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Knowledge, Attitudes and Perception of Some Selected Communities in Kaduna State towards Emerging Viral Zoonoses

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ABSTRACT

A cross-sectional study was conducted at Sabon-Birni and its sub-communities in Igabi Local Government area of Kaduna state to assess the knowledge, attitudes and perception of the communities. A total of 397 randomly selected participants had consented to participate in the study where they were given the translated semi-structured questionnaire orally of which they responded voluntarily. Of the total respondents, 84.4% said that they have heard of Avian Influenza of which only 14.3% of them believed that Avian influenza is a viral and also a zoonotic disease; 24.2% have heard of Monkeypox before in which 30.2% of them believed that is a viral and also a zoonotic disease; all 100% of the respondents have heard of Covid-19 before in which only 35.3% believed that it is a viral and also a zoonotic disease; 94.5% have heard of Yellow fever where 35.5% of them believed that it is a viral and also a zoonotic disease. Also, 72.8% have heard of Lassa haemorrhagic fever before in which 61.2% of them believed that is a viral and also a disease of animal origin. On the other hand, 91.3% of those who have knowledge of Human Influenza perceived the infection as an illness of the nose, a Chi square test was done and P-value of $<.0001$ was calculated. 38.5% of those who have knowledge of Monkey pox perceived it as an infection that causes swollen of lymph nodes, P-value is .74. Again, 41.1% of respondents that have knowledge of Covid-19 perceived the infection as a disease of respiratory system, P-value is $<.0007$; while 51.6% of the participants that are knowledgeable about Lassa haemorrhagic fever perceived it as an haemorrhagic disease and can kill the host within 14 days of clinical manifestation, the P-value is .0005. This study reported that 72% of the entire respondents were making contact with Bats of which 79.4% of them were making contact with Bats droppings. Also, 73% of the entire participants were making contact with Rodents where 33.4% of them were catching and using the rodents as source of protein. This study also looked at whether there is significance relationship between educational status of the participants and their attitudes that may favor transmission of zoonotic viruses to humans. A Chi square test was performed to examine the relationship between educational status and making proper personal hygiene after unusual contact with wild animals of which was significant, $\chi^2 (1, N=397) = 97.37, P<.05$. There is relationship between educational status of the communities and personal hygiene after making contact with wild animals. There is also no significant association ($P>0.05$) between educational status of the respondents and the forms of contact they were making with wild animals. Therefore, the role of education of the respondents on their attitude towards emerging zoonotic viral diseases transmission prevention, was found to be statistically insignificant; and it is recommended that creation of awareness and training programs against transmission of emerging viral zoonoses, and also on prevention and control of the diseases in these communities; especially targeting people with non-formal education, farmers, fishermen and hunters.

Keywords: Attitudes, Communities, Cross-sectional survey, Emerging viral zoonoses, Knowledge

1. INTRODUCTION

Vertebrate Animals have been an important source of infectious diseases transmissible to humans throughout the history of mankind (Bidaisee, 2013; Cramer, 2014), many of these diseases are caused by viruses and they are referred to as viral zoonoses (Bauerfeind, 2016; Walker et al., 2018). Emerging viral zoonoses are diseases caused by different viruses and many different modes of transmissions from animals to humans (Bidaisee, 2013), they are grouped based on the type of infections produced by them in natural hosts; that is encephalitis/haemorrhagic or local lesions like rash

and arthralgia. The transmission of emerging viral zoonoses sometimes involves arthropods vectors like mosquitoes or ticks and or in direct contact with the infected wild animals (Savic et al., 2014). The four major groups of animals that are possibly transmitting these emerging viral zoonotic infections involves rodents, water/wild/migratory birds, bats and non-human primates (Yashpal, 2020). Some of these diseases are endemic in Africa especially Nigeria, they includes Monkeypox, Lassa haemorrhagic fever, Ebola haemorrhagic fever, severe acute respiratory syndrome and Marburg haemorrhagic fever. Knowledge about emerging viral zoonoses remains low in sub-urban or rural communities in Nigeria especially in its northern parts (Yashpal, 2020). Due to tremendous impact of viruses on shaping the evolution of human, results from their capabilities to hijack energy generating and protein synthesizing machineries of host cells (Wohl & Wu K, 2016), and also to be reasserted and recombined during replication and then to spillover to other species, diseases causes by viruses through animals are posing great challenges on public health and biodefence (Suu-Ire et al., 2021).

Northern Nigeria is highly dependent on its animal population for transport, draught power, fuel, clothing, and protein (meat, eggs, and milk) due to the harsh climate (Walker et al., 2018; Bauerfeind, 2016). Viruses have the capacity to move from ill animals to humans, resulting in the establishment of viral zoonoses; without adequate precautions, this connection poses a huge risk to public health with enormous economic implications (Katze., 2016; Dawit et al., 2013). Direct contact with the animal, vectors (such as fleas or ticks), or contaminated inanimate objects are all potential routes of transmission for zoonotic viruses (Dhiman, 2014).

Different studies conducted so far on animals from different places in Nigeria indicated the occurrence of emerging viral zoonotic diseases. For example, (Anjorin et al, 2017) reported influenza A virus of 1.3% in pigs and 0.005% in pig-handlers. Nigeria Centre for Disease Control, on its weekly epidemiological report volume 12 No.19 1st June, 2021; reported six (6) laboratory confirmed monkeypox cases in 2021, thirteen (13) confirmed cases of yellow fever, two hundred and seventy three (273) laboratory confirmed cases of lassa fever and two thousand and seventy one (2071) Covid-19 laboratory confirmed cases.

Like other portions of the sphere, occurrence of viral zoonoses in sub-urban and rural areas are influences by many drivers including ecological changes, global warming and climate change, human demographic changes, human behavioral changes, microbial evolution and adaptation, and public health deficiencies (Yashpal, 2020; Cramer et al., 2014).

Majority of the zoonotic viruses are not DNA but RNA viruses (Dhanasekaran et al., 2015; Bauerfeind, 2016), because during infections the latter does not have proofreading mechanism that would help them to correctly assemble the replicated viral particles; this results to generation of different types of variants of viruses during viral replication (Dhanasekaran et al., 2015). This allows them to spread to additional hosts and adapt to a new environment when they come into contact, leading to a newly developing viral disease; SARS-CoV is a prime example of this process. The public's attention is drawn to the emergence of viral zoonoses, which revitalizes the public health infectious disease research municipal. However, this concern has also led to competition for finance and turf wars between animal health and public health researchers and public officials, which has, in some cases, slowed and delayed progress toward effective prevention, control, and biodefence (Braks et al., 2014).

For instance, the Rift Valley fever virus is a mosquito-borne causative agent of both a febrile illness with hepatitis and hemorrhagic fever in humans and a classic disease in sheep (Braks et al., 2014). It is the origin of one of the most severe zoonotic disease epidemics in Africa (Savic et al., 2014).

Although it is still unknown what natural fruit bat reservoirs the Ebola and Marburg viruses have, which are the most poisonous hemorrhagic fevers, they are zoonotic (Walker et al., 2018). In central Africa, particularly Ghana in 2022, these viruses were to blame for a number of recent and significant outbreaks of Ebola and Marburg hemorrhagic fevers (Cramer and colleagues, 2014).

Although it is extremely doubtful that there will be any means to foresee when or where the next significant new zoonotic viruses will emerge, and although it is also highly unlikely that there will be any way to forecast a new pathogen's eventual importance from its early activity, In order to successfully prevent and control viral zoonoses, cultures and societies that domesticated and bred animals for food and clothing must understand Agent-Host-Environment equilibrium; because viral zoonoses emerge, there is a greater risk that too many epidemiologists will be sitting at their computers instead of being in the field investigating early events that drive prevention and control actions (Braks et al., 2014; Bauerfeind, 2016).

2. MATERIALS AND METHODS

2.1. Description of the Study Area

Study was conducted in Sabon-Birni and four (4) sub-villages involving Kitukuri, Kawara, Baka and Risani, all from Igabi Local Government area of Kaduna State. Sabon-Birni is found at an elevation 591 meters (1939 feet) above sea level in between 10o 48'44" N and 7o 18'8" E. In the summer, between June and September, it receives the bulk of

its rainfall, while the winters are relatively dry (December to March). There is a distance of 30 kilometers to Rigachikun Kaduna and 18 kilometers to the Kaduna International Airport.

Sabon-Birni bordered with meandering river in the west which flows throughout the year, bordered to Rikau forest reserve in the north and also border to forest in both east and south, bordered to Rigachikun -to-Dogon Dawa Road at East and North as presented in figure 1.



Figure 1: Map of Sabon Birni showing its borders with river, road and forest. <https://mapcarta.com/16994052>

2.2. Ethical approval

Interview of human beings on the knowledge, attitudes and perception of some selected community of Kaduna state towards viral zoonoses were made in this study. Thus, an introductory letter was obtained from Kaduna Study Center, National Open University of Nigeria and submitted to Head of Village, Sabon-Birni. Informed consent was obtained from the participants. Post interview and advice on safer interactions between domestic animals, wildlife and humans were introduced to participants.

2.3. Study Population

The study was conducted in villages of Kitukuri, Risani, Baka, Kawara and Sabon-Birni. The study covered farmers, hunters, fishermen, drivers, students, male and female who resided in the areas over the past 10 years, involving individuals from age 20 to 70 years both males and females. At Sabon-Birni, there are Silk cotton trees inside a weekly local market where species of egrets (Gray Heron & Cattle egrets) live and having nests on the trees; also Straw-colored fruit Bats are staying there from morning to evening time during dry season and going out for fruits in the night.

2.4. Study Design

A cross-sectional study method was used in August to September 2022 to assess the knowledge, attitudes and perceptions of five selected communities in Kaduna State towards emerging viral zoonoses. This is a type of research design in which data can be collected from many different individuals at a single point in time, the variables are observed without influencing them; this method is preferred because there is no need to manipulate data in the study that was conducted. This study was carried out at Sabon-Birni and its sub-communities in Igabi Local Government area of Kaduna State. It involved all the individuals that were randomly selected from the communities.

2.5. Sample Size Determination

Based on the hypothesis that half of the population has some level of familiarity with and a negative outlook on emerging viral zoonotic diseases, the necessary sample size was calculated. Because the population size of the selected communities is unknown, the sample size was determined by considering the work of (Vetsi *et al.*, 2021) and used the formula given by Cochran: $no = Z^2pq/e^2$ to determine the sample size for the study, we chose 95% confidence interval, $p = 0.5$, $e = 0.05$ margin of error, and Z value = 1.96

We arrived at 384.16, rounded to 385. Three percent 3% was added to increase precision, the final samples was 397 individuals.

2.6. Study Instrument

A survey Questionnaire partly adapted from similar study conducted by other researcher (Tenzin *et al.*, 2012) was used for this study, each questionnaire consisting closed and few open questions; it consisted of four parts, First part obtained data on socio-demographic characteristics of the participants (Gender, Age group, educational status, marital status, religion, ethnicity and occupation) the second part obtained data on the contacts and forms of contacts between wild animals the respondents, while the third part obtained data on proper personal hygiene after making a contact

with wild animals, reporting to health care sector after unusual contact, and also reporting to health care sector due to unusual experience after making a contact. The fourth part obtained data on knowledge and perceptions (being heard of the disease before, aware of it as viral infection, aware of it as zoonotic disease, and perception of the disease clinical signs) of participants on five selected viral zoonoses i.e. Avian Influenza, Monkeypox, Covid-19, Yellow Fever and Lassa fever.

2.7. Adaptation of the Instrument

The questionnaire was adapted to contain all wild animals that can presently be found in the study areas and are likely associated with viruses, the questionnaire items were also adapted to suite the local context and translated to local language. The questionnaire was divided into three section, First section contain socio-demographic data, second section contain data on attitudes of the population towards zoonotic viral diseases and third section contain data on Knowledge and perception some emerging viral zoonoses.

2.8. Face Validation of the questionnaire (Validity test)

Prior to administer the questionnaire, two doctors were given the questionnaire, the questionnaire was self-administered. Clarity of the content, language and wording used and also the general structure of the questionnaire were taken. Result were discussed among the stakeholders, minor corrections and fine tuning of the questionnaire were address according to their comments and suggestions.

2.9. Reliability Test of the Questionnaire

This was performed first prior to start the real study, a questionnaire containing three parts were sent to thirteen respondents. Contact with wild animals contained eight (8) questions ($\alpha=0.93$), attitudes towards emerging viral zoonoses contained three (3) questions ($\alpha=0.89$), and knowledge regarding some viral zoonoses contained twenty six (19) questions ($\alpha=0.91$), the overall questions were 30 in numbers ($\alpha=0.96$). This result was good $>.6$, and and it was concluded that all items in our survey were internally consistent and reliable to assess the knowledge, attitude and perception of some selected communities in Kaduna state. This calculation was carried out using Wessa P. (2021), Cronbach alpha (v1.0.6) in Free Statistics Software (v1.2.1), Office for Research Development and Education, URL https://www.wessa.net/rwasp_cronbach.wasp

2.10. Sampling Technique

The questionnaire were first developed in English, based on the work of (Hiko et al., 2018), and then translated in to the local language (Hausa language) for appropriateness and easiness in approaching the study participants. By considering the work of Usuwa et al., 2020, four trained under graduates that have knowledgeable about the study areas help in administering the questionnaire by interviewing individuals.

2.11. Method of Data collection

By considering the work of Fesseha *et al.* 2020, A questionnaire was distributed at each of the five sites to individuals who met the inclusion criteria (availability, informed consent, and willingness to participate). Each respondent was interviewed for a mean of 10 minutes. Participants' age, gender, marital status, ethnicity, education level, and occupation, as well as their level of knowledge about and perspective on viral zoonoses, can be gauged through the survey's questions.

2.12. Method of Data Analysis

The data was collected, coded and entered into a spread Excel 2013 spreadsheet application program, Vassar stats and Quantpsy; Percentages were also calculated. Multivariate analyses were performed using Chi square (χ^2) test to compare responses to questions related to the knowledge, attitudes and perception of emerging viral zoonoses from the respondents of Sabon-Birni and the sub-communities in Igabi L.G.A of Kaduna State. Results were considered statistically significant if they had a 95% confidence interval (CI) and a p-value (probability value) of less than 0.05.

3.0. RESULTS

3.1. Socio-demographic status of Participants

A total of 397 respondents were involved in this study, comprising few number (15.6%) of women and more (84.4%) of men. Only 5.3% of the participants have gone tertiary institutions while 20.4% have only gone for non-formal education. About 33.8% were between the ages of 20-29 years while 5.8% were between 60-69 years. All the respondents were reported to be Muslims (100%) of which 99.5% were Hausa speakers and 0.5% were Fulani tribes. Also, 69.8% of the respondents were farmers, 7.1% fishermen followed by 6.1% of the participants as hunters. Farmers composes 69.8% of the participants followed by students with 11.2%. As shown in Figure 2 and 3, and Table 1.

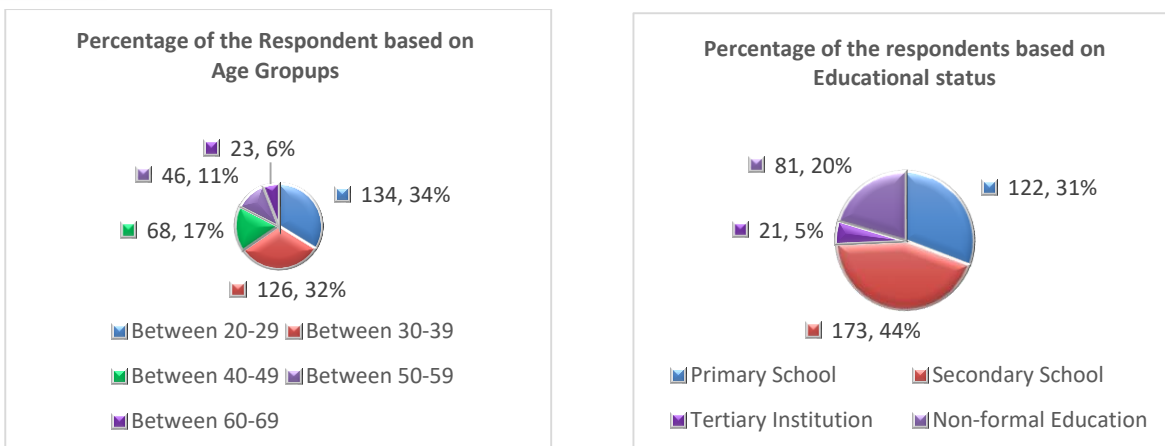


Figure 2: Pie Chart showing Age groups and educational status of the studied communities of Sabon-Birni, Igabi Local Government area of Kaduna State

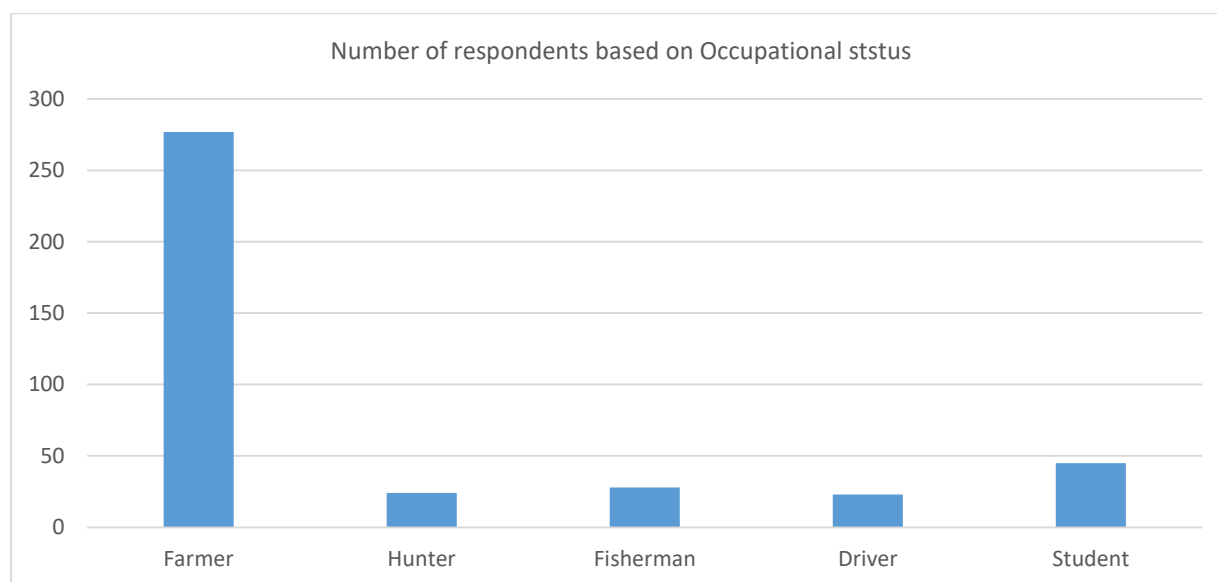


Figure 3: Chart showing the distributions of the respondents based on occupational status

3.2. Knowledge of the communities on five categories of viral zoonoses

Majority (84.4%) of the participants have heard of Avian Influenza of which small portion (20.2%) of the communities were knowledgeable of Avian Influenza as a viral infection, while few (14.3%) of them were aware that it is a viral zoonotic infection transmitted from wild/water birds to humans. But, haven't heard of monkeypox is in the minority (24.2%) of people in the communities and 30.2% of those who have heard about the disease believed that it is a viral disease and can be transmitted from rodents to human. Similarly, Lassa haemorrhagic fever is heard about by 72.8% of the respondents, among them, 61% believed that it is a viral and also zoonotic disease of public health importance as presented in Table 2.

Table 1: Socio-demographic characteristics of the participants in the study area

Variables		Frequencies	Percentages (%)
Sex	Male	335	84.4
	Female	62	15.6
Age groups	Between 20-29	134	33.8
	Between 30-39	126	31.7
	Between 40-49	68	17.1
	Between 50-59	46	11.6

	Between 60-69	23	5.9
Marital Status	Single	108	27.2
	Married	289	72.8
Educational Status	Primary School	122	30.7
	Secondary School	173	43.6
	Tertiary Institution	21	5.3
	Non-formal Education	81	20.4
Occupation	Farmer	277	69.8
	Hunter	24	6.1
	Fisherman	28	7.1
	Driver	23	5.8
	Student	45	11.3
Religion	Muslim	397	100
Ethnicity	Hausa	395	99.5
	Fulani	2	.5

Table 2: Knowledge and perception of the communities on some categories of viral zoonotic diseases

Viruses	Viral Zoonoses categories	No. (%) of people heard about it (N=397)	No. (%) Believed that it is a Viral & Zoonotic disease
Influenza Virus	Avian Influenza	335 (84.4)	48 (14.3)
Monkeypox Virus	Monkeypox	96 (24.2)	29 (30.2)
SARS-CoV-2	Covid-19	397 (100)	140 (35.3)
Yellow Fever Virus	Jaundice	375 (94.5)	140 (35.4)
Lassa Fever Virus	Lassa Haemorrhagic Fever	289 (72.8)	177 (61.2)

3.3 Perception of the Communities on the selected viral zoonoses based on educational status of the participants

The report from Table 3 indicated that perception of Avian Influenza was higher with about 40% among those who have attended secondary school than that of the remaining educational levels, while the knowledge of Influenza is higher (35.4%) among the participants that goes to tertiary institutions, it is lower (10.4%) in the respondents that went for non-formal education; this shows that there is significance association $p < 0.05$ between educational status of the participants and the way they perceived avian influenza as one of the emerging viral zoonoses. Apparently, monkeypox was perceived higher with about 42% and also known more 34.5% in respondents that have attended tertiary institutions than other educational levels. However, there is no significance association between educational status of the participants and their knowledge and perceptions towards monkeypox, covid-19 and yellow fever; but it existed in between perception and knowledge of lassa haemorrhagic fever and educational levels of the respondents.

Table 3: Perceptions of the communities regarding some emerging viral zoonotic diseases with respect to their educational status

Name of Diseases	Perception on the selected zoonotic viral diseases	Non-formal education N (%)	Primary School N (%)	Secondary School N (%)	Tertiary Institution N (%)	Total (%)
Avian Influenza	Believed to be transmitted from wild/water Birds to Humans	5 (10.4)	12 (25.0)	14 (29.2)	17 (35.4)	48 (14.3)
	It is an illness of the nose, does not affect other systems of the body	57 (18.6)	109 (35.6)	124 (40.5)	16 (5.2)	306 (91.3)

Monkeypox	Believed that it can be transmitted from Rodents to human	5 (17.2)	6 (20.7)	7 (24.1)	10 (34.5)	28 (29.2)
	It causes swollen of Lymph nodes which differentiate it from smallpox	7 (21.2)	8 (24.2)	8 (24.2)	14 (42.4)	37 (38.5)
Covid-19	Believed that it can be transmitted from Bats to Humans	28 (20.0)	47 (33.6)	51 (36.4)	14 (10.0)	140 (35.3)
	It is a Disease of Respiratory systems	7 (4.3)	62 (38)	84 (52)	10 (6.1)	163 (41.1)
Yellow Fever	Believed that it can be transmitted from Monkeys to Human through Mosquitoes bites	28 (20.0)	47 (33.6)	51 (36.4)	14 (10.0)	140 (37.3)
	It is called Jaundice and if in severe, the patient may die in 10 days	21 (13.1)	61 (38.1)	59 (36.9)	19 (11.9)	160 (42.7)
Lassa Haemorrhagic Fever	Believed that it can be transmitted from Rodents	22 (12.4)	67 (37.9)	71 (40.1)	17 (9.6)	177 (61.2)
	It is haemorrhagic and can kill within 14 days	5 (3.4)	77 (51.7)	52 (34.9)	15 (10.1)	149 (51.6)

Hypothesis on the association between educational status of the communities and the way they perceived the selected viral zoonoses

There is likely a significant association $P < 0.05$ between educational status of the participants and the way they perceived Avian influenza and Lassa haemorrhagic fever as zoonotic viral infections; therefore, null hypothesis is rejected. However, there is no significant association $P > 0.05$ between their educational status and the way they perceived Yellow fever, Monkeypox and Covid-19 as viral zoonoses.

Name of Diseases	Perception on the selected zoonotic viral diseases	Non-formal education N (%)	Primary School N (%)	Secondary School N (%)	Tertiary Institution N (%)	Chi Square (χ^2)	P-value
Avian Influenza	Believed to be transmitted from wild/water Birds to Humans	5 (10.4)	12 (25.0)	14 (29.2)	17 (35.4)	44.9	<.0001
	It is an illness of the nose, does not affect other systems of the body	57 (18.6)	109 (35.6)	124 (40.5)	16 (5.2)		
Monkeypox	Believed that it can be transmitted from Rodents to human	5 (17.2)	6 (20.7)	7 (24.1)	10 (34.5)	0.11	.74.
	It causes swollen of Lymph nodes which	7 (21.2)	8 (24.2)	8 (24.2)	14 (42.4)		

	differentiate it from smallpox						
Covid-19	Believed that it can be transmitted from Bats to Humans	28 (20.0)	47 (33.6)	51 (36.4)	14 (10.0)	21.8	<.0007
	It is a Disease of Respiratory systems	7 (4.3)	62 (38)	84 (52)	10 (6.1)		
Yellow Fever	Believed that it can be transmitted from Monkeys to Human through Mosquitoes bites	28 (20.0)	47 (33.6)	51 (36.4)	14 (10.0)	2.83	.09
	It is called Jaundice and if in severe, the patient may die in 10 days	21 (13.1)	61 (38.1)	59 (36.9)	19 (11.9)		
Lassa Haemorrhagic Fever	Believed that it can be transmitted from Rodents	22 (12.4)	67 (37.9)	71 (40.1)	17 (9.6)	12.14	.0005
	It is haemorrhagic and can kill within 14 days	5 (3.4)	77 (51.7)	52 (34.9)	15 (10.1)		

3.4. Forms of contact that exists between wild animals and the people of entire communities that may favor the transmission of zoonotic viruses

Table 4 shows the form of contact that exists between the entire communities and wild animals that may favor the transmission of zoonotic viruses from wild animals to humans; the table shows that 68.3% of the participants were making contact with wild/water Birds, 72% were making contact with Bats, 73% were making contact with Rodents while 12.1% makes contact with Monkeys. This indicated that they were positively pushing themselves to the brink of viral spillover.

Table 4: Form of contact that exists between wild animals and the communities

Contact with Wild animals	Responses	Non-formal education	Primary School	Secondary School	Tertiary Institution	Total (%)
Making contact with Bats	YES	71 (24.)	99 (34.6)	103 (36.0)	13 (4.5)	286 (72)
	NO	10 (9.0)	23 (20.7)	70 (63.1)	8 (7.2)	111 (28)
Making contact with Wild/water Birds	YES	67 (24.7)	93 (34.3)	99 (36.5)	12 (4.4)	271 (68.3)
	NO	14 (11.1)	29 (23.0)	74 (58.7)	9 (7.1)	126 (31.7)
Making contact with Rodents	YES	73 (25.2)	97 (33.4)	108 (37.2)	12 (4.1)	290 (73)
	NO	8 (7.5)	25 (23.4)	65 (60.7)	9 (8.4)	107 (27)
Making contact with Monkeys	YES	6 (12.5)	21 (43.8)	19 (39.6)	2 (4.2)	48 (12)

		NO	75 (21.5)	101 (28.9)	154 (44.1)	19 (5.4)	349 (88)
If yes, Form of contact	With wild or water Birds	To catch as source of Protein	23 (31.1)	19 (25.7)	21 (28.4)	11 (14.9)	74 (27.3)
		Eats fruits that was eaten by Birds	39 (40.2)	27 (27.8)	29 (29.9)	2 (2.1)	97 (35.8)
		Eats corn that was eaten by Birds	43 (43.0)	27 (27.0)	23 (23.0)	7 (7.0)	100 (36.9)
	Contact with Bats	To kill the Bats	3 (21.4)	5 (35.7)	3 (21.4)	3 (21.4)	14 (4.9)
		Bats Droppings	83 (36.6)	61 (26.9)	47 (20.7)	36 (15.9)	227 (79.4)
		Eat fruits that was eaten by Bats	19 (42.2)	12 (26.7)	11 (24.4)	3 (6.7)	45 (15.7)
	Contact with Rodents	To catch as source of protein	39 (40.2)	25 (25.8)	22 (22.7)	11 (11.3)	97 (33.4)
		Benn bitten by a mouse	57 (47.5)	29 (24.2)	23 (19.2)	11 (9.2)	120 (41.4)
		Throwing away a dead mouse	23 (31.5)	24 (32.9)	19 (26.0)	7 (9.6)	73 (25.2)
	Contact with Monkeys	To catch and sell them	7 (14.6)	6 (12.5)	5 (10.4)	4 (8.3)	22 (45.8)
To kill monkeys for spoiling of our crops		9 (18.8)	7 (14.6)	6 (12.5)	4 (8.3)	26 (54.2)	

Hypothesis test on the relationship between educational status of the communities and the form of contact that exists between wild animals and the communities

Table 5, the hypothesis tested: the table shows that there is no significance association $P < .05$ between educational status of the communities and the contacts that exists between wild animals and the people of the communities, hence null hypotheses is accepted. However, there is significance association $P > .05$ between educational status of the communities and contact with monkeys and forms of contact with other types of wild animals.

Table 5: Hypothesis test on the relationship between educational status of the communities and the form of contact that exists between wild animals and the communities

Contact with Wild animals		Responses	Non-formal education	Primary School	Secondary School	Tertiary Institution	Chi square (χ^2)	P-value
Making contact with Bats	YES	71 (24.)	99 (34.6)	103 (36.0)	13 (4.5)	29.32	<.0001	
	NO	10 (9.0)	23 (20.7)	70 (63.1)	8 (7.2)			
Making contact with Wild/water Birds	YES	67 (24.7)	93 (34.3)	99 (36.5)	12 (4.4)	22.31	<.0001	
	NO	14 (11.1)	29 (23.0)	74 (58.7)	9 (7.1)			
Making contact with Rodents	YES	73 (25.2)	97 (33.4)	108 (37.2)	12 (4.1)	27.19	<.0001	
	NO	8 (7.5)	25 (23.4)	65 (60.7)	9 (8.4)			
Making contact with Monkeys	YES	6 (12.5)	21 (43.8)	19 (39.6)	2 (4.2)	5.01	.03	
	NO	75 (21.5)	101 (28.9)	154 (44.1)	19 (5.4)			
If yes, Form of contact	With wild or water Birds	To catch as source of Protein	23 (31.1)	19 (25.7)	21 (28.4)	11 (14.9)	12.02	.0005
		Eats fruits that was eaten by Birds	39 (40.2)	27 (27.8)	29 (29.9)	2 (2.1)		

		Eats corn that was eaten by Birds	43 (43.0)	27 (27.0)	23 (23.0)	7 (7.0)		
Contact with Bats		To kill the Bats	3 (21.4)	5 (35.7)	3 (21.4)	3 (21.4)	4.51	.03
		Bats Droppings	83 (36.6)	61 (26.9)	47 (20.7)	36 (15.9)		
		Eat fruits that was eaten by Bats	19 (42.2)	12 (26.7)	11 (24.4)	3 (6.7)		
Contact with Rodents		To catch as source of protein	39 (40.2)	25 (25.8)	22 (22.7)	11 (11.3)	5.46	.02
		Benn bitten by a mouse	57 (47.5)	29 (24.2)	23 (19.2)	11 (9.2)		
		Throwing away a dead mouse	23 (31.5)	24 (32.9)	19 (26.0)	7 (9.6)		
Contact with Monkeys		To catch and sell them	7 (14.6)	6 (12.5)	5 (10.4)	4 (8.3)	0.09	.76
		To kill monkeys for spoiling of our crops	9 (18.8)	7 (14.6)	6 (12.5)	4 (8.3)		

3.5. Attitude of the communities that favor the transmission of zoonotic viruses from wild animals to humans

Table 5, shows attitude of the communities that favor transmission of zoonotic viruses from wild animals to humans. Majority of the respondents (68.3%) said that there is no need to take any proper personal hygiene after making contact with wild animals, highest proportion 71.3% of the respondents preferred not report to health sector after unusual contact to wild animals, and also 63.7% of the respondents said that they would not report to health care even after unusual experience due to contact to different wild animals. Based on occupational status of the participants, farmers has the higher portion of the participants of which 181 (65.3%) preferred not to report to health care sector unusual experience that results after making contact with wild animals. These attitudes can pull the entire communities to brink of viral spillover to humans, for instance, farmers are the producers of foodstuff if they carry infectious diseases they would spread them to entire population.

Table 5: Attitude of the communities that favor the transmission of zoonotic viruses from wild animals to humans

		Occupation				Student	Total (%)
		Farmers	Hunters	Fisherman	Driver		
Questions	Responses	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	
Taking proper personal hygiene after a contact with wildlife	YES	88 (31.8)	5 (20.8)	9 (32.1)	7 (30.4)	17 (37.8)	126 (31.7)
	NO	189 (68.2)	19 (79.2)	19 (67.9)	16 (69.6)	28 (62.2)	271 (68.3)
Reporting to health sector about a contact with wild animals	YES	85 (30.7)	4 (16.7)	6 (21.4)	6 (26.1)	13 (28.9)	114 (28.7)
	NO	192 (69.3)	20 (83.3)	22 (78.6)	17 (73.9)	32 (71.1)	283 (71.3)
Reporting to health care sector after unusual experience due to contact	YES	96 (34.7)	8 (33.3)	12 (42.9)	10 (43.5)	18 (40)	144 (36.3)
	NO	181 (65.3)	16 (66.7)	16 (57.1)	13 (56.5)	27 (60)	253 (63.7)

The association between occupational status of the communities and their attitudes that may favor transmission of zoonotic viruses from wildlife to humans

Table 6: A chi square test shows that the relationship between occupational status of the communities and their attitudes that may favor transmission of zoonotic viruses were insignificant $P>0.05$.

		Occupation					Total	Chi Square (X ²)	P-Value
		Farmers	Hunters	Fisherman	Driver	Student			
Questions	Responses	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)			
Taking proper personal hygiene after a contact with wildlife	YES	88 (31.8)	5 (20.8)	9 (32.1)	7 (30.4)	17 (37.8)	397	2.1	.13
	NO	189 (68.2)	19 (79.2)	19 (67.9)	16 (69.6)	28 (62.2)			
Reporting to health sector about a contact with wild animals	YES	85 (30.7)	4 (16.7)	6 (21.4)	6 (26.1)	13 (28.9)	397	2.94	.09
	NO	192 (69.3)	20 (83.3)	22 (78.6)	17 (73.9)	32 (71.1)			
Reporting to health care sector after unusual experience due to contact	YES	96 (34.7)	8 (33.3)	12 (42.9)	10 (43.5)	18 (40)	397	1.71	.19
	NO	181 (65.3)	16 (66.7)	16 (57.1)	13 (56.5)	27 (60)			

3.6. Relationship between attitudes of the communities towards emerging viral zoonoses and their educational status

The attitude of the participants towards emerging viral zoonotic diseases through different forms of contacts with wild animals with regard to their educational level was assessed and the study revealed that a statistically significant differences ($P<0.05$) were encountered. Of those who can have proper personal hygiene after making contacts with wild animals, about 15.2% of them have attended tertiary institutions while those with negative perception regarding personal hygiene after a contact were respondents with non-formal education that constituted about 26.4% of the participants. Those that have positive perception of health care intervention after making a contact with wild animals and also haven unusual experiences comprises about 14.0% of participants that goes through tertiary institutions, on the side of negative perception towards health intervention after unusual experience, about 27.6% of them were the ones with non-formal education. In addition, the study revealed that those with non-formal education had a greater propensity to be exposed to emerging viral zoonotics, with 42.2% of respondents having been exposed to emerging viral zoonotics through eating fruits that were previously consumed by bats, 43.0% having consumed corn that had been consumed by a green parrot, and 47.5% having been bitten by a mouse while sleeping. The likelihood of zoonotic viruses infecting human hosts was greater among those with less formal education ($P0.05$) compared to those who

have attended tertiary institutions. However, there was no significant correlation ($P > 0.05$) between the various forms of contact with wild animals that may result in the transmission of zoonotic viruses from wild animals to humans and the respondents' level of education. As shown in Table 7.

Table 7: Relationship between attitudes of the communities towards emerging viral zoonoses and their educational status

Variables		Responses	Non-formal education N (%)	Primary School N (%)	Secondary school N (%)	Tertiary institution N (%)	Chi square (X^2)	P-value
Proper Personal Hygiene after making contact with animals	YES		9 (7.2)	13 (10.4)	84 (67.2)	19 (15.2)	97.37	<.0001
	NO		72 (26.4)	109 (40.1)	89 (32.7)	2 (1.0)		
Report to health care sector after making contact with wild animals	YES		3 (2.6)	25 (21.9)	69 (60.5)	17 (14.9)	67.32	<.0001
	NO		78 (27.6)	97 (34.3)	104 (36.7)	4 (1.4)		
Report unusual experience to health care sector after making contact with wild animals	YES		11 (7.7)	25 (17.5)	87 (60.8)	20 (14.0)	77.7	<.0001
	NO		70 (27.6)	97 (38.2)	86 (33.9)	1 (0.4)		
Making contact with Bats	YES		71 (24.)	99 (34.6)	103 (36.0)	13 (4.5)	29.32	<.0001
	NO		10 (9.0)	23 (20.7)	70 (63.1)	8 (7.2)		
Making contact with Wild/water Birds	YES		67 (24.7)	93 (34.3)	99 (36.5)	12 (4.4)	22.31	<.0001
	NO		14 (11.1)	29 (23.0)	74 (58.7)	9 (7.1)		
Making contact with Rodents	YES		73 (25.2)	97 (33.4)	108 (37.2)	12 (4.1)	27.19	<.0001
	NO		8 (7.5)	25 (23.4)	65 (60.7)	9 (8.4)		
Making contact with Monkeys	YES		6 (12.5)	21 (43.8)	19 (39.6)	2 (4.2)	5.01	.03
	NO		75 (21.5)	101 (28.9)	154 (44.1)	19 (5.4)		
If yes, Form of contact	With wild or water Birds	To catch as source of Protein	23 (31.1)	19 (25.7)	21 (28.4)	11 (14.9)	12.02	.0005
		Eats fruits that was eaten by Birds	39 (40.2)	27 (27.8)	29 (29.9)	2 (2.1)		
		Eats corn that was eaten by Birds	43 (43.0)	27 (27.0)	23 (23.0)	7 (7.0)		
	Contact with Bats	To kill the Bats	3 (21.4)	5 (35.7)	3 (21.4)	3 (21.4)	4.51	.03
		Bats Droppings	83 (36.6)	61 (26.9)	47 (20.7)	36 (15.9)		
		Eat fruits that was eaten by Bats	19 (42.2)	12 (26.7)	11 (24.4)	3 (6.7)		
	Contact with Rodents	To catch as source of protein	39 (40.2)	25 (25.8)	22 (22.7)	11 (11.3)	5.46	.02

		Benn bitten by a mouse	57 (47.5)	29 (24.2)	23 (19.2)	11 (9.2)		
		Throwing away a dead mouse	23 (31.5)	24 (32.9)	19 (26.0)	7 (9.6)		
	Contact with Monkeys	To catch and sell them	7 (14.6)	6 (12.5)	5 (10.4)	4 (8.3)	0.09	.76
		To kill monkeys for spoiling of our crops	9 (18.8)	7 (14.6)	6 (12.5)	4 (8.3)		

4. DISCUSSION

Findings of this cross-sectional study indicated that emerging viral zoonotic diseases are important public health problem in Sabon-Birni and its sub-communities because awareness, knowledge and perception of emerging viral zoonotic diseases are low among the respondents. This report is similar to finding of Usuwa et al, 2020 where they reported low level of knowledge in there study titled “Knowledge and risk perception towards Lassa fever infection among residents of affected communities in Ebonyi State, Nigeria: implications for risk communication”; but, this study contradicted the work of Tenzin (Tenzin *et al.*, 2012 in Teleghu, Bhutan); where they reported higher knowledge, attitude and perception of the community towards Rabies, in their work. However, the current study also identified some knowledge gaps regarding some selected emerging viral zoonotic diseases, many of the respondents had not heard of Monkeypox, Avian influenza, Yellow fever and Lassa hemorrhagic fever and their modes of transmission, indicating that the awareness on emerging viral Zoonoses and Education is necessary in Sabon-Birni and its sub-communities.

It is good for the communities to understand their attitudes that may favor a rapid viral zoonotic diseases transmission and how to minimize the attitudes through prevention-seeking behaviors of which is important for viral zoonotic diseases prevention in humans (Tenzin *et al.*, 2012). This study identified low prevention-seeking behaviours in the communities, because majority of the respondents would not report to health care sector due to unusual experience after making contacts with wild animals.

However, the reporting of unusual experience due to contacts were higher among Farmers and Students, and also among the age group of 20-29. These findings are comparable with previous studies, reporting that larger number of participants have higher positive attitudes towards transmission of emerging viral zoonoses, making contacts with wild animals such as Bats, Birds and Rodents without taking proper care of oneself.

Many of the participants have stated that they have interacted with Rodents that resulted to the rodents bite injuries and did not reported to health care sectors for intervention owing to lack of awareness regarding emerging viral zoonotic diseases.

5. CONCLUSION AND RECOMMENDATION

This cross-sectional study has determined the knowledge, attitude, and perceptions of residents of Sabon-Birni and its sub-communities towards emerging viral zoonotic diseases and the role of education, age group and occupation towards their attitude that that could drive them to the brink of transmission of emerging viral zoonotic diseases. The study revealed that age, religion, education, occupation and marital status of the respondents were significantly associated with their knowledge on the emerging viral zoonotic diseases in which respondents with the age group 20-29 years, Muslims all, farmers, and married have lower knowledge of the modes of transmission of emerging viral zoonoses.

The role of education of the respondents on their attitude towards emerging viral zoonotic diseases transmission prevention, was found to be statistically insignificant.

With the way they interact differently with wild animals, participants with non-formal education had higher contacts with wildlife, non-reporting to health care sector for unusual contact and unusual experience after making contacts with wild animals.

Based on the findings of this cross-sectional study, there is need to enhance awareness creation and training programs against emerging viral zoonotic disease transmission and also on prevention and control in these communities; this should be best if those with non-formal education, hunters, fishermen and farmers are to be targeted. This should help communities with lower educational status to be able to understand more about emerging viral zoonoses. Besides, the

establishment of inter-sectoral engagement to control and prevention strategies for common zoonotic diseases should be enhanced.

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Early Identification and Intervention: Amplifying the Voice of Slow Learners

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ABSTRACT

This research explores the importance of assisting students who may learn at a slower pace than their peers in school through lens of available research literature. These students have just as much potential as others but might need extra time and support to understand their school lessons. The study emphasizes how crucial it is to find and help these students early in their education. It's like offering them a helping hand precisely when they need it the most and also discusses what makes these students unique and how teachers, parents, and others can collaborate to provide the support they need. Discovering and assisting these students early can greatly improve their school performance and boost their self-confidence. It's like creating a personalized plan that suits each student's learning style, helping them excel in school and feel proud of their achievements. Furthermore, this study suggests that future research could develop deeper into the most effective strategies for identifying and helping slow learners. It also encourages exploring innovative ways to create inclusive and supportive educational environments that cater to the individual strengths and needs of these students. In essence, this research advocates for ensuring that every student, regardless of their learning pace, receives the necessary support for a promising future in school and beyond. It highlights the importance of early identification and intervention, and it paves the way for potential future research to continue improving educational practices for slow learners.

Key Words: *Slow Learner, Identification, Intervention,*

INTRODUCTION

Education, often described as the great equalizer, holds within its folds a diverse tapestry of learners, each embarking on a distinctive journey shaped by their unique abilities, strengths, and challenges. Among the multitude of students navigating the complex landscape of learning are those known as slow learners (Ahmad, Thomas & Hamid, 2020: Ahmad, Bibi & Imran, 2023: Ali, Ahmad, Rehman, Ullah & Zahra, 2023). These individuals, while possessing the same intrinsic potential as their peers, often require an additional dose of time and attention to fully comprehend and master the concepts and skills presented to them (Anggraeni, 2022: Raza & Ahmed, 2017: Jabeen, Ali, & Ahmad, 2023: Ali, et al., 2023).

Slow learners, as a segment of our student population, embody the remarkable diversity that education accommodates. Their learning paths, while sometimes winding and unconventional, are characterized by a rich tapestry of experiences, challenges, and victories. At its core, the term "slow learner" does not denote a scarcity of potential but rather signifies a distinctive approach to acquiring knowledge. These students, like any other, harbor untapped capabilities and aspirations, yearning for something foundational to their educational journey: understanding and support (Afzal, Khan, and Ali, 2021: Naeem, Ali, & Ahmed, 2022).

In this study, we embark on an exploration of the pivotal concept of early identification and intervention for slow learners. Our aim is to illuminate the profound and transformative impact that this approach can have on their educational trajectory. By delving into the intricate layers of slow learning, we seek not only to raise awareness but also to champion the cause of inclusive education, where every learner, regardless of their pace, is empowered to reach their fullest potential (Chauhan, 2011). As Daniel. Willingham (2011) aptly points out, slow learners are not dumb;

they possess the same potential as their peers. However, they differ in various aspects such as their knowledge base, implication in daily life, motivation, resilience in the face of academic setbacks, and self-respect as students in the classroom, both in front of their teachers and classmates. Burt (1937) further classifies slow learners as students who are unable to cope with the work normally expected of their age group. Carroll (2004) extends this definition by explaining that slow learners are students with below-average cognitive abilities who struggle to meet the traditional academic demands of the regular classroom. In essence, these students often find themselves in the lowest rung of the academic ladder, facing challenges in almost all subjects and frequently scoring less than 25 percent in tests. According to Anggraeni (2022), "Slow learner is a condition where students have intellectual potential slightly below the average.", "Due to abilities below the average of children at their age, slow learner student's ability in learning is slower than children at their age." Understanding slow learners, therefore, requires a holistic perspective that encompasses their unique learning needs, cognitive profiles, and the challenges they face in their educational journey. Through this understanding, we can pave the way for early identification and effective intervention, ensuring that slow learners are not left behind but are given the tools and support to thrive academically and personally (Younis, Naeem, & Ali, 2023; Ahmad, Rashid, & Ali, 2023).

Objective of the Study:

To explore the significance of early identification and intervention in the educational journey of slow learners and understand how it shapes their academic progress and personal development.

Research Question:

How does early identification and intervention impact the academic performance, self-esteem, and overall development of slow learners in primary and secondary education, and what are the key factors that contribute to its effectiveness?

Who is Slow Learners?

In the realm of education, there exists a diverse spectrum of learners, each with their own unique characteristics and learning styles. It's crucial to distinguish between two distinct categories within this spectrum: slow learners and children with specific learning disabilities. Each of these categories presents its own set of challenges and opportunities, highlighting the need for a nuanced understanding of their needs (Dibia, and Ajoku, 2018). A slow learner is typically characterized as a child with below-average intelligence, whose cognitive abilities and thinking skills fall below the norm for their age group. However, it's essential to emphasize that being a slow learner does not equate to a lack of potential. Rather, it signifies that these learners may progress at a slower pace compared to their chronological peers. With dedicated support and tailored interventions, slow learners can indeed make progress, albeit at a more gradual rate (Wiley, 2011).

On the other hand, children with specific learning disabilities are often of average or even above-average intelligence. However, they face specific difficulties that can significantly impede their learning process. These challenges can manifest in various aspects of learning, such as reading, writing, or mathematics, making these tasks particularly arduous. What sets this group apart is that, with the appropriate interventions and support, children with specific learning disabilities can work toward achieving age-appropriate academic levels over time (Eyo, & Nkanga, 2020). Our emphasis in this discussion lies primarily on slow learners, those individuals whose thinking skills may lag behind the expected norm for their age. While their progress may be slower, it's essential to recognize that they bring unique perspectives and strengths to the learning experience. Their hallmark is not a diminished capacity but rather a distinctive learning pace that unfolds at its own rhythm (Hartini, Widyaningtyas, & Mashlulah, 2017).

The challenges faced by slow learners often stem from a complex interplay of factors, including cognitive distinctions. These distinctions manifest as varying cognitive styles and preferences, shaping how slow learners engage with information and construct knowledge. This diversity in cognitive approaches enriches the educational landscape by offering alternative perspectives and innovative solutions (Ruhela, 2014). Environmental circumstances also play a pivotal role in shaping the experiences of slow learners. Factors such as the quality of early education, access to resources, and the level of familial support can either facilitate or impede their learning journey. Understanding these external dynamics is essential to providing tailored support that addresses the unique needs of slow learners (Kumar, Shambhu, & Aggarwal, 2016).

Furthermore, it's important to acknowledge that some slow learners may also contend with learning disabilities, adding yet another layer to the intricate tapestry of individual differences. These disabilities, while presenting challenges, are by no means insurmountable barriers to success. Instead, they underscore the importance of creating a responsive and inclusive educational environment that accommodates diverse learning needs (Vasudevan, 2017). In essence, being a slow learner does not signify a lesser path of learning; it signifies a different one. It is a journey marked by its own unique milestones, shaped by distinct cognitive nuances, environmental influences, and, at times, the presence of learning disabilities. Understanding this diversity in learning is fundamental to the creation of an inclusive education

system that not only recognizes but celebrates the immense potential within every student, regardless of their pace (Malik, Rehman, and Hanif, 2012).

Characteristics of Slow-Learner:

Slow learners are a diverse group of students who, despite their outward appearance, exhibit distinct characteristics that set them apart within the realm of education. According to Ruhela (2014), these traits are crucial for educators, parents, and caregivers to comprehend as they provide the foundation for appropriate support and interventions. Drawing from a variety of sources, including Brennan (1974), Haigh (1977), and Griffin (1978), we can identify the following key characteristics of slow learners:

Below-Average Academic Progress: Slow learners tend to progress at a slower pace academically compared to their peers of the same age. They often require more time and effort to grasp and master concepts and skills across various subjects.

Struggles with Complex Concepts: The world of abstract and complex concepts can be challenging for slow learners. They may find it difficult to connect ideas and often benefit from concrete examples and detailed explanations.

Reading and Writing Challenges: Slow learners frequently encounter difficulties in reading comprehension and writing. Decoding words, understanding context, and expressing themselves in written form can be particularly taxing.

Retention Hurdles: Retaining information poses a significant challenge for slow learners. They often rely on repeated review and reinforcement to remember and effectively apply what they have learned.

Shortened Attention Span: Compared to their peers, slow learners typically have a shorter attention span. Maintaining focus on tasks and sustaining concentration can be an ongoing struggle (Mohammad & Mahmoud, 2014).

Organizational Difficulties: Organizing their tasks and managing time can prove to be problematic for slow learners. Keeping track of assignments, materials, and deadlines often requires extra effort.

Low Self-Esteem: Many slow learners grapple with low self-esteem due to their academic challenges. Doubts about their abilities and a sense of discouragement in the classroom are not uncommon (Mushtaq, Khan, Roohi, & Ghori, 2022).

Need for Repetition: Slow learners often benefit from repetitive instruction and consistent reinforcement of concepts. Additional practice and support are frequently necessary to solidify their understanding.

Varied Cognitive Profiles: It's important to recognize that each slow learner possesses a unique cognitive profile. Strengths and weaknesses can vary, with some excelling in specific areas while facing difficulties in others.

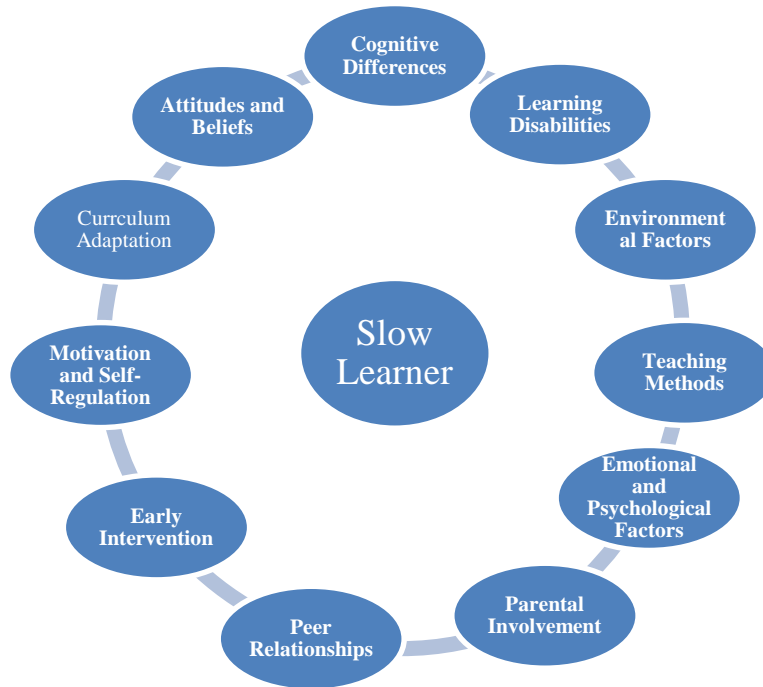
Social and Emotional Impact: Academic struggles can take a toll on the social and emotional well-being of slow learners. They may experience feelings of isolation, anxiety, or frustration within the learning environment.

Individualized Approach: Slow learners often thrive when they receive personalized attention and interventions tailored to their specific needs. Developing personalized learning plans can be instrumental in addressing their challenges effectively.

Belief in Progress: Crucially, it's essential to acknowledge that slow learners are capable of making progress and achieving their academic goals. With the right support, patience, and encouragement, they can navigate their educational journey successfully.

FACTORS AFFECTING SLOW LEARNERS

According to Korikana (2020) slow learners, like all students, are influenced by a variety of factors that can impact the learning experiences and academic progress. These factors are important to consider when providing support and interventions for slow learners. Here are some key factors that can affect slow learners:



1. Factors Affecting Slow Learners

Cognitive Differences: Slow learners may have varying cognitive profiles, including differences in processing speed, working memory, and cognitive flexibility. These differences can influence how they learn and retain information.

Learning Disabilities: Some slow learners may have specific learning disabilities, such as dyslexia or dyscalculia, which can significantly impede their ability to acquire certain academic skills.

Environmental Factors: The quality of a student's learning environment, including access to educational resources, teacher-student ratios, and the level of familial support, can greatly impact their learning outcomes.

Teaching Methods: The teaching methods and instructional approaches used in the classroom can either facilitate or hinder the progress of slow learners. Individualized and differentiated instruction is often beneficial for this group (Muppudathi, 2014).

Emotional and Psychological Factors: Slow learners may experience emotions like frustration, anxiety, and low self-esteem due to their academic challenges. These emotional factors can affect their motivation and engagement in learning.

Parental Involvement: The level of parental involvement and support at home can play a significant role in a slow learner's academic journey. Supportive parents who work collaboratively with educators can make a positive impact.

Peer Relationships: The social dynamics within the classroom and peer interactions can affect a slow learner's self-esteem and sense of belonging in the academic environment.

Early Intervention: The timeliness of identifying a student as a slow learner and providing early intervention and support can influence their long-term academic success (Manichander, 2018).

Access to Special Education Services: Slow learners may benefit from special education services and accommodations. The availability and adequacy of these services can vary by school and region.

Motivation and Self-Regulation: Slow learners may require additional support in developing effective study habits, time management skills, and self-regulation strategies to enhance their learning.

Curriculum Adaptation: The extent to which the curriculum is adapted to meet the individual needs of slow learners can impact their ability to access and understand the content.

Attitudes and Beliefs: The attitudes and beliefs of both educators and students towards slow learners can influence their inclusion and overall learning experience.

Nurturing Potential through Timely Insight: Central to our exploration of empowering slow learners is the pivotal role played by early identification. This cornerstone element acts as a guiding beacon, illuminating the path towards not only academic success but also the holistic development of these exceptional individuals.

Early identification represents a profound commitment to understanding and catering to the diverse learning needs of our students. It is a process that transcends mere assessment; it is the art of perceiving the unique nuances in a slow learner's journey as they embark on their educational odyssey (Trisnani, 2022). The benefits of early identification are manifold, weaving a safety net beneath the educational aspirations of slow learners. Firstly, it serves as a preventative measure, staunchly guarding against the emergence of daunting learning gaps that could potentially impede a student's progress. By identifying areas where additional support is needed, educators can bridge these gaps with targeted interventions, ensuring that no student is left behind (Vasudevan, 2017). Moreover, early identification holds the power to vanquish the shadow of inadequacy that sometimes plagues slow learners. When a student is aware of their learning pace and understands that it is valued and accommodated, the shackles of self-doubt begin to loosen. Confidence takes root, and the student's belief in their own potential is rekindled. Through early identification, the narrative shifts from one of deficiency to one of unique strengths and opportunities (Manichander, 2018).

According to Younis, Naeem, and Ali (2023) crucially, early identification is the gateway to tailored interventions. It unlocks the ability to craft personalized approaches to education, recognizing that each slow learner is a unique individual with distinct learning needs. These interventions range from adapted teaching methods to individualized education plans (IEPs) that map out a student's educational journey with precision. Beyond academics, early identification contributes significantly to the nurturing of self-esteem and overall well-being among slow learners. The knowledge that their learning style is acknowledged and supported fosters a sense of belonging and inclusion. Slow learners no longer feel like outliers but integral members of the educational community, valued for their contributions and unique perspectives (Zhou & Saeheaw, 2020). In essence, early identification is not a mere process; it is a profound commitment to the welfare and development of our students. It is the compass that guides us toward a future where every student, regardless of their pace, can flourish academically, emotionally, and socially. It is a testament to the potential that lies within every learner, awaiting the nurturing hand of understanding and support.

A Collaborative Approach to Nurturing Potential: According to Trisnani (2022) endeavor to foster an inclusive educational environment, the task of identifying slow learners necessitates a harmonious symphony of efforts from educators, parents, and caregivers. This collaborative approach seeks to uncover the distinctive learning needs of each student, ensuring that no potential remains concealed in the shadows of misunderstanding. The process of identifying slow learners is an intricate dance, and each partner in this collaboration plays a vital role. The methodologies employed are not just tools; they are instruments of enlightenment, revealing the unique pathways of learning that slow learners tread (Trisnani, 2022).

One of the primary instruments in this symphony of identification is the use of standardized assessments (Muppudathi, 2014). These assessments offer a structured and impartial lens through which educators can gauge a student's performance relative to established benchmarks. The data gleaned from these assessments can serve as a compass, guiding educators toward students who may require additional support. However, standardized assessments are but one note in this harmonious arrangement. The keen observations of educators, finely attuned to the nuances of their students' learning journeys, form another crucial element. Teachers, as the frontline custodians of education, are uniquely positioned to detect the subtleties that may elude quantitative assessments. The ability to recognize when a student is grappling with a concept or skill and to discern the signs of slower learning is a hallmark of a caring and attentive educator.

Additionally, the journey of slow learner identification is guided by the developmental milestones that students achieve. These milestones serve as guiding stars, illuminating the expected trajectory of learning. Deviations from these milestones can be indicative of a student's unique learning pace and their specific needs (Younis, Naeem, & Ali 2023). Yet, at the heart of this collaborative process is communication clear, open, and respectful communication. The exchange of insights and observations between educators and parents is an instrumental component of timely recognition. Parents, as the first educators in a child's life, possess invaluable insights into their child's development. When these insights are shared with educators, a more comprehensive understanding of the student's needs emerges. In essence, the methodologies of identification are not isolated actions but interconnected steps in a holistic process. They are the threads that weave together the diverse perspectives and expertise of educators, parents, and caregivers into a comprehensive portrait of each student. Together, they form a powerful chorus that resonates with understanding and support, ultimately nurturing the potential that resides within every slow learner (Mohammad, & Mahmoud, 2014).

FACTORS IN THE SCHOOL ENVIRONMENT AFFECTING SLOW LEARNERS

According to the Younis, Naeem, and Ali (2023) the school where students go to learn can really help or sometimes make it hard for slow learners. There are a bunch of things at school that can make a big difference:



How Teachers Teach: The way teachers teach is super important. Slow learners do better when teachers use different ways to teach and go at a pace that's good for them.

Classroom Size and How Many Students There Are: Smaller classes and not too many students in one class can be better for slow learners. This way, teachers can give more attention to each student and understand what they need.

Inclusive Classrooms: Classrooms that welcome all kinds of students, no matter how they learn, are great for slow learners. Teachers from special education and regular classes working together can really help.

Custom Learning: If the things students learn can be changed to fit what slow learners need, it's awesome. This means making adjustments so they can understand and do well.

Starting Help Early: Getting help for slow learners right from the start of school can make a big difference. It's often better to fix problems early.

Special Help When Needed: Sometimes, slow learners need special help like individual plans or different ways of doing things. Schools should be ready to give this help.

Good Learning Stuff: Having things like computers, extra teachers for reading or speech, and other helpful tools can really help slow learners.

Friendly Teachers: Teachers who are nice and make students feel good about themselves can help slow learners be more interested in learning.

Friends Who Understand: Having friends who are kind and accept everyone can make school more enjoyable for slow learners.

Teachers Learning Too: Teachers should keep learning about how to help slow learners. This way, they can use better ways to teach and understand what students need.

Learning about Feelings: Learning how to deal with feelings and get along with others is important. Schools that teach this stuff can help slow learners feel better and do well.

Parents and School Working Together: When parents and schools work together, it's great for slow learners. Parents can learn how to help their kids at home, and schools can give parents advice and tools.

Fair Tests and Grading: Tests and grading should be fair for everyone, including slow learners. Teachers should think about different ways of testing to make sure it's fair.

These things can make a big difference for slow learners and help them do well in school.

Crafting a Path to Empowerment: Within the tapestry of education, the intervention paradigm stands as a cornerstone in the quest to empower slow learners. It signifies a profound commitment to understanding the unique needs of these learners and illuminating the path toward their academic and personal success. This paradigm does not merely seek to bridge learning gaps but strives to build bridges that connect these learners to a future brimming with

possibilities (Anggraeni, 2022). At its essence, the intervention paradigm embodies the very spirit of inclusivity and personalized learning. It transcends one-size-fits-all approaches and delves into the realm of tailored, student-centric education. It is a testament to the belief that every learner, regardless of their pace, is deserving of an education that aligns with their individual capabilities and aspirations (Wiley, 2011).

The heart of this paradigm lies in the creation and implementation of Individualized Education Plans (IEPs). These plans are not mere documents; they are roadmaps that chart a student's educational journey with precision and care. IEPs are crafted through collaborative efforts, with educators, parents, and specialists working in unison to outline specific goals, accommodations, and support mechanisms (Mitchell, Morton, & Hornby, 2010). According to Korikana (2020) one of the key elements of this paradigm is differentiated instruction within mainstream classrooms. Differentiation is the art of adapting teaching methods, content, and assessments to cater to the diverse learning needs of students. For slow learners, it means a more accessible and accommodating learning experience that allows them to thrive alongside their peers. Specialized programs and resources also form a crucial part of the intervention paradigm. These programs are designed to provide targeted support, whether it's through one-on-one tutoring, speech therapy, or the utilization of assistive technologies. They serve as a safety net, ensuring that slow learners receive the precise support they require to reach their full potential. However, the intervention paradigm extends beyond academics. It recognizes that the educational journey encompasses not only the acquisition of knowledge but also the development of self-esteem, self-confidence, and overall well-being. It places a strong emphasis on creating an inclusive and supportive environment where slow learners feel valued, respected, and empowered. In essence, the intervention paradigm is a beacon of hope, guiding slow learners towards the realization of their potential (Hartini, Widyaningtyas, & Mashlulah, 2017). It is a declaration that learning is not a race but a journey, where every student deserves the opportunity to flourish. It is a promise that, within the embrace of understanding and support, the unique strengths and capabilities of slow learners can be cultivated, ultimately leading them to success in both their academic pursuits and personal growth (Vasudevan, 2017).

SOCIAL IMPLICATION OF THE STUDY

The study about helping students who learn a bit slower in school has some important effects on how our society works. Firstly, it talks about making sure every student gets the same chances to learn, no matter how fast or slow they learn. This can help our society become fairer and open to all kinds of people.

Secondly, it mentions that by helping slower learners early on, we can make sure that everyone has a good chance to do well in school. This means that our society can become more equal, where everyone has a fair shot at reaching their goals (Ruhela, 2014). Another thing the study talks about is how parents can be more involved in their child's learning. When parents and families are more involved, it can make our communities stronger and more supportive (Eyo, and Nkanga, 2020). Lastly, the study says that teachers should learn more to help all kinds of students. This can make our schools better, and everyone can learn more. In the end, this study can help make our society more fair, equal, and caring. It gives power to kids, families, teachers, and leaders to work together so that every student, even if they learn a bit slower, can do well and be happy (Carroll, 2004).

FUTURE RESEARCH FOR THE STUDY OF "SLOW LEARNER"

In the future, more research can explore different important things to help slow learners in school:

Better Ways to Help: Find new and better ways to help slow learners. This could mean making special plans for each student or using technology to help them learn.

How It helps in the Long Run: Study how early help affects slow learners when they grow up. Look at their jobs, how well they do in life, and how they feel about themselves.

Schools that Include Everyone: Figure out how to make schools that welcome all students, no matter how they learn. This could involve changing what students learn or helping them get along better.

Teaching the Teachers: Research how training for teachers can make them better at helping slow learners. See if teachers who learn more about this can help students do better in school.

Parents and School Working Together: Learn about how parents and schools can work together to help slow learners. Find out what parents can do at home to help their kids, and how schools can help parents.

Feelings and Making Friends: Study how slow learners feel and how they get along with others. Look at programs that teach students about their feelings and how to be friends.

Why Some Are Found Late: Find out why some slow learners aren't found and helped early. Look at how tests, teacher observations, and what parents say can help find them sooner.

Learning in Different Places: Explore how slow learning is understood and helped in different countries and cultures. See if there are different ways to find slow learners and help them.

Using New Technology: Check how new technology, like computers and special learning programs, can help slow learners. See if these things work well for them.

CHANGING THE RULES: Look at the rules and policies about special education and inclusive schools. See if these rules can be improved to help slow learners more. Find out how these rules affect students in school.

By doing this research, we can learn more about slow learners and how to make school better for them. We can use this knowledge to help them succeed in school and in life.

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Teaching Practices and Learning Issues: A Qualitative Study of University Students

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ABSTRACT

This research study explored the experiences of students' learning issues and their impact on academics using qualitative approach. Eight in-depth interviews with students from various disciplines of private universities of Pakistan were conducted. The study explored the experiences of students about teachers' teaching methodology and behavior, factors which hinder learning and engagement in class, impact of learning issues on students' academics and their mental and psychological wellbeing. Interpretative Phenomenological Analysis (IPA) was used to analyze the data. The major themes derived from participants' interviews were; poor teaching pedagogy and unprofessionalism, lack of feedback on assessments, repercussions of teachers' unprofessional behaviors and students' coping strategies to address their academic issues. This study will help the institutions by identifying the specific factors related to teachers' pedagogy and professionalism to create conducive learning environment for students in classroom.

Keywords: perceptions, teaching practices, learning, interviews, Interpretative Phenomenological Analysis

LITERATURE REVIEW

There are a variety of factors that affect students' learning in classroom. The relationships that teachers form with their students play a significant role in the academic development of students. According to Downey, a student and teachers connection quality will influence how much they learn in the classroom (2008). The great deal of literature includes a variety of research types that have been conducted to examine how teachers and students interact and how that interaction affects learning in past three decades. According to reliable data (Brophy-Herb, Lee, Nievar, & Stollak, 2007), the nature and quality of teachers' interactions with students significantly affects their learning. There are several factors related to teachers' teaching methodology and relationship with students in class has effect on students' learning.

Teachers are more independent because they control the classroom environment. Their inattentiveness, tardiness, and boredom cause difficulties for students. It's important to review classroom information, but repeating the verbatim can bore students. In a lecture or auditorium situation, the teacher uses the authoritative style to conduct a protracted, one-way discussion about a previously given subject while the students take notes and memorize information. Because there's little to no student participation, it's impossible to address each student's needs. According to Hamre & Pianta (2006), good student-teacher interactions are a great resource for students. They contend that having a good working connection with a teacher enables students to complete assignments independently because they are confident that the teacher will identify and address any issues that may emerge. According to research on classroom quality characteristics, instructors' attitudes and beliefs toward students are crucial determinants in predicting how well a student will learn (Pianta, LaParo, Payne, Cox, & Bradley, 2002). The way a teacher interacts with his or her students on a personal level can have a big impact on the students. Untrained teachers (unprepared lectures) acting aggressively like sarcasm with students, these negative teacher habits cause students to fear and dislike their topic (Kearney & Plax, 1992).

Excessive workload, poor course preparation, and a dull curriculum contribute to high dropout rates. Moore et al. (2018) showed a correlation between course difficulty and dropout intentions. Several students leave the program because of the workload. To the best of researcher's knowledge, there is less research being done on factors related to teachers' teaching style and their interaction with students and their impact by using qualitative approach. The findings of the study will help educational institutes to give trainings to teachers on improving pedagogy styles and their professionalism. This will further help teachers to overcome the learning issues of students.

METHOD

Research design

A qualitative research approach was used to better comprehend students' experiences of learning issues.

Sample

On the basis of the inclusion criteria, total 8 participants (4 male, 4 female) from different departments of semester 1 to semester 8 of private universities were chosen. Considering the inclusion requirements were:

Participants who reported issues with teachers’ teaching methodology and learning issues.
Participants who had experience of dropping of more than 2 courses due to ineffective teaching and unprofessional behavior of teachers.

Assessment tools

Qualitative interview

This study used a semi-structured interview as an assessment tool. The questionnaire specifically created was initially based on 20 questions, changed, and finally a questionnaire with 10 questions was created and used for the interview.

Procedure

Participants were recruited by placing advertisements across the university. The researcher gave the consenting individuals an orientation regarding the purpose of research. Informed consent was taken from the participants before the start of the interviews. The interviews were tape-recorded and later, transcribed. The data was transcribed for data analysis.

RESULTS

The semi-structured student interviews were analyzed using interpretative phenomenological analysis (IPA). Due to the students' shared subjective experiences and views, it was the most appropriate type of analysis

Table 4.2

Major themes	Sub-themes
Teaching pedagogy and professionalism	Teachers aren’t enthusiastic in class Boring lecture/ No interactive learning Don’t address learning issues Don’t encourage questions Lack of professional ethics
Lack of feedback on assessments	Feedback isn’t prompt Feedback how to improve work isn’t provided Instructors test what I memorize rather what I have learnt
Repercussions of Teacher’s unprofessional Behaviors	Poor grades Favoritism Injustice in assigning grades/ marks Frustration and tension Change in attitude Loss of interest in academics
Coping Strategies to manage learning issues	Avoiding style Decisions to dropout

Teaching and Professionalism:

In this construct the findings have indicated that teachers lack enough knowledge, skills and enthusiasm about the subject. Participant P2 said, “*Course allocation isn’t being done according to expertise.*” The atmosphere of classes isn’t conducive for learning which leads to fear of asking questions in students. The participant P4 reported that, *they are being humiliated and mocked by instructors on their questions.* Furthermore, their teaching methodology is based on outdated pedagogy; they don’t incorporate the latest trends and innovative ideas to make the lecture interesting. Instructors don’t make an effort to develop interest of students in their respective courses. Their main focus is to cover course contents. According to students, teachers are not fair and biased towards them. Students feel that their professors either keep them engaged in what they have to say or just deliver what they want to say to them, regardless of whether or not the students comprehend what they are saying.

The teaching assessment of teachers and whether or not they are enthusiastic about what they are teaching was also explored. Participant P5 shared that, “*the excitement of teachers piques the interest of learners and jump starts their desire to acquire new knowledge*”. Because of this, they were able to determine whether or not they had presented their lecture in its entirety, and it also assisted them in determining what information students had retained

from his or her lecture. According to students, teachers are not fair and biased towards them. Students believe professors should be fair and impartial by treating all students the same. Students expressed that not having impartiality and unfairness may be inferred from the fact that teachers don't treat all of their students in the same manner. The majority of students have shown to have a high preference for interactive learning. Participant P3 said, *"this is because interactive learning enables teachers to give engaging lectures, which students are therefore able to comprehend more readily; also, because of interactive learning, students do not experience any feelings of reluctance while inquiring about anything"*.

Lack of Feedback on Assessments

In this construct the findings have indicated that students find huge difference between what they are being taught and what they are tested in lab tasks, assignments, quizzes and mid/final term. Difference in theory and exams makes them frustrated. They find lab tasks entirely different than what they learn in theory classes. Students believe that emphasis is given on theory but not on comprehension of topic. Participant P7 reported, *"They don't learn critical and analytical skills in exams"*. Participant P2 said, *"My ability to remember things has been evaluated by the instructors"*. The only thing that my instructors are concerned with is determining whether or not I have retained the information that they have presented to me. Instructors don't provide the timely feedback on their work and this result in repeating their mistakes in finals.

It has been noted that marking and the arrangements aren't fair. According to the feedback of respondents, this figure demonstrates that a significant proportion of students are required to finish their work on time. Participant P6 said, *I was needed significant feedback in order to assist me in enhancing my work*. Participant P5 said, *"I have never been given a lot of input, which has allowed me to improve the quality of my work"*.

Repercussions of Teacher's Unprofessional Behavior

Students find instructors uncooperative and non-empathetic. Students complained about harsh attitude of teachers. Participant P1 said, *"In beginning of the semester, they proudly tell in classes that they have failed more than half of the students in previous semester. This attitude makes us very stressed out"*. Furthermore, they stated that teachers have been demotivating them from the first semester when they needed their help and cooperation more. According to students, teachers consider these teachers as very strict having tough personalities because of their degrading remarks on students. Students believe that teachers have attitude problem. Participant P7 reported, *"Students are forced to think many times before visiting their office. They are afraid to ask their support"*. Teachers explicitly ask them to transfer to other institutes.

Results show that students are not satisfied with workload. They believe that they are overburdened with course work. Participant P5 shared, *"Lab tasks, assignments, and quizzes don't spare them to enjoy university life"*. This thing is affecting their social and personal life to large extent. Students are unsatisfied with the deadlines of lab tasks. Participant P3 said, *"Unrealistic deadlines makes /us more frustrated and we feel like giving up on everything"*. It has been noted that some students are very sensitive and learning issues and conflicts with teachers makes them very much upset. Some students become very much frustrated and aggressive. Participant P8 stated, *"I feel too much aggression towards teachers"*.

Coping Strategies to Manage Issues:

Students also shared that how they handle issues related to ineffective teaching and teachers' unprofessional attitude. They mentioned that they are forced to behave in a way which they don't want especially avoidance as a very common way to avoid teacher. Participant P1 reported his way of handling issues, *"Sometimes I avoid certain teacher because addressing issues with them or seeking solution doesn't work"*. Students think it's better to avoid than confront a teacher about their issues. It has been noted that some students start avoiding any type of class participation. Some students don't feel like taking class of that teacher. In this regard participant P6 reported, *"When I know I won't understand lecture it makes me to not to take class."* Some students prefer to understand the topic from their friends or classmates rather from teachers. Participant P3 reported, *"I never understand the topic being taught from my teacher so I have to request my friends to give to make me understand the topic"*. Some extreme measures were also taken by few students who understand that they can't handle learning issues on their own. Participant P5 said, *"I drop that course of that particular teacher where I don't find any solution for my learning issues"*.

DISCUSSION

This research examined the perception of students towards teachers' teaching methodology and resultant issues related to teaching and learning. The main objective of this qualitative research was to investigate the factors related to learning issues of students and their impact on academics. A major theme derived from the study is related to teachers' pedagogy and professionalism. The relationship of teachers was not supportive and cooperative relationship with students in class. Participants believed that teacher student relationship changes gradually from school to university level. The nature of this relationship changes from school to college (Crosnoe, Johnson, & Elder, 2004). P1 said, "At university level teacher student relationship should be very nice relation which I don't have." Participants share good relationship with teachers, furthermore, there appeared to be a sense that some participants don't have supportive, friendly and nice interpersonal relationship with teachers. Other participant said (P3), "They never help us solve our confusions." Teachers don't make themselves available for their study related problems outside the class too. According to participants, supportive relationship helps to maintain student's interest in academics. Effective teachers make close bond with students as being friendly, concerned and have empathy for their students. Several studies have been done on relationships between teachers and students and how they influence students. Among these qualities for effective relationship are affection (Coudray, 1995; Poenaru & Sava, 1998) and warm attitude of teachers (Elmore & Lapointe, 1975).

The participants had major concern that teachers must answer their questions properly, must be rated according to their efforts and treated equally. According to Weimer (2013) questions are powerful in learning process because they are created by student and driven by student's curiosity. Gall (1984) stated that teachers find students' queries troubling and sometimes for them these questions aren't type of questions an expert teacher would like to hear. For participants questioning is the great source of learning. Effective teachers, according to Robertson (1996), engage students by using questioning strategies to give them the impression that their participation does matter by extending respect and answering their queries. It's important to always give students the impression that their comments are welcome and, when appropriate, valued (Robertson, 1996). The theoretical framework of the study was to find out the factors which give rise to learning issues and teachers' unprofessional-ism. In this regard, the analysis showed that teachers' non attitude in class has been found cause of learning issues for students. This non serious attitude accompanied not being enthusiastic about lecture delivery, use of mobile phone in class. Teachers found to be behaved more non-professionally. This nonprofessional attitude includes use of mobile phone in class. As ringing of mobile phone becomes source of distraction for students. This point has also been explored by many researchers. According to Campbell and Russo (2003) the use of mobile phone in classroom is considered nuisance as students have this complaint that they get distracted by ringing of mobile phone during the lecture. Wei and Leung (1999) found that use of mobile phone in classrooms shouldn't be acceptable.

Other source which has been found the major reason of conflicts for students was lack of professional ethics of teacher. Nonprofessional teachers want that student's show admiration for them. "I do not like to visit teachers' office." The reason of this teacher's attitude is that they get personal tasks done from students. One of the participant complained that one of her teachers that teachers get checked papers from CRs (class representatives). Other element which shows teacher' lack of professionalism is that they expect students to praise them this way they get biased towards those students who don't praise and admire them. This trait of teacher becomes most likely cause of students' dispute with teachers. This thing doesn't become the direct source of conflict but hurt and make them angry.

Lack of feedback on assessments is another major source of learning issues for students. This includes Feedback isn't prompt, Feedback how to improve work isn't provided and Instructors test what I memorize rather what I learnt. Regarding semester work conflict derives from timeliness of return of assignments. Participants reported that students want detailed feedback by from teachers on every activity. Moreover, other reasons that submitting assignments late or missing assignments. Participants suggested that exceptions should be made for students who have some genuine reason of not submitting it on the scheduled date. Some participants expressed that they have conflict over the weightage of assignments. In addition to this, conflict happens more frequently over grades. Dispute mainly happens when a student believes that the grade is inaccurate or unjustified, the student may have dispute over the final course's grade. Other situation where there is miscalculation of grade points which includes mistaken entries and missing records. Participant 3 reported, "She used to claim that we had in correct record. I fought with her and I think that is why she changed my grade to B. I told her that I have all the record for it."

Teacher's biased attitude as one of the major sources of conflicts. Students at university level are more careful and vigilant about how they are being treated by teachers. According to them teacher behave biased towards certain students. P1 reported, "Even, if the quality of paper is the same. They still don't give you equal marks, so

sometimes some teachers do behave biased." Price (2007) stated that teacher bias can have an effect on grading because grading is subjective by nature. He further, elaborated that it doesn't mean that teachers give grades to students they like but teachers do consider student's past performances while grading. It also means that if student gets C grade in paper a teacher may be inclined to give C grade in next paper too. This is what happens to A grade students. According to Dee (2007), teachers favour students of the same gender when assigning grades. Other researches also confirm this point as in Sweden teacher biases have been found out in grading using an experimental design (Hinnerich, Hoglin & Johanneson, 2011). Previous literature suggests that students have this perception that teachers get biased when it comes to grading. When they know that their grades will be given by a female teacher, male students lessen their efforts because they think a female teacher will grade them more harshly. On the contrary, female students have this perception that male teachers give them good grades. (Price, 2007).

An important theme to emerge from the students' accounts was impact of conflicts. Student teacher conflicts profoundly affect students and one of the serious effects of these conflicts is that students get tensed and frustrated. They appear to be discouraged and helpless. This frustration has been noticed from mild to severe. Some participants have been found using antidepressants to deal stress which occurs in result of some serious conflict with teacher. Participant P1 said, *"I am unable to explain how students get disheartened."* Male students of have been found more tensed over biased attitude of teachers. This frustration and tension affect their studies too. Sometimes students because of frustrations students get less interested in studies. They give up on making efforts to excel in studies. Other reactions including not giving proper attention to teacher during lecture, P2 reported, *She is teaching in this semester too, but it doesn't bother me as much now because we believe that grades would be awarded like before. Therefore, I am not exerting much effort."*

Another impact of conflicts is that students get less interested in studies. According to West (1994), teachers have a significant impact on students' perceptions of learning, either promoting or impeding it. Extensive studies provide evidence that teacher's behavior is correlated with students learning gains (Rosenshine & Furst 1973). One of the key elements influencing student learning, is teacher attitude (Shah, 2002). Healthy teacher-student interactions have a major favourable effect on students' academic achievement. According to Mohanty and Pani (1979), low-achieving pupils' educational growth is negatively impacted by teachers' discriminating attitudes ((Brattesani, Weinstein & Marshall, 1984). One other effect of these conflicts has been noticed is that students change their attitude toward teachers. Male students of both public sector universities reported that their attitude becomes mischievous towards teachers as revenge. Sometimes they lash out to compensate their hurt feelings. Some participants have reported that when they have anger on particular teacher who they faced conflict with they are less interested in taking lectures of that teacher.

The last major theme was about the students' strategies of managing conflicts with teachers. According to Hellriegel and Slocum (1996) conflict management is specific type of work consisting of interventions undertaken by person to reduce or increase conflict. In this regard students both sector universities have been found to manage conflicts by use of effective communication and adopting avoidance style of conflict management. University students of both sectors have been using avoidance as primary way of dealing conflicts and disputes with teachers. *"So, my main method of handling disagreements with such teachers is to avoid them. I don't want any argumentation."* When a dispute is heated students prefer to walk away from that situation and not getting in disagreement prevents them to escalate the situation. According to one participant, it is smart decision on his part to avoid the conflict.

Other strategy to resolve conflicts used by participants was effective communication. Participant P8 commented regarding the importance of communication style in these words, *"Even if you are having problems with a teacher, try to stay positive when you speak to them. It will surely work out. Our body language and expression also matter a lot. Language alone does not matter. They both have to go together."* Many researchers suggested that communication is fundamental part of managing conflicts (Hickson & McCroskey, 1991; Trombly, Comer, & Villamil, 2002). Several researches have focused on communicating effectively for conflict resolution and managing conflicts. Communication skills include body language, tone of voice, and the capacity to pay attention to what others are saying (Anderson, 2004; Robertson, 1996; Lowman, 1995).

CONCLUSION

The study aimed to find out students' experiences of learning and impact of this issue on their academics. The major themes and sub themes were explored using Interpretative Phenomenological Analysis. The findings from the study have showed that teachers' ineffective teaching pedagogy affect the learning of students. Their unprofessional attitudes and lack of feedback on how to improve work further exacerbate the issues of students and hence affect their relationship with teachers. Outcome of these issues are being demonstrated in the form of poor grades, frustration and tension, and not taking interest in studies. Students manage these issues by not confronting that

teacher and some of the students choose to drop that course. The goal of this study was to help instructors need to use cooperative learning. Instructors need to emphasize on active learning instead of theory in class. This can be achieved by giving them activities which will maintain their attention too. Instructors need to impart analytical, critical and creative thinking in students.

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Cardiovascular Disease Risk Factors in Senior Staff of Kaduna Polytechnic

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ABSTRACT

Objective: To assess the cardiovascular disease risk factors among selected senior staff of Kaduna Polytechnic located within Kaduna, the capital city of Kaduna State.

Methods: It was a field-based descriptive cross-sectional study. The sampling technique was multistage sampling. The study population included both the academic and non-academic senior staff, who were within the range of 25-65 years that were on full-time employment. The instrument for data collection includes questionnaire, blood pressure measurement, body mass calculation, fasting blood sugar and lipid profile test. The data was analyzed using SPSS version 20.

Results: This study has established that hypertension (30.6%), overweight (30.3%) and obesity (21.6%) were the prevalent cardiovascular risk factors among senior staff of Kaduna polytechnic while physical inactivity and high fat diet were the most prevalent behavioral risk factors identified.

Conclusion: The outcome of the study showed an overall fair knowledge and awareness to CVD and its risk factors, but it did not translate to good attitude towards the risk factors among the staff.

KEYWORDS: Cardiovascular Disease, Risk Factor, Coronary Heart Disease.

1.0 INTRODUCTION

Cardiovascular diseases (CVDs) encompass a range of conditions affecting the heart and blood vessels, such as coronary artery diseases, cerebrovascular disease, peripheral arterial diseases, congenital heart diseases, deep venous thrombosis, and pulmonary embolism (World Health Organisation, 2015). Cardiovascular diseases (CVDs) are presently accountable for approximately 33% of global mortality. In 2008, it is estimated that CVDs caused the death of approximately 17.3 million individuals, constituting 30% of the total global deaths (World Health Organisation, 2004). Among the recorded fatalities, approximately 7.3 million were attributed to coronary heart disease, whereas stroke accounted for 6.2 million deaths. Low- and middle-income countries exhibit a disproportionate burden of cardiovascular disease (CVD), with over 80% of CVD-related deaths occurring in these regions. Furthermore, the distribution of CVD deaths among men and women in these countries is nearly equal (World Health Organisation, 2003).

Cardiovascular diseases (CVDs) are associated with risk factors that can be categorised into two groups: modifiable and non-modifiable risk factors. Modifiable risk factors associated with cardiovascular diseases (CVDs) encompass various conditions such as abnormal lipids, hypertension, diabetes mellitus, tobacco smoking, abdominal obesity, general obesity, psychological stress, physical inactivity, alcohol consumption, and unhealthy dietary patterns. Nonmodifiable risk factors encompass factors such as increasing age, familial history, gender, and ethnicity (World Health Organisation, 2004). The prevalence rates of cardiovascular disease (CVD) risk factors in developing countries, such as Nigeria, are experiencing a rapid increase as a result of the processes of globalisation and urbanisation (Nwankwo et al., 2008).

Limited research has been conducted on the staff of tertiary institutions and the prevalence of cardiovascular risk factors in northern Nigeria. A study conducted in Jos, a city located in the north central region of Nigeria, revealed that a significant proportion of the respondents (60%) possessed post-secondary education. However, it was observed that more than one third of the participants (36.6%) were affected by hypertension, with the prevalence of this condition increasing as individuals advanced in age. A majority of the participants (54%) did not engage in regular weight monitoring, while a significant proportion (72%) were classified as either obese or overweight, as reported by Funke and Ibrahim (2013).

Similarly, a study in Sokoto, North-West Nigeria found that one-third (33%) of the participants had central obesity (more

prevalent in the female participants) and the prevalence increased progressively across the age groups. While 37.8% had reduced HDL cholesterol, 32.8% had elevated triglycerides, prevalence of elevated fasting blood glucose was 10.7% and increased progressively with age. The prevalence of hypertension was 31.9% with a slightly higher prevalence among males. The prevalence of which increased progressively and significantly across age groups (Awosan et al., 2013).

2.0 MATERIALS AND METHODS

2.1 Area of Study

Kaduna Polytechnic is situated in Kaduna, the administrative centre of Kaduna State in the Federal Republic of Nigeria. The establishment of the institution took place in 1956, with the primary aim of offering a wide range of educational programmes, including instructions, training, and research in various fields such as technology, sciences, commerce, and the humanities. Additionally, the institution also provided in-service instruction programmes specifically designed for individuals working in the public service sector in Nigeria.

Kaduna Polytechnic comprised four primary campuses situated within the Kaduna metropolis, encompassing six colleges and a central administration. The colleges encompassed a total of 54 departments, namely the College of Environmental Studies, College of Science and Technology, College of Business Management Studies, College of Administration and Social Sciences, College of Technical and Vocational Education, and College of Engineering. The Central Administration comprised several key departments, including the Registry, Bursary, Works department, and the Medical Centre. The Polytechnic exhibited a significant degree of cosmopolitanism, attracting students from various regions within the federation. The polytechnic boasted a robust workforce of more than 4000 individuals, comprising 2895 senior staff members encompassing both academic and non-academic personnel.

2.2 Study Design and Population

This is a field based descriptive cross-sectional study for senior staff of Kaduna Polytechnic including both academic and non-academic staff.

2.2.1 Inclusion Criteria

- a) Any senior staff of Kaduna Polytechnic that was within the age of 25-65 years.
- b) Any staff that was a full-time employee.

2.2.2 Exclusion Criteria

- a) Any senior staff with coexisting CVD.
- b) Any senior staff who was on secondment, leave of absence or study leave within the last six months.
- c) Any senior staff that was employed for less than six months duration.

Sample Size Determination

The minimum sample size required for the study was calculated using the following formula:

$$n = \frac{Z^2 pq}{d^2}$$

Where n = minimum sample size required, Z = standard normal deviate at 95% confidence interval = 1.96, p = estimated prevalence of cardiovascular risk factors among senior staff in a similar study, q = complementary probability of p = (1-p), d = level of precision=5% (0.05)

Computing these values now with the following values

$$Z=1.96$$

P = 0.332 gotten from a prevalence of cardiovascular risk factors in semi urban population in Zaria²⁷ which was within the same region as Kaduna polytechnic.

$$q = 1-0.332 = 0.668, d = 0.05$$

$$\text{Therefore } n = \frac{(1.96)^2 \times 0.332 \times 0.668}{(0.05)^2} = \frac{0.852}{0.0025} = 340.8$$

Approximately 341.

But for population less than 10,000, finite reduction is done using the formula = $\frac{n}{1 + \frac{n}{N}}$.⁴⁷

Where n = calculated sample size from above

N = population size = 2895

$$\text{Thus, sample size} = \frac{341}{1 + \frac{341}{2895}} = \frac{341}{1.12} = 305$$

Adjusting for a maximum anticipated 10% non-response rate

$$n = 305 + 30.5 = 336$$

2.3 Sampling Technique

Multi stage sampling technique was adopted as follows:

Stage 1: Selection of colleges; from the total list of all colleges in Kaduna Polytechnic, 3 colleges were randomly selected using balloting technique. The selected colleges were College of Business and Management Studies (CBMS), College of Science and Technology (CST) and the Central Administration (CA).

Stage 2: Selection of Departments in Colleges; from the total list of departments in each selected college, departments were randomly selected by use of random numbers after allocation of numbers to all the departments. The selected departments were:

Table 1: Participating Department Based on Colleges

S/NO	COLLEGE	DEPARTMENTS
1	CBMS	Business Administration, Office technology, Management Studies
2	CST	Mathematics and Statistics, Food Technology, Applied Science, nutrition and dietetics.
3	CA	Registry, Bursary, Works and services, Medical Centre.

Stage 3: Selection of Respondents in each department: Respondents were selected from each department using Probability Proportionate to Size (PPS). Thus, the number of respondents from each department is as shown below; Furthermore, systematic sampling technique was used to select respondents from the list of all senior staff in each Selected department. Where a selected respondent declined / refused to consent or was not available during period of study, the next staff in the sampling frame was selected.

Table 2: Number of Respondent Based on Colleges and Departments

S/N	UNIT	DEPARTMENT	NUMBER OF STAFF	RESPONDENT SELECTED
1	CBMS	Business administration	47	20
2		Office technology	16	7
3		Management studies	28	13
4	CST	Mathematics and statistics	96	41
5		Applied sciences bio, chem & phy)	122	25per department
6				
7		Food technology	59	25
8	CA	Registry	53	23
9		Bursary	134	58
10		Works and services	35	15
11		Medical Centre	72	31
Total			775	336

2.4 Instrument for Data Collection

A structured, self-administered questionnaire which comprised of five sections: These were (a) socio-demographic characteristics contained variables like age, sex, marital status (b) knowledge of CVD risk factors (c) attitude to the CVD risk factors and (d) preventive measures undertaken to prevent CVDs and (e) information about anthropometric and laboratory measurements was done by the investigator. Equipments used were Accu-check glucometer (active), a stadiometer, Accosson's mercury sphygmomanometer and weighing scale.

2.5 Data Collection Technique

Research assistants were recruited from the public health unit of the clinic and trained for two days. They were trained with the objective; methodology of the research and role play of the administration of tools. Field supervision was carried out to ensure completeness, correctness and integrity of data collection.

- i. Survey Instrument. The participants were required to complete a data form that encompassed various demographic and health-related variables. These variables included age, marital status, gender, department (unit) of employment, highest level of education attained, previous history of hypertension or diabetes, known family history of hypertension or diabetes, long-term medication usage, history of alcohol or cigarette consumption, levels of physical activity, and dietary habits.
- ii. Blood pressure was assessed while the subject was in a seated position, utilising Accosson's mercury sphygmomanometer, which was calibrated in millimetres of mercury (mmHg). The cuff used was of an appropriate size, covering at least two-thirds of the arm. Prior to the measurement, the subject was given a

minimum of 5 minutes to rest. The systolic blood pressure was measured during the occurrence of the 1st Korotkoff sound, while the diastolic blood pressure was measured during the occurrence of the 5th Korotkoff sound. Two blood pressure readings were obtained and an average was calculated. The patients were categorised as hypertensive based on the criteria established by the World Health Organisation (WHO) and the International Society of Hypertension (ISH), as outlined in the study conducted by Erhun et al. (2006). Specifically, patients were considered hypertensive if their average systolic blood pressure was equal to or greater than 140mmHg, and/or if their average diastolic blood pressure was equal to or greater than 90mmHg.

- iii. The height of the participants was measured using a stadiometer, without shoes, with a precision of 0.01m.
- iv. The body weight of each participant was assessed in kilogrammes (kg) with a precision of 0.1kg using a digital scale that had a maximum capacity of 150kg and an accuracy of 100g.
- v. The fasting blood sugar levels were measured by employing the Accu Chek active glucometer. Prior to the measurement, the index finger was sterilised using an alcohol swab. Subsequently, the index finger was pricked, and a small amount of blood was collected. This procedure was conducted after a minimum fasting period of 10 hours.
- vi. The lipid profile was assessed by collecting a blood sample from all participants following a 10-12 hour fasting period through deep vessel venipuncture. The lipid profile was conducted in order to measure the levels of total cholesterol, high density lipoprotein cholesterol, and triglycerides. The calculation of low-density lipoprotein (LDL) was performed utilising the Friedwald equation.

2.6 DATA ANALYSIS

The completeness of the quantitative data was verified and then entered into SPSS version 20 for analysis. The findings were subsequently presented in the form of tables and charts. The statistical significance of the relationship between qualitative variables was evaluated using a chi-square test with a significance level set at $P < 0.05$.

i) Body Mass Index (BMI):

This was calculated by dividing the weight of the subjects in Kilogram (Kg) by the product of height of the subject in meter squared (m^2);

$$BMI = \frac{\text{weight}}{\text{height}^2} \text{ in kg/m}^2.$$

The following cut –off marks were used for the BMI. Low body weight $< 18.5 \text{ kg/m}^2$; Normal weight $18.5 - 24.9 \text{ kg/m}^2$; overweight $25 - 29.9 \text{ kg/m}^2$; and obese $> 30 \text{ kg/m}^2$.

ii) Lipid Profile

Hypercholesterolemia defined as total cholesterol $> 240 \text{ mg/dl}$; low HDL cholesterol as HDL cholesterol $< 40 \text{ mg/dl}$. Elevated LDL cholesterol as $> 160 \text{ mg/dl}$ Hypertriglyceridemia defined as triglyceride $> 150 \text{ mg/dl}$.

3.0 RESULTS AND DISCUSSION

3.1 Sociodemographic Characteristics

A total of 340 respondents turned out for the study but two declined. Nine other questionnaires were not well completed, which gave a response rate of 96.8%. Table 1 shows the socio-demographic characteristics of the respondents.

Table 3: Social-Demographic Characteristics of the Respondents

Socio-demographic characteristics	Response	Frequency	Percentage
Sex	Male	198	60.2
	Female	131	39.8
Marital status	Married	283	86.0
	Single	34	10.3
	Divorced	12	3.7
Educational status	National diploma	74	22.5
	Higher national diploma	98	29.8
	Degree	69	21.0
	Postgraduate (master, PhD)	88	26.7
Types of work	Administration	119	36.2
	Lecturing/research	93	28.3
	Medical	20	6.1
	Accounting	31	9.4
	Works and services	27	8.2

Religion	Others	39	11.8
	Islam	224	68.1
	Christianity	92	28.0
	others specify	13	3.9

3.2 Prevalence

The study included a total of 104 hypertensive subjects, constituting 31.6% of the sample population. Among these individuals, 98 were receiving treatment, accounting for 29.8% of the hypertensive subjects. A total of 5 individuals, accounting for 1.6% of the study participants, were identified as having recently developed hypertension. The overall prevalence of hypertension among the participants in the study was found to be 30.7%. Approximately 14.3% (n=47) of the participants in the study were diagnosed with type II diabetes mellitus. Among this subgroup, 93.6% (n=44) were receiving treatment for their condition, while 95.5% (n=42) demonstrated satisfactory glycemic control. No newly diagnosed cases of diabetes were identified, resulting in a prevalence rate of 14.3% for type II diabetes mellitus. The study found that the overall prevalence of hypercholesterolemia was 11.1% (9). Additionally, the prevalence of high HDL cholesterol was 21% (17), while the majority of participants, specifically 67.9% (55), exhibited normal HDL cholesterol values. A smaller proportion, 9.9% (8), had low HDL cholesterol levels. Approximately 11.1% (9) of the entire sample exhibited hypertriglyceridemia.

3.3 Dominant CVD Risk Factors Amongst Staff

The height and fasting blood sugar levels of the male staff were significantly greater than that of the female staff while the weight and body mass index of the female staff was significantly more than that of male staff. This is depicted in the table below which had the p- values <0.05.

Table 4: Statistical Analyses of the Respondents' Parameters

TABLE 1: Group Statistics of Respondents				
	Sex	Mean	Std. Deviation	Std. Error Mean
Height	Male	1.7505	.07670	.00545
	Female	1.6539	.06849	.00601
Weight	Male	74.4556	15.67704	1.14642
	Female	80.3556	16.30363	1.45244
BMI	Male	25.1388	10.57781	.75556
	Female	28.6466	7.05143	.62326
fasting blood sugar	Male	11.1589	20.25722	1.43962
	Female	5.9323	8.23790	.72251

About 153 (46.5%) of the subjects had normal body mass index (BMI <25kg/m²), 97 (29.5%) were overweight (BMI 25-29.9kg/m²) and seventy (21.3%) were obese (BMI>30kg/m²). In the study, it was observed that female participants experienced a significantly higher prevalence of obesity and overweight across all grade levels, as compared to their male counterparts (p<0.005).

Knowledge of Cardiovascular Disease Risk Factors

About 203 (61.7%) of the subjects have ever heard of cardiovascular diseases, books 142 (43.2%) and television / radio (40.7%) and were the commonest source of information about the diseases. Health workers 124 (37.8%) were the next common source of information. Only few got their information from Magazines/newspapers (19.5%) family and friends (17.6%) and internet (19.5%).

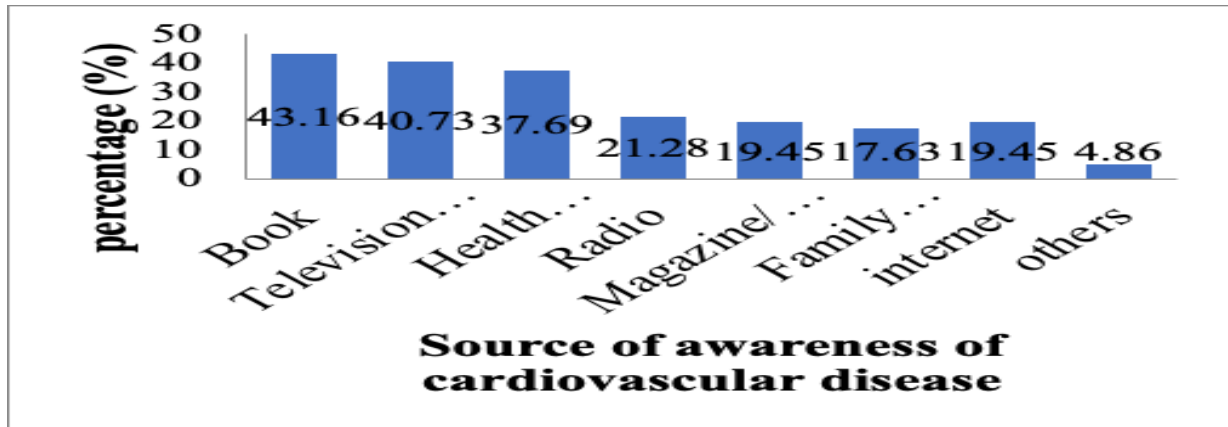


Figure 1

Hypertension was readily identified as a risk factor to CVD in 235 (71.4%) of the respondents, cigarette smoking identified in 120 (36.5%) while 113 (34.3%) identified obesity as a risk factor. Diabetes mellitus and sedentary lifestyle were least identified with 79 (24.4%) and 67 (20.4%) of respondents respectively identifying them. While 108 (32.8%) did not know any cardiovascular disease risk factors.

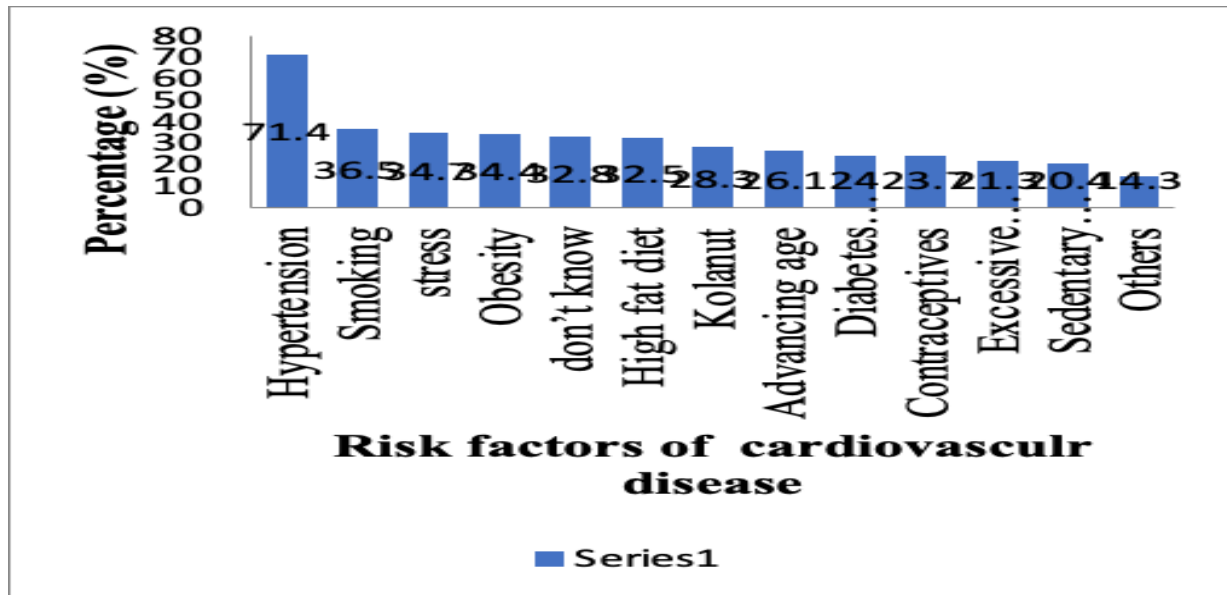


Figure 2

With regards to types of cardiovascular, 67.5% of the respondents identified heart attack as a CVD, 47.7% were able to identify stroke while 32.8% identified fainting. 21.9% of the participants did not know any CVD disease.

3.4 Attitude to Cardiovascular Disease Risk Factors

Table 9 presents an overview of the respondents' general disposition towards various risk factors associated with cardiovascular disease (CVD). Out of the total respondents, 17 individuals (5.2%) acknowledged consuming alcohol, while only 4 individuals (23.5%) among them reported attempting to cease alcohol consumption. Furthermore, out of the total of 27 individuals who currently smoke cigarettes, only 8 individuals, accounting for 29.6%, have made attempts to cease smoking. About 220 (66.9%) are willing to engage in physical exercise within the next 3 months. Although 256 (77.8%) of the respondents say they would visit the hospital in the event of a CVD, 33 (10%) admit they would visit a traditional herbalist. Others 3 (0.9%) mentioned that they will visit a chemist.

Table 5: Prevalence and Risk Factors Associated with CVD

Prevalence of CVD Risk Factors	Response	Frequency	Percentage
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Places clients will go to in event of CVD	Herbalist	33	10.0
	Chemist	3	.9
	Spiritual house	13	4.0
	Hospital	256	77.8
	other specify	10	3.0
Previous attempts to stop drinking alcohol n=17	No	13	76.5
	Yes	4	23.5
Previous attempts to quit smoking cigarette. (n=27)	No	19	70.4
	Yes	8	29.6
Time interval from last general medical check-up	1 month	36	10.9
	0-3 months	58	17.6
	3-6 months	66	20.1
	6-12 months	46	14.0
	over 1 year	82	24.9
Place of last medical check up	Chemist	42	12.8
	Clinic	45	13.7
	Hospital	204	62.0
	Traditional medicine	9	2.7
Regular weight checks	Not regular	143	43.5
	Regular	151	45.9
Time interval of last weight check	0-3 month	99	30.1
	3-6 month	52	15.8
	6-12 month	1	.3
	Over 1 year	6	1.8
	others specify	10	3.0
Regular blood pressure checks	Not regular	120	36.5
	Regular	185	56.2
Time interval of last BP check	0-3 month	126	38.3
	3-6 month	48	14.6
	6-12 month	3	.9
	Over 12 month	8	2.4
	others specify	16	4.9
Willingness to engage in physical exercise	No	63	19.1
	Yes	220	66.9

3.5 Adoption of Preventive Measures Against CVD

The distribution of preventive measures being carried out by the respondents against CVD revealed that 231 (70.2%) were engaged in physical exercise, 157 (47.7%) undertook dietary modification of low-fat diet while 140 (42.5%) monitored their blood pressure regularly. Also 47 (14.3%) admitted to ingestion of alternative medicine as a form of prevention and 14 (4.3%) revealed they used traditional concoctions as a preventive measure.

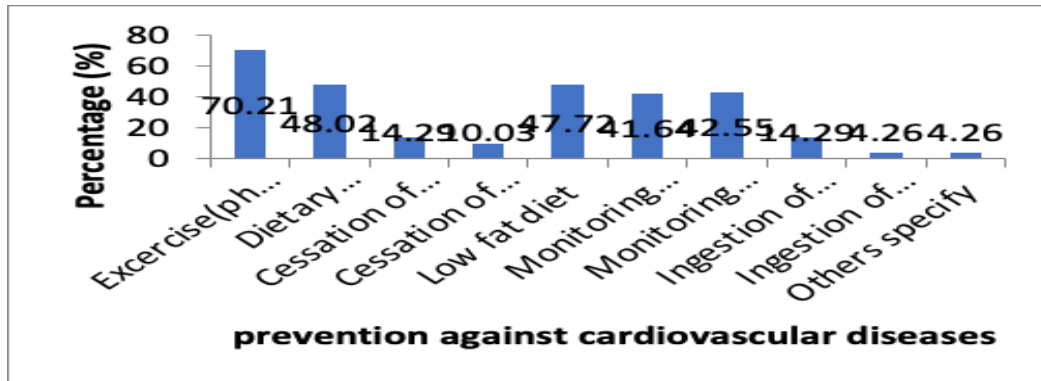


Figure 3

4.0 CONCLUSION

This study has been able to establish that hypertension (30.6%), overweight (30.3%) and obesity (21.6%) were the cardiovascular risk factors that was most prevalent among senior staff of Kaduna polytechnic while physical inactivity and high fat diet were the prevalent behavioral risk factors identified. Despite the study's findings indicating a generally satisfactory level of knowledge and awareness regarding cardiovascular disease (CVD) and its associated risk factors, there was a lack of corresponding positive attitudes towards these risk factors among the staff. The study successfully accomplished all of its objectives and additionally established a foundational evaluation of risk within a specific academic population, thereby facilitating future investigations in this area.

Acknowledgments

The inclusion of an Acknowledgements section is discretionary and serves to acknowledge the contributions made by individuals who assisted in the research and preparation of the manuscript. Additionally, this section may also contain references to the title and authors, such as the statement "Author 1 and Author 2 made equal contributions to this work."

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Exploring the Nexus: Social Media Influence on Mental Health and Eating Behaviors in a Digital Age

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ABSTRACT

Social media is implicated in the exacerbation of issues of mental health. This study synthesizes the impact of use of social media on mental well-being and eating behaviors of individuals. After screening papers from Google Scholar, PubMed and JSTOR databases and 19 papers were selected on the specified criteria and assessed for quality. Among these, there were qualitative, quantitative and the literature reviews. The findings were categorized into two key themes: Mental Health and Eating Behaviors. The study suggests that social media usage proved too effective in consuming healthy diet and body shaping. Very few studies declared that it could cause depression and anxiety but majority reveals that it proved to have no relation to create negative impact on mental health. However, the significant variations in results are attributed to the limited selection of literature. To gain a deeper understanding of the influence of social media on mental health, it is crucial to conduct further analysis through qualitative research

KEY WORDS: Social Media, Mental Health, Eating Behaviors, Depression, Body Shaping.

INTRODUCTION

In the past two decades, social media has transformed the way we are connected with each other. The way we share information, we communicate, we collaborate all has been influenced by the use of social media. The mediums like Whatsapp, Twitter, Facebook and now a days most common TikTok have added in our lives providing us the novel ventures to interact with people to express their emotions, feelings elsewhere to get the recent information and even to share our information with. Global media statistics research summary of April 2023 states that 60% of the world's population uses social media. The average daily usage is 2 hours and 24 minutes. While the positive aspects of social media use are undeniable, there is a growing concern about its impact on mental health. This research report aims to explore the complex relationship between social media usage and mental health outcomes.

Background of the Study

The rise of social media has introduced numerous advantages to society, such as enabling individuals to connect with friends and family, share life experiences, and access a wide range of information. It has also empowered individuals to participate in online communities that align with their interests and values, and it has been instrumental in social and political movements worldwide. But still there are cases where we can see the negativities implied by the use of social media on personality development and mental health of individuals (Akram & Kumar, 2017)

The rapid evolution of social media platforms, characterized by features like instant messaging, live streaming, and algorithm-driven content recommendations, has led to profound changes in how individuals interact with online content. This transformation has raised questions about the potential consequences for mental well-being (Kim, 2017). Issues such as social comparison, cyberbullying, fear of missing out, and the addictive nature of these platforms have all been subjects of intense research and public discussion but on the other hand use of social media has created a positive impact on mind counselling other learning healthy behaviors (Zsila & Eric, 2023). Researchers, policymakers, and healthcare professionals are grappling with the need to understand these complex dynamics and their implications for mental health.

This report seeks to shed light on the multifaceted relationship between social media use and mental health. By examining the existing literature and conducting original research, we aim to contribute to a more nuanced understanding of how these platforms affect psychological well-being. We will explore both the positive and negative impacts, as well as the moderating factors that can influence the outcomes. Ultimately, we hope this research will inform strategies for promoting healthy and responsible social media use and provide insights for mental health interventions.

The subsequent chapters of this report will delve into the literature review, research methodology, findings, and discussion, as well as offer recommendations for individuals, social media companies, and policymakers. The goal is to foster a comprehensive understanding of the effects of social media use on mental health and to provide a foundation for informed decision-making in this digital age.

Objectives of the Study

The primary objectives of this research report are as follows:

- To review existing literature to find out effect of use of social media on mental health and eating behaviors of individuals.
- To offer recommendations for promoting positive use of social media for meaningful behaviors.

Scope of the Study

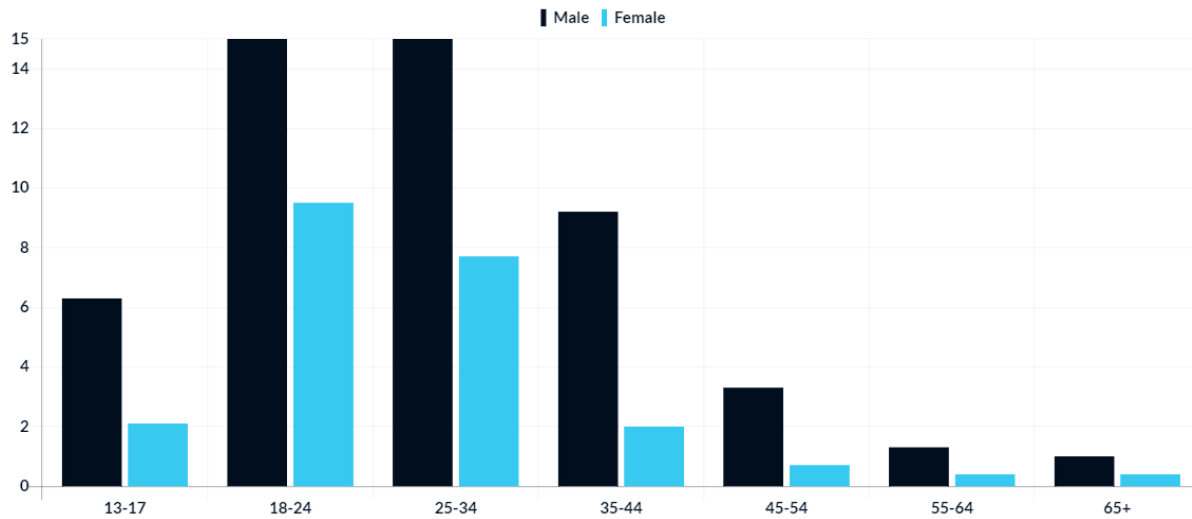
This study focuses on the impact of social media use on mental health, considering various dimensions of mental well-being, including but not limited to depression, anxiety, loneliness, self-esteem, and body image. The researcher examines different social media platforms, demographics, and usage patterns globally keeping much focus in context of Pakistan. While it provides a comprehensive overview, it may not cover all possible aspects or specific case studies.

LITERATURE REVIEW

Humans are inherently social beings who need the presence of others to advance in life. Consequently, establishing social connections with fellow individuals can alleviate stress, anxiety, and sadness, while a deficiency in social interaction can pose significant threats to one's mental well-being.

Social Media Usage

People now a days are in habit of using social media apps and tools serving many hours of usage on these platforms, most popular among them are Facebook, messenger, Instagram and Whatsapp among with new advent of many recent applications as on daily basis innovations are there in terms of technology .Consequently, a multitude of researchers and scholars are delving into the influence of social media and its associated apps on various aspects of people's lives (Bartosik-Purgat et al., 2017). Furthermore, the global count of social media users in 2019 reached 3.484 billion, marking a 9% increase from the previous year (Jiang & Ngien, 2020 & being (Kim, 2017). Figure: 1 presents statistics on the worldwide gender distribution of social media audiences as of January 2020, categorized by platform. It revealed that Twitter had a predominantly female user base, with only 38% being male, while Snap chat boasted a 61% male user base. In contrast, females exhibited a stronger presence on LinkedIn and Facebook. Undoubtedly, social media has now assumed a pivotal role in the lives of many. While it brings about numerous positive and enjoyable advantages, it also carries the potential to contribute to mental health issues. Previous research indicated that age had no discernible impact, but gender played a significant role, with females being more susceptible to experiencing mental health challenges compared to males (Iannotti et al., 2009; Muris & Steerneman, 2001).



[Figure: 1 Social Media User Demographics: Meta's figure as reference, 2022

Social Media Usage in Pakistan

As per the latest survey recorded in 2023 by OOSGA, there are about 72.9 million people who use social media including those who have logged once a month since 2022 constituting about 31.5% of the population leading to an increase of 4.3 from year 2021-2022.

It has been reported that usage of social media by male is greater than of females. It has further been observed that use of social media is highest in ages between 18-34 years. As the age group declines the use of social media also shows a down towards attitude.

The statistics from Stats Counter 2023 declares the use of diverse types of social media that highlight percentages of different apps. It documents the following statistics:

- Facebook = 84.65%
- Twitter =8.36%
- YouTube =4.6%
- Instagram=1.7%
- Pinterest=0.51%
- LinkedIn =0.1%

There is an estimated increase in recent data published in 20230 that can show us the increased rate of 1.9% leading to approximately 25.2 million Tik Tokers in Pakistan out of which male percent is 0.823 and female is 0.177.

With the more usage of Media, people at one end are saving their time, improving their lives, but on the other end are also becoming victimized for side effects of it.

Impact on Mental Health

According to the World Health Report Mental health (2004 is when people understand their abilities, they will be able to work at a good pace, can face challenges and tries to solve and can contribute well to society. As far as the impact of media on mental health is concerned, this is a controversial issue resulting somewhere in harmful consequences and somewhere the outcomes are desirable. (Martinsen, 2008; Berryman et al., 2018). Social networking is key element in saving us from mental hazards. Number and Closeness of social relationships, both effect our mental health, personality, behavior and emotions. (Iannotti et al., 2009). The issue well explained by theory of Displaced Behavior that states that people who are not interacting with people, spend their life in isolation focusing on virtual reality like screen or social media are less prone to have mental (Coyne et al., 2020; Escobar-Viera et al., 2018). On the contrary , other social theories mentions process of how social media produces effects on mental health by influencing how people think, perceive ,view, maintain, and interact with their social network (Rahman et al., 2013). A number of

studies have been conducted on the impacts of social media, and it has been indicated that the prolonged use of social media platforms such as Facebook may be related to negative signs and symptoms of depression, anxiety, and stress (Berryman et al., 2018 ;Keles et al., 2019 ;O'Reilly et al., 2018; Nereim et al., 2020.) Furthermore, social media can create a lot of pressure to create the stereotype that others want to see and also being as popular as others whereas on the other side Social media has the potential to improve the mental wellbeing by building peer relations and social connections. Online communities have been developed that have supported people to gain information about topics and they get chance to discuss their issues there (Naslund et al., 2020:5). When engaging in such discussions people feel they are social and that develops a sense of belonging in them. In context of Pakistan, it is also observed that social media can enhance socialization and help students in their academic activities (Majeed et al., 2022) We need not to forget the positive effects of social media at the time of pandemic COVID -19 that enhances social interaction and the presence of humor on social media that played a key role in relieving stress at those stressful times. (Marciano et al., 2022:4).

Impact on Eating Behaviors:

The influence of social media on eating behavior on individuals differs on basis of many factors (Nguyen et al., 2020; Sun & Zhang, 2020). It affects body shaping and the types of food person eat (Collier & Treasure, 2004; Rodgers et al., 2020). Somewhere it is a tempting force to eat unhealthy food thereby destroying healthy eating habits and at other end it prompts the adolescents to have thin and slim body image, by advertising, by media talks and other factors. (Rodgers et al., 2020). A study focusing on female university students found a significant correlation between the intensity of social media use and increased instances of eating disorders, highlighting the potential adverse effects (Qutteina et al., 2019). In Pakistani context, it is found that that the basic motivation for Pakistani millennial to engage with social media in the health domain is information sharing and communication with each other. Among the various social media platforms, Whatsapp, Facebook and YouTube emerged as the most preferred choices for addressing health-related issues (Rahman et al., 2013). Many health care professionals and institutions are using social media Platforms for creating health Awareness and healthy Behaviors. (Ventola, 2014) thereby suggesting the role of social media as not only negative but rather in many cases serve as positive influencer in body shaping and eating behaviors.

RESEARCH METHODOLOGY

Current study is based on systematic review of literature to explore the impact of social media on mental health and eating behaviors. It provide the negative as well as the positive aspects of social media on mental health (Escobar-Viera et al., 2018; Martinsen, 2008; Muris & Steerneman, 2001). This study bears significance as it sheds light on the scope of peer-reviewed literature, serving as a valuable resource to aid in filling the void in our understanding of the interplay between social media and mental health.

Systematic reviews play a crucial role in the comprehensive analysis of available data, enabling both quantitative and qualitative assessment to provide a thorough and precise response to research inquiries (Jiang & Ngien, 2020). Numerous systematic studies addressing mental health topics have been carried out on a global scale. However, there is a dearth of research integrating social media within the context of social science due to the predominant focus on medical science within the existing literature (Iannotti et al., 2009). Given that social media is a relatively recent phenomenon, investigations into the potential connections between its usage and mental health outcomes remain relatively sparse (Wartberg et al., 2020).

To identify the role and influence of social media, a study was conducted by literature review in which Google Scholar, PubMed and JSTOR were used. Search was started by adding some topics like

- Social media and mental health.
- Social media and eating behavior.
- Impact of social media in context of Pakistan.
- Negative and Positive Effects of social media.

Search was kept focused within a time range between the last 7 years. Eighty-four research articles were screened out of which forty articles were excluded after reading the abstract seven. From the selected forty articles after reading nineteen articles were excluded as they were not aligned with the current study objective. This review does not include any conference paper. For this study, a total of twenty papers were selected. The Inclusion Criteria for selection of articles were peer review journals, the articles selected were of last five years, clearly defines the type of studies. The study does not include any unpublished or grey literature or conference proceedings.

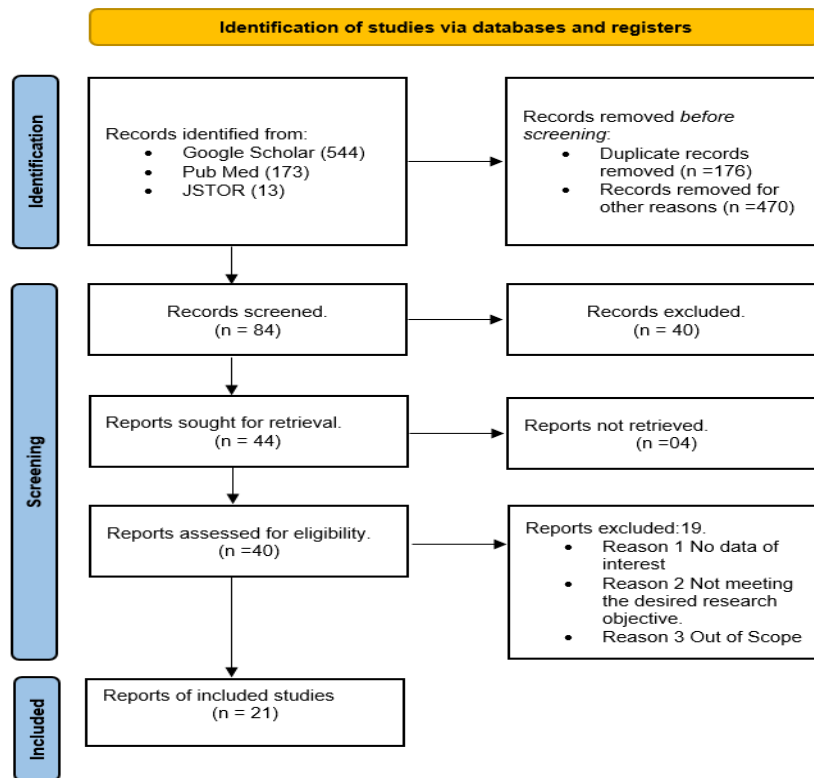


Figure: 2 Prisma Diagram

FINDINGS

Out of the 21 research papers chosen, the investigation primarily centered on mental health and eating behaviors. The research design encompassed qualitative and quantitative studies, with systematic reviews delving into the positive and negative aspects of adolescent social media use.

Systematic Review categorizes the Data into two broad themes: social media and Mental Health and social media and Eating Behaviors.

a. Social Media and Mental Health

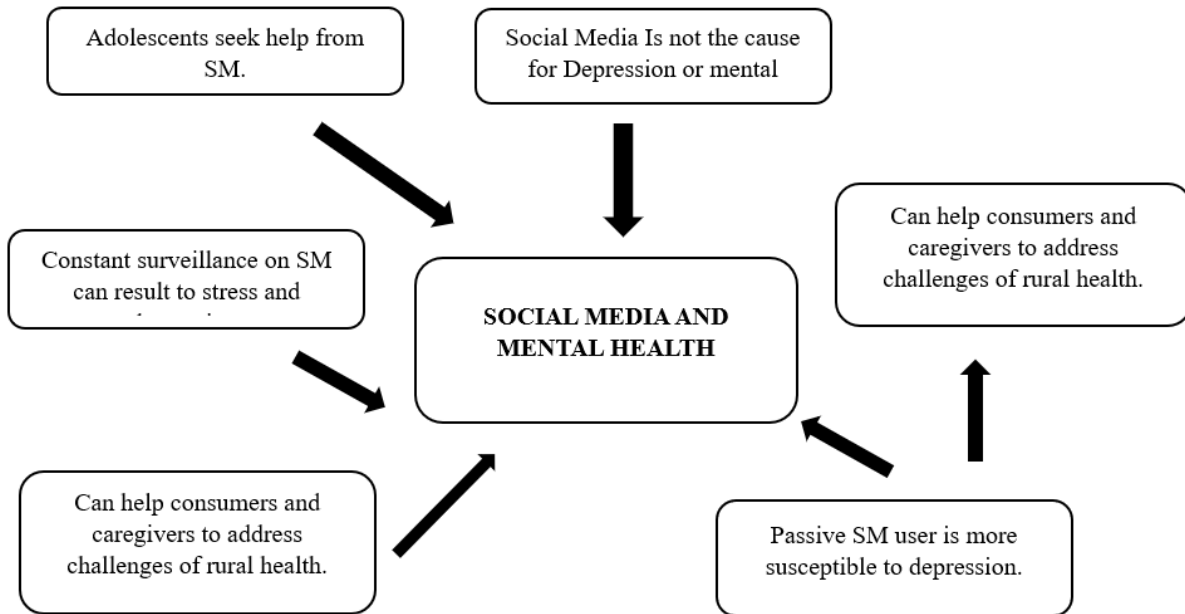


Figure 3: Theme derived from Literature Review; Social Media and Mental Health

It is observed that social media use does not uniformly predict impaired mental health, effects. Vary across age groups and individual levels. Adolescents frequently use social media to seek information about mental health. Frequent social media use is associated with greater symptoms of psychopathology (Berryman et al., 2018). Social Media can be a risk for mental health for some individuals associated with less interaction with family members developing low levels of trust between them (Blomfield Neira & Barber, 2013). On the other hand it is revealed that social media supports people to deal with heavy emotions (Rasmussen et al., 2020) and also is one of the tool to create health awareness (Mehmet et al., 2020). It is evident that social media use is impacting mental health in positive and some where it is producing adverse effects.

b. Social Media and Eating Behaviors

It is noticed from the studied literature that excessive use of social media influences youth's lifestyle, attitudes towards food, clothing, and interpersonal relationships. Social media contributes to making youth brand-conscious and can create unrealistic living standards (Ahmad et al., 2023). Significant relationships between Facebook and YouTube usage and increased fast food consumption were observed. Screen time correlates with unhealthy food and drink consumption. Social media addiction is significantly associated with higher levels of body image concern, which, in turn, affects eating behavior. It has been noticed in some of the studies that screen time is correlated with unhealthy and junk food consumption

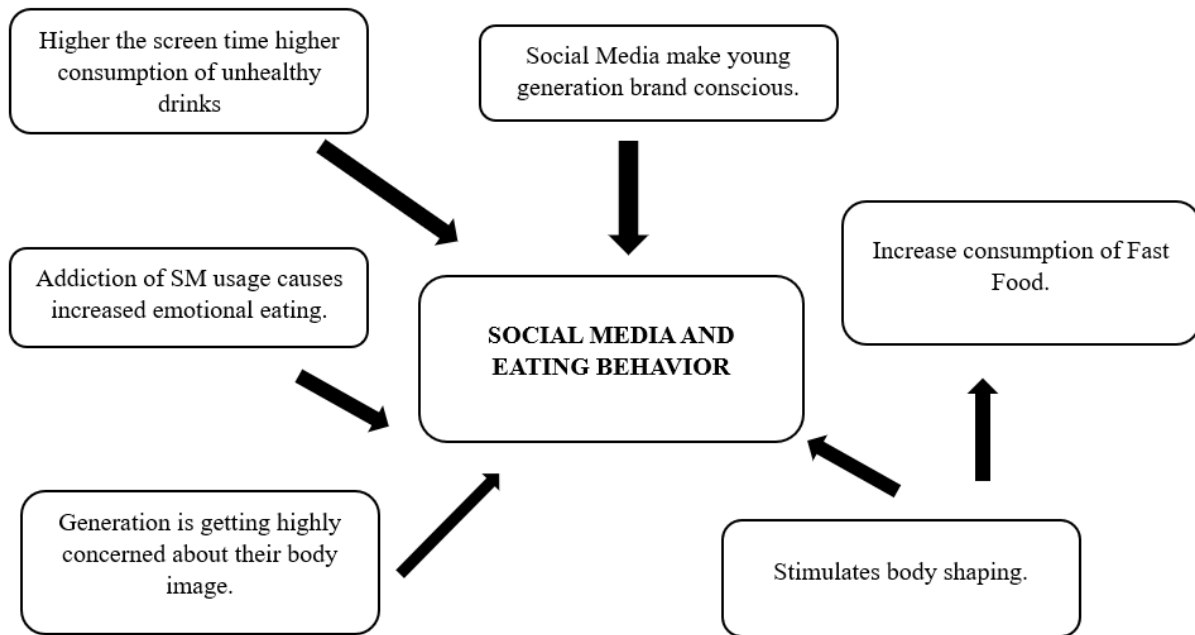


Figure 4: Theme derived from Literature Review; Social Media and Eating Behaviors

The higher the screen time, the higher will be the consumption (Akila Nedjar-Guerre et al., 2023; Nadeem et al., 2023). Social media usage is also one of the influencers in body shaping (Mohsenpour et al., 2023). Youth and adolescents are much concerned of their images, they frequently observe posts related to body shaping and want to have a slim look, whereas on the other hand Facebook and YouTube videos enhances junk food consumption by advertisement and somewhere by elevating their screen time (Ittefaq et al., 2022).

c. Social media and its effect on Mental Health in context of Pakistan

Pakistani Youth are the intense user of social media (Khalid et al., 2022).. Some cases reveal that social media usage is highly associated with depression, but in another case, it is observed that social media usage is contributing well to social wellbeing of teenagers, they post, they share their developments, like this their confidence rises as well as their personality develops (Mukhtar, 2020).

Social Media in context of Pakistan:

Literature provides evidence that people using social media may develop depression due to self-comparisons with others. The ones who were depressed used to spend more time on social media (Khalid et al., 2022). Studies even show no connection in good mental health and social media (Tajjamul & Aleem, 2022). The concluding result after critical review of past studies shows that the effect of social media is bifold, positive as well as negative. It is affecting positively and somewhere is one of the causes of mental illness and distress (Raza et al., 2022 & Khalid et al., 2022).

CONCLUSION AND RECOMMENDATIONS

This study systematically examined the existing literature regarding the impact of social media use on mental health. While the findings were not entirely consistent, a general correlation between social media use and mental health issues was identified. Positive evidence supporting a connection between social media and mental health was observed, but conflicting reports also emerged.

For example one of the past study suggests that there is no link between time spent of media usage or media related activities like posting pictures and selfies on Facebook , Instagram is not directly related to depression (Berryman et al., 2018 : Blomfield Neira & Barber, 2013) . Similarly, Neira and Barber discovered that although a higher engagement in social media (e.g., active use) predicted adolescents' depressive symptoms, there was no association between the frequency of social media use and depressed mood (Coyne et al., 2020; Mukhtar, 2020).

Interestingly, passive engagement in social media activities, such as reading posts, demonstrated a stronger correlation with depression than active participation, such as creating posts (Blomfield Neira & Barber, 2013). Notably, this review's significant findings propose that factors like interpersonal trust and family functioning might exert a more substantial influence on depression symptoms than the frequency of social media utilization (O'Reilly et al., 2018; Escobar-Viera et al., 2018). On the flip side, depression emerges as an unintended consequence of excessive social media use. This is not limited to Facebook but extends to other sites leading to the development of psychological problems. A recent study revealed that individuals engaged in social media, gaming, texting, and mobile phone usage are more susceptible to experiencing depression (Keyes & Kreski, 2020; Rasmussen et al., 2020).

It is suggested that there is a need for further investigations to elucidate the underlying factors that explain why social media negatively affects the mental health of some individuals while having no or even a positive impact on others' mental well-being. It is also recommended to teach social media literacy that can maximize the balance of safe and meaningful experiences of its usage.

In terms of eating behavior, our research has delved into the intricate relationship between social media usage and eating behavior, shedding light on both positive and negative dimensions. One noteworthy discovery is the substantial association between social media usage and altered lifestyle choices, particularly among the younger demographic. Excessive engagement with social media was found to influence preferences in food, clothing, and interpersonal relationships. Notably, the study illuminated the role of social media in cultivating brand consciousness and fostering unrealistic living standards among youth (Ahmad et al., 2023). Participants exhibiting higher levels of social media addiction reported increased concerns about body image and demonstrated deteriorated eating behavior across various subscales, including emotional eating, external stimuli, and restrained eating. This underscores the importance of addressing the psychological impact of extensive social media use, particularly in relation to body image and eating patterns.

The limitations and recommendations stem from the evidence gathered during the study and review process. Notably, some studies were cross-sectional, posing a slight challenge in establishing a causal relationship between the variables of interest. The findings from cross-sectional studies do not allow for a definitive conclusion that social media use directly causes mental health issues. Only three longitudinal studies delved into the causal connection between social media and mental health, making it challenging to determine whether heightened social media use correlates with more pronounced mental health problems compared to those who use it less or abstain altogether (Karim et al., 2020; Nereim et al., 2020).

In conclusion, our research underscores the need for a balanced and informed approach to the integration of social media into health promotion strategies. By fostering digital literacy, promoting positive content, and addressing the psychological aspects of social media engagement, we can harness the benefits while mitigating the potential harm to individuals' eating behavior and overall well-being.

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