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Role of Health Literacy on Health Behaviour Change among the College Girl Students

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Abstract

Health literacy refers to a person's knowledge and abilities to make sound health decisions in everyday life. The overall goal of this study was to discover the influence of health literacy on the health behaviour of college girls, using proportionate stratified sampling, 178 (55.27% females studying health and physical education (HPE) at Surkhet Campus, and HA/Staff Nurse at SEDA Campus, Surkhet were chosen. Researchers used a cross-sectional design for this study. The Short Test of Functional Health Literacy in Adults (S-TOFHLA) was used to assess health literacy, while the Self-Administered Questionnaire was used to assess health behaviour. As per the survey findings, 53.93% of respondents had appropriate health literacy. Health literacy plays a key role in physical activity and its duration. Furthermore, study revealed that health literacy has no role on campus girls' smoking, using alcohol, and health check-up behaviour. Finally, the research suggested that health literacy is required to include in higher education programmes.

Keywords: Health knowledge, health conduct, cross-sectional, health literacy scale

Introduction

Education is an important setting and prerequisite for good health (WHO, 1986). Literacy is essential for opening the door to lifelong learning and attaining one's full potential (UNESCO, 2008). Education and basic literacy have a positive and multiplier influence on population health (Kickbusch, 2001). Health and literacy have a complex relationship

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(Hemming & Langille, 2006). As considered, there is no health without education, no education without health, and no health and education without health literacy (Vamos et al., 2020). It can be understood and interpreted from multiple perspectives in academic literature.

Health literacy was acknowledged as an individual's ability to obtain, process, and comprehend health information and services that required to make appropriate health decisions (Ratzan et al., 2000), was an accurate indicator of societal and individual characteristics (Institute of Medicine, 2004). Currently, it is defined as the significant health promotion elements by health education practitioners (Kanj & Mitic, 2009). Furthermore, it lenses from the health promotion perspectives. In health promotion, it includes the conditions that influence health and understanding how to alter those (Kanj & Mitic, 2009). It further consists of multi-level influences connecting health and people's knowledge, motivation, and capacities for accessing and applying health information. Moreover, experts frequently applied it to make judgments and take decisions concerning healthcare, disease prevention, and health promotion for maintaining and improving quality of life until existence (Srensen et al., 2012). Health literacy can be improved only after health equity is realized by people and agencies (Sentell et al., 2020).

In contemporary society, health literacy refers to a person's ability to meet the many complex health demands (Sorensen et al., 2012). On the other hand, health behaviour is characterized as any action performed by an individual to promote, preserve/maintain health, despite the consequences of perceived health condition (WHO, 1986). In this context, this study includes smoking, having alcohol, doing exercise, and health checking-up under the health behavior.

Nutbeam (2000) stated there is interlink between health and health behavior; healthy diet, regular physical exercise, regular health check-up, and health management (Centers for Disease Control and Prevention, 2015). People with low health literacy are five times more likely to participate in hazards than appropriate health literacy behaviors, which increase their chances of poor health outcomes (Protheroe et al., 2017). They are highly engaged in harmful activities unknowingly as well. Even though educated people may not comprehend health-related messages, information, and skills (Appleton, 2010), inadequacy in health literacy can be seen at all educational levels and reading levels, including low and high reading levels (Hepburn, 2016). It may limit our shreds of evidence of illness and health-related prevention measures (CDCP, 2015).

Campus-based girl are young adults and teenagers. They also faced significant assault and insecurity (Global Giving, 2016), 57% of Nepalese women were literate in 2015 (Code for Nepal, 2015), and 25% of women enrolled in higher education in 2018 (Bloechi, 2018). They are victims of violence and indulge in drug abuse, such as smoking, nicotine, alcohol, and worry and discontent (Thapa et al., 2017) and menstruation-related problems (Sharma et al., 2019). Another research revealed that 6.3% of girls practice smoking, and non-communicable illnesses are a common concern among them (Shakya, 2014).

The evidence above and literature indicate that health literacy and health behavior are inextricably linked. Unhealthy behaviour is directly related to a lack of health literacy.

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Despite this, even people with a high level of reading and writing skills may have poor levels of health literacy. Health behaviour is both a factor and a foundation for one's health. It is a relatively new idea in Nepal. It hasn't been brought up and explored as a specific topic. There are literacy-related policies and programs in place and recorded, but no such policies or programs exist for health literacy. Many studies on health literacy have been carried out in different countries. However, health literacy studies rarely found in Nepal. In this context, this study tried to enlighten the health literacy research, participants with female students at Bachelor's degrees in health and physical education, Health Assistants (HA), and staff nurses. The HA and Nursing programs refer to a three-year intermediate level health science or general medical training program. This study examines the degree of health literacy among female students at the Surkhet campus and SEDA College of Health Science located in Surkhet. So, this study aims to analyze the influence of health literacy on changing health behaviors among female students.

Methods and Procedures

The study is quantitative and follows a descriptive and cross-sectional research design. A total of 322 female students, including 160 girls in B. Ed 1st, 2nd, and 3rd years (Surkhet Campus, 2074) and 162 girls in HA and Staff Nurse 1st, 2nd, and 3rd years (Surkhet Campus, 2074; SEDA, 2074), 178 (55.27%) female students were chosen using the Solvin's formula (1960) for finite population, where margin of error is 0.05. The study's participants were selected via proportionate stratified sampling method. We divided the candidates into general education (B.Ed) and health science (HA/Staff Nurse).

Solvin's Formula for finite population,

$$n = \frac{N}{1 + Ne^2}$$

Here,

n= Sample size

N= Population size=322

e= Margin of error size /level of significance =0.05

$$\frac{322}{1 + 322(0.05)^2} = \frac{322}{1 + 1.8.5} = 178$$

The study used a health literacy scale (Short Test of Functional Health Literacy in Adults (S-TOFHILA) and Self Administrated Questionnaire as a data collection tool (Literacy in Health Care, n.d.). We used the S-TOFHILA scale to assess the health literacy of the girl students. The S-TOFHILA is a 36-item closed-ended questionnaire that evaluates one's capacity to comprehend and apply health-related data and behaviour. It was formed and translated in the Nepali language linked to public health based on instructions TOFHILA's. Further, it was validating by experts and panel of experts. During the study, we first gathered the selected respondents in a separate room, introduced them, and then explained the study's aim to them. After that, the researcher gave the respondents the Nepali version of the S-TOFHILA health literacy scale and advised them to read and comprehend health materials. Respondents were only allowed to read and understand the passages but not write

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their responses on the scale. After reading and interpreting, the pupils were asked to fill out their personal information. After that, respondents were asked to select their best responses by ticking them. After seven minutes, respondents were paused. It is a timed exam. Exam schedule were not disclosed to the participants. They were instructed to return the sheets when 7 minutes had passed. The responders were given a self-administered questionnaire to fill out. We assessed the respondents' health behavior and health literacy levels based on the participants respond on research tools. The STOFHLA tool is divided into three classes, inadequate (score of 0-16), marginal (score of 17-22) and adequate (score of 23-36) (Literacy in Health Care, n.d.).

The administration of Surkhet Campus and SEDA college of Health Science permitted us to perform this study. We sought each participant's verbal agreement before the tool's execution. Their information was kept anonymous and confidential, and participation was entirely voluntary. The data were analyzed using descriptive statistics and cross-tabulation.

Results

We used the S-TOFHLA scale to assess the health literacy level of the participants. This sub-chapter discusses the level of health literacy of female students based on their personal profiles, as well as its role in health behaviors of female students.

Personal Profiles

This sub-chapter includes the level of health literacy of girl students based on age, caste, stream, and years of education. According to the study, a higher proportion of the 178 participants (46.06%) were between the ages of 15 and 18. A nearly half 81 (49%) participants belonged to the Chhetri caste, 50.56% were from PCL HA/ Staff Nurse, 36.52% from first-year B. Ed and PCL Health Science.

Health Literacy Level

STOFHLA tool is divided into three categories as; inadequate, marginal and adequate. A low score ranged from insufficient (0-16) to marginal (17-22) to adequate (23-36) (Literacy in Health Care, n.d.). The inadequate, marginal, and adequate HL consisted participants obtained scores 0 to16, 17 to 22, and 23 to 36, respectively.

Table 1
Health Literacy Level of Girl Students

S.N.	Description	No.	Percentage
1	Inadequate	17	9.55
2	Marginal	68	36.51
3	Adequate	93	53.93
	Total	178	100

Table 1 illustrates the health literacy level of participants. Out of the total (178), more

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than half (53.93%) had adequate, some (36.51%) had marginal, and less (9.55%) had inadequate health literacy. Hence, fewer participants in this research had poor health literacy.

Role of Health Literacy on Health Behaviors Change

People undertake health behaviours to enhance their health. Poor health behaviours quickly become poor health habits. Health behaviour differs according to demographic factors, personal control, social influence, personal goal, cognitive factor, etc. (Tylor, 2010, p.47- 48). The findings of the role of health literacy on the girls' health behaviour in the study area are presented in the following sub-topic.

Health Literacy Level and Smoking

Smoking is one of the health-damaging behaviour. It is a risk factor for lungs cancer, cardiovascular disease etc. The smoking practice of study participants in the study area are (Table 2).

Table 2
Health Literary Level of Girls and Smoking Practice

S.N.	Level	Smoking										Total
		Daily		Usually		Sometimes		Ceremony		Never		
		No.	Per.	No.	Per.	No.	Per.	No.	Per.	No.	Per.	
1	Inadequate	-	-	-	-	2	11.76	4	23.52	11	64.70	17
2	Marginal	-	-	-	-	4	5.88	7	10.76	57	83.82	68
3	Adequate	-	-	-	-	2	2.81	8	8.80	83	90.14	93
	Total	-	-	-	-	8	4.49	19	10.67	136	76.40	178

Table 2 reveals that 64.70% of the insufficient literate, 83.82% of the marginal literate, and 90.14% of the suitable literate research participants had never smoked in the current scenario. Similarly, 4.49 percent of study participants had smoked at least once, with 11.76 percent having inadequate health literacy, 5.88 percent having sometimes, and 2.81 percent having adequate. In all, 10.67% of participants had smoked at some point during a celebration, with 23.52% inadequate health literacy, 10.76% being marginal health literacy, and 8.80% being adequate health literacy level. However, a per cent of inadequate, marginal and inadequate health literate participants had not taken smoking always and usually.

Health literacy and alcohol use. Alcohol use has been related to a range of health issues (Taylor, 2010). One reason for gender disparities in drinking is that females, on average, get more intoxicated from the same quantity of alcohol as males (Sarafino & Smith, 2011). This study found how many girls was drinking alcohol in the current situation, presented in table 3.

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Table 3

Health Literary Level of Girl Students and Alcohol Consuming Behaviour

S.N.	Level	Alcohol use										Total
		Daily		Usually		Sometimes		Ceremony		Never		
		No.	Per.	No.	Per.	No.	Per.	No.	Per.	No.	Per.	
1	Inadequate	-	-	-	-	3	17.64	7	41.17	7	41	17
2	Marginal	-	-	-	-	2	2.94	11	16.17	55	80.86	68
3	Adequate	-	-	-	-	3	3.22	5	7.35	85	91.39	93
	Total	-	-	-	-	8	4.49	23	12.92	147	82.58	178

Table 3 reveals that out of the total study participants, 82.58% had not ever taken alcohol and 17.72% had had a drink. Among 17.72%, 4.49% used to have had alcohol, sometimes were 12.92% had in the ceremony. Similarly, out of inadequate health literacy respondents, 17.64%, 41.17%, and 41% have had alcohol sometimes, ceremony and never, respectively. Concerning marginal health literacy respondents, only 2.94% have had drink sometimes, 16.17% ceremony and most (80.86%) had never used alcohol. And amid the adequate health literacy respondents, extremely high (91.39%) had never used alcohol, very few (7.35%) used alcohol in the ceremony, and significantly less (3.22%) reported to have alcohol sometimes. The majority of competent and marginally health-literate respondents had never used alcohol. According to the literacy level, alcohol consumption is lower among female students with adequate health literacy than those with marginal and inadequate health literacy.

Health literacy and physical exercise. The result of the physical exercise of the respondents is presented in the table 4.

Table 4

Health Literary Level and Physical Exercise

S.N.	Level	Physical exercise										Total
		Daily		Usually		Sometimes		Ceremony		Never		
		No.	Per.	No.	Per.	No.	Per.	No.	Per.	No.	Per.	
1	Inadequate	-	-	-	-	3	17.64	1	5.88	13	76.47	17
2	Marginal	9	13.29	9	13.23	37	54.41	6	18.82	7	10.29	68
3	Adequate	19	20.41	13	13.47	52	55.91	6	6.45	3	3.22	93
	Total	28	15.73	22	12.35	92	51.68	13	7.30	23	12.92	178

The mentioned table shows that out of total girl students, (15.73%) had done exercise daily, (12.35%) had done usually, (51.68%) had done in the ceremony. Similarly, only (12.92%) girl students had never done physical exercise in the current situation. Most (76.47%) had never done physical activity among the total inadequate literate girl students. Likewise, (10.29%) marginal literate and only (3.22%) adequate literate girl students had never done physical exercise. Out of the total, only (20.41%) adequate literate and (13.29%) marginal literate girl students had daily physical exercise. The present study also showed that physical activities were higher among individuals with good health literacy, presented in Table 4.

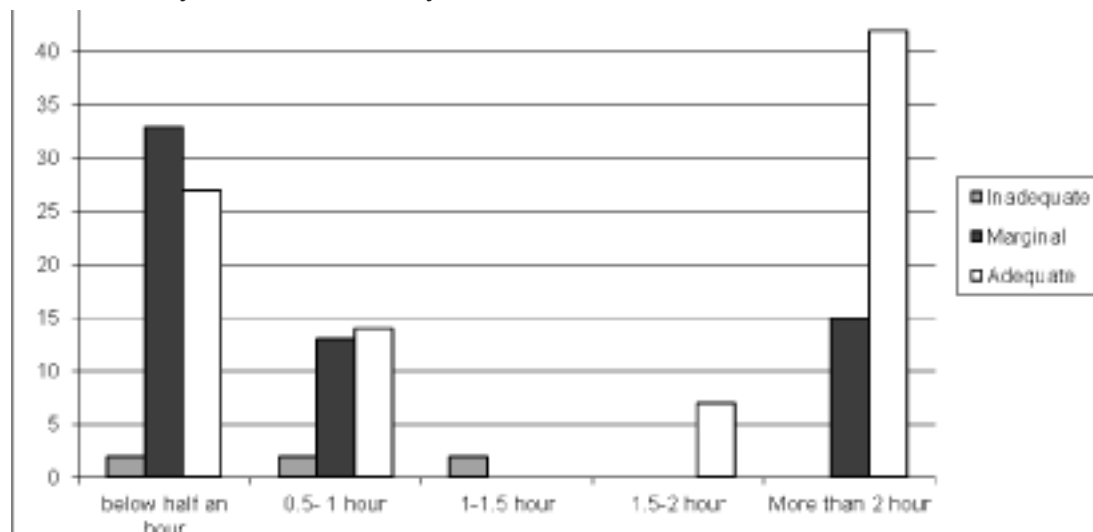
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Health literacy and duration of physical exercise. Physical exercise recommendations are advised regularly to achieve and maintain health and fitness. Ages 18–65 must engage in moderate-intensity aerobic physical activity for 30 minutes five days a week or vigorous-intensity aerobic physical activity for 20 minutes three days a week (C3collaborating for health, 2011). Just 30 minutes of exercise every day can lower your risk of chronic illnesses. A typical adult's physical exercise prescription is to collect 30 minutes or more of moderate-intensity activity on most, ideally all, days of the week and 20 minutes or more of intense exercise on at least three days (as cited in Taylor, 2010, p.83).

Figure1 shows that the duration of physical exercise performed by the girl students. A higher portion (40%) of study participants had done physical activity below 1 hour per week. Similarly, (18.70%) had done 1 to 1.5 hours, (4.5%) had done 1.5 to 2 hours and the remaining (36.77%) had done more than two hours per week.

Figure 1

Health Literacy and Duration of Physical Exercise



According to the figure above, girls with marginal (54.09%) and inadequate health literacy (50%) were discovered more frequently than girls with appropriate literacy (30%) among those who had done the physical activity for less than an hour. Adequate literate respondents (42.66%) have done the physical activity for more than 2 hours each week. The findings demonstrated that females with higher levels of health literacy participated in physical activity for longer lengths of time. As a result, health literacy appears to influence the duration of physical exercise.

Health literacy and health check-up. A health check-up is a standard bodily examination performed yearly, two or three times a year, and once within five years (Shakya, 2014). This study has examined the present state health check-up of the girl students. Table 6 shows respondents' frequency of health check-ups and their academic health levels.

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Table 5

Health Literary Level Girl Students and Their Frequency of Health Check-up

S.N.	Level	Health Checkup								Total
		Annual		During illness		As per need		Never		
		No.	Per.	No.	Per.	No.	Per.	No.	Per.	
1	Inadequate	-	-	3	17.64	7	41.17	7	41.17	17
2	Marginal	-	-	43	63.23	21	30.88	4	5.88	68
3	Adequate	27	27.95	29	31.18	38	40.86	-	-	93
	Total	27	14.6	75	42.13	77	37.07	11	6.17	178

Table 5 showed that only 14.60% of girls had to check up their health annually, and adequate literacy was 27.95%. None of the inadequate and marginal literate girl students had to check their health annually. Similarly, out of the total, a higher portion (42.13%) girl students had to check up on their health during illness amongst them, marginal literate (63.23%) were more than inadequate and adequate literate (31.18%). Similarly, out of total (37.07%) girl students had checked up their health when checkup needed, among them inadequate literate (41.17%) and adequate literate (40.86%) were more than marginal literate (30.88%). Only a few (6.17%) girl students never had health check-ups, of the total. Among them, inadequate literate (41.17%) were more.

Discussion

S-TOFHLA was used to determine the reading level of the female pupils. Adult health literacy is assessed using a functional health literacy assessment scale. According to Ickes and Cottrell (2010), a group of university students appears to have adequate health literacy. However, we found just 53.93% of the participants in this research to have adequate health literacy. It suggests that the degree of health knowledge among female college students is insufficient. Because these students have a greater rate of accessing and comprehending health information in the health professions, studying more health education-related topics is linked to a higher health literacy competency and health promotion domain (Vozikis et al., 2014). Another study reported that Multi-level and multiple determinants Khanal (2020) are related to adequate health literacy. The low literacy rate among female students studying at the college level may be due to ineffective health education. This is to say that health literacy is not improved just by raising the level of education. This socio-economic determinant must be changed.

One's behavior determines the status of one's health. This study's findings demonstrated a relationship between health literacy and health-promoting behavior. According to some research, low health literacy is associated with poor personal outcomes. In contrast, high health literacy is associated with higher health promotion activities (Xu, 2018). In this study, insufficient marginal and inadequate literate respondents did not always smoke and generally did not get high. REALM-assessed health literacy was positively related to a more heightened sense of personal health hazards of smoking and a more robust understanding of what those risks are in recent research of middle-aged, primarily male African-American individuals (as cited in Kobayashi, 2015). According to the NDHS (2011), seventy-four

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per cent of illiterate women did not smoke. However, in our survey, we discovered that 64.70% of insufficient health illiteracy respondents did not smoke. According to table two, more smoking user respondents were poor and marginally health-literate than adequately for smoking at some events. As a result, it can be said that health literacy has a central role in changing the smoking habits of female students. According to the findings, health literacy had no significant impact on the respondents' smoking behavior. A study showed that adequate health literate respondents are more likely to engage in healthy behavior than inadequate health literate respondents (Khanal, 2019).

It reveals that most respondents with adequate and inadequate health literacy had never used alcohol. In terms of alcohol use, there was a difference between girls with good health literacy and those with low health literacy. As a result, it is said that that the respondents' degree of health literacy had no impact on alcohol consumption. This data also reveals a link between respondents' level of health literacy and their frequency of alcohol intake. Vozikis et al. (2014) found that people who do not exercise have the worst health literacy and do not drink alcohol, nor is smoking related to better health.

Furthermore, health literacy has not play a key role in smoking practice. Many studies offer contradicting results, pointing out that health literacy is linked to various health habits and hazards. In the current study, physical activities were also more common among those with sufficient health literacy. For a typical adult, the physical exercise prescription is to collect 30 minutes or more of moderate-intensity activity on most, ideally all, days of the week and 20 minutes or more of intense exercise on at least three days (as cited in Taylor, 2010). According to C3 collaborating for health (2011), physical inactivity is the fourth most significant cause of death worldwide, accounting for about 3.2 million deaths per year. There is a considerable amount of research on the advantages of exercise. The amount of physical activity conducted by female students is shown in the data. Some research participants (40%) did not exercise for more than one hour each week. According to the findings, girls with sufficient health literacy engaged in physical exercise for more extended periods. As a result, it appears that a person's level of health literacy influences the length of physical activity. A health check-up is a standard examination generally done once a year or every two to three years, with a five-year recommended (Shakya, 2014). Only 14.60 per cent of female students had their health checked annually, and of them, only 27.95% were adequate health literate. None of the inadequate and marginally literate female students got their health checked every year. This finding indicates that health literacy has little bearing on the health of female students. Another study concluded that adequate health literate respondents are more likely to use healthcare services than inadequate health literate respondents (Khanal, 2018).

The data described in this study provide helpful information for clinicians, policymakers, and planners interested in learning more about the state of health literacy among college females. This study is confined to HPE girl students at the Bachelors level and health science students at the PCL level (HA and Staff Nurse). As a result, this study cannot be applied to all Nepalese campus-going girl students.

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Although this study is new in the context of Nepal, it is in preliminary form. Advanced statistical tests are not used. Similarly, we have noticed that the scales used for data collection have not been adequately validated. These are the main limitations of this study.

Conclusion

One of the fundamental cornerstones of public health policy is health literacy. The study concludes that the degree of health literacy among female college students is insufficient. Furthermore, the health literacy of college girl students has a role in physical activity participation, length of physical activities, and health check-ups. The study also found that a girl's degree of health literacy played a role in whether or not she smokes or drinks alcohol. Finally, this study suggests that higher education programs should promote health literacy education. In the coming days, it is necessary to make a study including the preparation and validation of health literacy scale covering a wide area in the context of Nepal.

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