepted if approval from the relevant ethical board/committee is not taken before the start of the research. The board/committee should assess the proposal of research in both ethical and technical aspects before giving a certificate of approval.

6- CONFLICT OF INTEREST

To ensure transparency in the research conduction, writing, and publication, the authors, peer reviewers, and editors have to declare conflicts of interest regardingfinancial aspects, academic competitions, and relationships during writing, reviewing, and publishing the manuscripts. Details of sponsors along with their roles and access to data should be clearly stated.

7- CONFIDENTIALITY

The editorial board in no way should publicize the work of a researcher in any form unless it is published. They should not publicize the comments and critiques given by reviewers. Similarly, the reviewers are bound to keep the confidentiality of the work of researchers during and after the review. The work of researchers and the critique should never be discussed or exemplified in forums. The confidentiality of the researchers should be maintained in every possible way when the documents are sent for review. However, our review process is open (non-blinded) in the first phase, as per the policy of the journal. In this case, the policy is displayed on the journal`s website for the researchers. Reviewers must not retain the manuscript for their personal use and should destroy paper copies of manuscripts and delete electronic copies after submitting their reviews. If a manuscript is rejected, it should be deleted from the editorial system. If an article is published, the manuscript along with its reviews and other relevant documents should be retained for 3 years and then deleted. The only situation where confidentiality needs to be breached is when a situation of fraud or misconduct is found during the review process or after publication. Still, the authors and sometimes the reviewers,have to be notified.

8- CORRECTION AND RETRACTION OF ARTICLES

The guidelines for correction and retraction of articles are as follows:

8.1: A specific page is allocated in the journal (both electronic and printed) that will be used for news related to corrections in articles published in previous journals.

8.2: The editorshould also post a new article version in the journal with details of the changes from the original version and the date(s) on which the changes were made.

8.3: Previous electronic versions will prominently note that there are more recent versions of the article (that will be placed at the end of the abstract). Similarly, the more recent version should be cited by the authors or others.

8.4: If the error is judged to be unintentional, and the underlying science appears valid, and the changed version of the paper survives further review and editorial scrutiny, then retraction with the republication of the changed paper, with an explanation, allows full correction of that research paper.

8.5: If a serious violation of credibility or quality of a research paper is found after the publication, the article has to be retracted after approval of at least 3 members of the editorial board in consultation with the chief editor. The whole process will follow the guidelines presented by Committee on publication ethics (COPE).

8.6: The retracted article should be notified on the website and the word “retracted” should be mentioned along with the title of the article.

9- CORRESPONDENCE

Correspondence for submitting an article in PMSRJ will be through a corresponding author. The duties of a corresponding author have already been presented in a previous section. Correspondence regarding debating an article is given high value and a separate page for letters to the editors has been allocated. Derogatory and demeaning letters are screened and letters that promote debates and critique are encouraged to be published. However, correspondence about the articles published in the last 1 year will be included only.

10-THE FEE SUBMISSION PROCESS

The editorial board has fixed a fee of 4000/- Rs (Pakistani), for local authors and 100 $ (US) for international authors. The fee should be submitted as bank draft/ online payment through the account (for more information visit/contact Office of Managing Editor, PMSRJ) For international authors, the amount of 100 US dollars will be accepted after both internal and external review. Authorsare advised to submit the fee after the whole process of review is completed and the article is accepted for publication.

11- ROLES OF THE EDITORIAL BOARD, EDITORS, AND MEMBERS

The editorial board of PMSRJ is following the Higher Education Commission (HEC) policy for research journals. The roles of the editorial board for PMSRJ are mentioned below:

11.1: THE ROLES OF THE EDITORIAL BOARD ARE:

11.1.1: To offer expertise in their specialist area

11.1.2: To review submitted manuscripts

11.1.3: To advise on journal policy and scope

11.1.4: To work with the Editor to ensure the ongoing development of the journal

11.1.5: To identify topics for special issues of the journal or recommend a Conference that would promote the journal, which they might also help to organize and/ or guest edit

11.1.6: To attract new and established authors and articles

11.1.7: To submit some of their work for consideration, ensuring that they adhere to Conflict of Interest rules and stating their relationship to the journal. This is very important as the journal cannot be seen to publish only papers from members of the Editorial Board.

11.1.8: Editorial Board must have a regular communication forum with other boards of similar nature, either face to face in person (depending on their country of origin, funding availability, etc.) or as more journals are doing today, communicating by teleconference, Skype, or other web platforms.

11.2: THE PATRON:

The Patron is usually the Dean of the institute and is overall in charge of the journal, who needs to be kept informed of the decisions taken by the editorial board. The patron is the final authority to approve the decisions and policies of the editorial board.

11.3: THE CHIEF/ASSOCIATE/ASSISTANT EDITORS:

11.3.1: The criteria for selection of Chief/Associate/ Assistant Editors are:

i. Expertise and experience in the specialist field related to the journal

ii. Publication record of articles and /or books (usually in / related to the specialist field)

iii. Being a reviewer for an international peer-reviewed journal

iv. Senior research position with equivalent experience in research and scholarship

v. Enthusiasm to undertake the Editor role

vi. Preferably a diploma, master or doctoral degree in Education and Research It is not necessary to fulfill all the criteria to become a chief editor.

11.3.2: THE ROLES OF CHIEF EDITOR ARE:

i. The key role of a journal`s chief editor is to promote scholarship in the specialist field associated with the journal, whilst also promoting the journal as the best journal to publish in. For any journal, the editor will need to encourage new and established authors to submit articles and set up a reliable panel of expert reviewers. Editors are also responsible for offering feedback to reviewers when required and ensure that any feedback to authors is constructive.

ii. An editor should also familiarize him/herself with the Committee on Publication Ethics (COPE) 'Code of Conduct and Best Practice Guidelines for Journal Editors.

iii. Depending on how the journal is managed and how it is structured, an Editor may have to make all the decisions regarding which articles to accept or reject for publication.

11.3.3: MANAGING EDITOR:

The roles of managing editor are:

i. To help the chief editors to achieve the above-mentioned goals

ii. To communicate with the authors, reviewers, publishers, and other agencies for the smooth running of the journal

iii. To regularly evaluate the research work

iv. To communicate with funding and regulating agencies (HEC and others) for grants and accreditations.

11.3.4: EXECUTIVE EDITOR:

The roles of the executive editor are:

i. To evaluate the research articles presented for publication

ii. To help the editorial board in policymaking

iii. To help the editorial board in smooth publishing

iv. To communicate with reviewers and collaborate with external agencies for relevant purposes

11.3.5: SECTION EDITORS:

Section editors are allotted different responsibilities.Some of these are mentioned below:

i. Bibliography

ii. Proof-reading

iii. Academic writing reviewing, grammar, and spell checking

iv. Dissemination of articles for review

v. Contact with publishers under the supervision of senior editorial team

vi. Training of future reviewers, young members, and other faculty members

vii. others

11.3.5: EDITORIAL ADVISORY BOARD:

Editorial advisory board members consist of national and international senior academicians, researchers, clinicians, and others to help the current editorial board in designing, implementing, and evaluating policies regarding upgrading the quality of research work. These people also share best practices to help the editorial team to refine their research work.

12- POLICY REGARDING RECRUITMENT AND CONTINUATION OF THE EDITORIAL BOARD

The policyfor recruitment and continuation of the editorial board is based on the guidelines discussed in the previous section. The chief editor, managing editor, and executive editors /associate and assistant editors are recruited by the patron in-Chief. Members are then selected by them from amongst the faculty who have an aptitude for research, and their names are endorsed by the patron. The tenure of the editorial board is decided by the Patron after 3 years whether to continue or recruit a new team or member. The editorial advisory board members are recruited for an indefinite period by the editorial team of PMSRJ.

13- PLAGIARISM POLICY

The journal is following the plagiarism policy of the Higher Education Commission of Pakistan, and for this purpose, a plagiarism standing and review committee. The committee has been given the authority to review research papers and plagiarism complaints related to published work in the journal.

14- ALLEGATIONS OF RESEARCH MISCONDUCT

The policies of the COPE, WAME, and ICMJE serve as the foundation for the policy of research misconduct in our journal.

Before submitting, authors must carefully read the journal's author guidelines and research ethical principles and adhere to them.

While authors have the right to recommend potential reviewers for the peer-review process, all potential reviewers will have their credentials and potential conflicts of interest carefully examined before they are invited to review.

A manuscript that is undergoing peer review or a published article may be the subject of a report of research misconduct.

The application and management process for claims of author misconduct should go as follows:

14.1: An article submitted or to be published in the PMSRJ if allegedly suspected of scientific misconduct, an official complaint for the same must be received by the office of the managing editor via email, managingeditor@pmsrj.com. For instance, in case of plagiarism, the copied section should be underlined and the original and suspected sections should be explicitly pointed out. The complaint must specify the particular matter and details of the misconduct.

14.2: an investigation will be carried out by the editorial board and the corresponding author of the suspected article will be kept in contact. An explanation will be asked from the corresponding author in this respect. If the misconduct is accepted, the managing editor will take the following steps:

In the case of published articles, retraction might be considered.

In the case of unpublished articles, the review process may stop or continue depending on the changes suggested to the corresponding author.

If the corresponding author does not respond in the stipulated time or the response is unsatisfactory, the article may be declined or retracted.

14.3: Before reaching any conclusion in case of retraction of an already published article, the editorial team will be in consultation with the experts within or outside the institution.

14.4: If during the review process, suspicion of gifted authorship is identified, the editor in charge of the article may ask the corresponding/principal author about the role of the authors, and if the response is found to be unsatisfactory, the review process may stop or the article may be declined altogether.

15: APPEAL AND COMPLAINT PROCESS

The PMSRJ follows the recommendations of COPE regarding the appeal and complaint process (https://publicationethics.org/appeals) as follows:

15.1: The authors may ask the managing editor for inquiring about the status of the article through the official email of the PMSRJ managingeditor@pmsrj.com citing their official article ID.

15.2: The author may contact the managing editor for inquiring about the reason for the rejection of articles during the review process by the above email link.

15.3: Sometimes, the authors may re-upload an article as a new submission if they have modified the article as suggested by the editors

15.4: For withdrawal of an article during the review process, the corresponding author will write a request through the OJS to the relevant editor for retraction.

15.5: Reconsideration of the decision will be conducted only at the discretion of the managing and chief editors.

16- COPYRIGHT POLICY

17- DATA REPOSITORY

The real-time data backup of the whole server for the PMSRJ is created on the remote VPS (Virtual Private Server) of Khyber Medical College(KMC). Parallel mirror Imaging (PMI) is also created on the PMSRJ server.

18- JOURNAL FUNDING

We receive funding from our institute on a need basis. Another source of funding is through a research paper processing fee amounting to Rs: 4,000/-. We also receive funding through annual subscriptions by different national libraries amounting to 5000/- annual (500 US$ for overseas libraries).

19- CONTACT INFORMATION

The office of managing editor or chief editor should be contacted anytime in working hours or can be contacted through their emails for correspondence.

Email: managingeditor@pmsrj.com

REFERENCES:

ICMJE recommendations

COPE guidelines

SCOPUS

This document is prepared in September 2022 to be used by the editorial board, reviewers, researchers, and faculty as a guide to making them aware of policies and procedures of publishing, conducting, writing, reviewing, and evaluating the research published in PMSRJ. This document is developed by including the recommendations of ICMJE (2019) and COPE guidelines and in case of any conflict, lack of clarity, and ambiguity, the recommendations of the latest ICMJE recommendation and COPE will prevail.

Brain Bridge - Epilepsy Awareness Group

Ameena Aimen and Zainab Tariq

Pakistan has an alarming prevalence rate of 9.9 people per 1000 population affected with epilepsy. Furthermore, our country shares 1/10th of the world's epilepsy burden, with rural areas bearing greater prevalence burden than urban areas [1]. Despite the disease's vast permeation, most people with epilepsy (PWE) do not receive appropriate care affecting their physical and psychological well-being. Epilepsy is also related to a significant level of feeling of stigmatization, resulting in discrimination against PWE, causing them to spend much of their psychological stamina on disclosure anxiety vigilance and intensifying stressful situations [2]. Hence, there is a strong need for a collective effort in this direction, especially in our province of Khyber Pakhtunkhwa.

By setting up the Epilepsy Group at Khyber Medical College, we aim to form a network of experts in the fields of neurology, psychiatry, internal medicine, public health and passionate students to create the capacity for effective and open dialogue on epilepsy through education and awareness programs, providing patient support, fundraising, and research to improve the quality of life for PWE.

VISION

Our vision is to be the premier organization in Khyber Pakhtunkhwa that leads the way in education and awareness, ensuring that people with epilepsy have access to state-of-the-art treatment and support, feel safe, and are considered valued members of society.

MISSION

Our mission is to bring together members of the public, students, and professionals from the fields of neurology, psychiatry, internal medicine and public-health to collectively form a network that harnesses their expertise, knowledge, and experiences in promulgating research, access to treatment, awareness, and support for people with epilepsy.

VALUES

EXCELLENCE - PERSERVERANCE - KNOWLEGDE - INNOVATION - ENTHUSIASM

OBJECTIVES

REDUCE THE TREATMENT GAP

PROVIDE SUPPORT TO PATIENTS

SILENCE THE STIGMA

CONDUCT RESEARCH

1 EDUCATE

Conduct seminars and webinars by neurologists, epileptologists, internists, Islamic scholars and psychiatrists

Translate pamphlets for seizure first aid with instructions in Urdu and Pashto

Install epilepsy awareness and support counters in KTH

2 SUPPORT

Create and distribute seizure action plans

Hold career counselling sessions for people with epilepsy

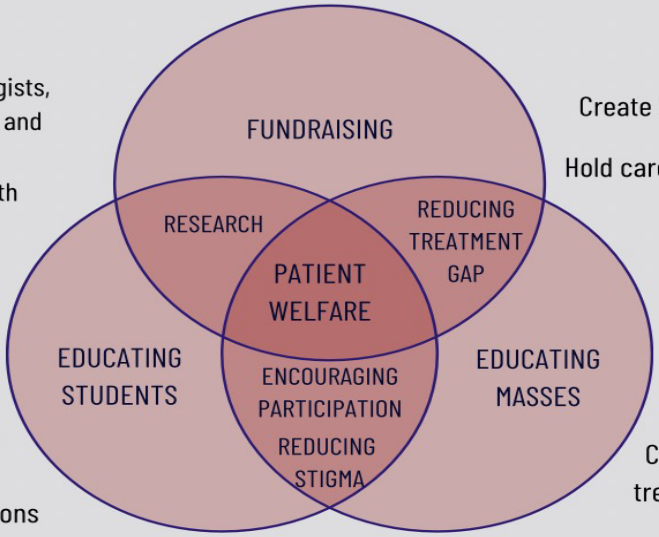
Invite patients to seminars and workshops targeting epilepsy management and stigma

3 GROW COVERAGE

Use electronic media to raise awareness on epilepsy, its challenges and comorbid conditions

4 FUNDRAISE

Collect funds to invest in treatment and research on epilepsy



References:
1. Khatri IA, Iannaccone ST, Ilyas MS, Abdullah M, Saleem S. Epidemiology of epilepsy in Pakistan: review of literature. J Pak Med Assoc. 2003 Dec;53(12):594-7. PMID: 14765939.
2. Malik NI, Fatima R, Ullah I, Atta M, Awan A, Nashwan AJ, Ahmed S. Perceived stigma, discrimination and psychological problems among patients with epilepsy. Front Psychiatry. 2022 Nov 9;13:1000870. doi: 10.3389/fpsyt.2022.1000870. PMID: 36440406; PMCID: PMC9681901.

Khyber Medical College Peshawar Pakistan